

Middle East Fertility Society

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Abstract Book



Contents

Committees		3
Oral Presentations		
Thursday October 4, 2012		
Session 01: Keynote Lectures	(O1-O3)	4
Session 02: Reproductive Surgery	(O4-O7)	4
Session 03: Assisted Reproductive Technologies	(O8-O11)	8
Session 04: Preimplantation Genetics	(O12-O15)	10
Session 05: Infertility	(O16-O19)	12
Session 06: Reproductive Surgery	(O20-O23)	13
Session 07: Assisted Reproductive Technologies	(O24-O27)	16
Session 08: Ovarian Stimulation	(O28-O31)	18
Session 09: Operative Laparoscopic Surgery	(O32-O35)	20
Session 10: Assisted Reproductive Technologies	(O36-O41)	21
Session 11: Male Infertility	(O42-O47)	24
Session 12: Psychology and Counseling	(O48-O53)	27
Session 13: Operative Laparoscopic Surgery	(O54-O59)	30
Friday October 5, 2012		
Session 14: Keynote Lectures	(O60-O62)	33
Session 15: Fertility Preservation	(O63-O66)	33
Session 16: ART Laboratory	(O67-O70)	36
Session 17: Maternal and Neonatal Risks of ART Treatment	(O71-O74)	37
Session 18: Ovarian Stimulation	(O75-O78)	40
Session 19: Recurrent Implantation Failure and Pregnancy Loss	(O79-O82)	40
Session 20: Assisted Reproductive Technologies	(O83-O86)	42
Session 21: IVI Symposium	(O87-O90)	44
Session 22: Ovarian Hyperstimulation Syndrome	(O91-O94)	44
Session 23: Assisted Reproductive Technologies	(O95-O100)	47
Session 24: Preimplantation Genetics and Molecular Biology	(O101-O106)	49
Session 25: ART Laboratory	(O107-O112)	53
Evaluating And Selecting Products For The Art	(O113-O114)	56
Poster Presentations	(P01 – P52)	58
Author Index		82

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Oral Presentations

Thursday October 4, 2012

Room: Hall A

Session1 : Keynote Lectures

O-01 Is IVF, as we perform it today, effective?

Professor Johannes L.H. Evers, MD PhD FRCOG, Maastricht University Medical Centre, Research School of Oncology and Developmental Biology GROW, P.O. Box 5800, 6202AZ Maastricht, The Netherlands

David Sackett provided an excellent definition of Evidence-Based Medicine when he mentioned that it concerns “the integration of (1) best research evidence with (2) clinical expertise and (3) patient values” (Sackett D et al. in: Evidence-Based Medicine: How to Practice and Teach EBM, 2nd edition. Churchill Livingstone, Edinburgh, 2000). The more extensive one’s clinical expertise, the better one is able to determine the robustness level required for clinical research to establish the effectiveness of a treatment. The classical example here would be the prevention of gravitational injury by using a parachute during free fall (Smith GC and Pell JP: BMJ. 2003; 327: 1459-61). If the signal-to-noise (S/N) ratio is large, one small and simple study may provide enough evidence for the effectiveness of a treatment (it doesn’t take an RCT to prove that parachutes work). A dramatic outcome can be defined by the magnitude of the treatment effect (signal) as compared to the expected prognosis without treatment (noise); some treatments have such dramatic effects that biases can be ruled out without a randomised clinical trial (Glasziou P et al.: BMJ. 2007; 334: 349-51). An example from our field would be the occurrence of a pregnancy after IVF (the signal, or treatment outcome), in a woman without Fallopian tubes (the noise, or natural outcome). In contrast, if the S/N ratio is small, many sizeable clinical trials may have to be performed before enough convincing evidence will be amassed. This unfortunately is the case for most ART treatments. Although a new treatment may seem very attractive and therefore will be easily adopted, its S/N ratio may be low – e.g. in case of IVF in patients with unexplained subfertility. Early adoption of an appealing treatment may thwart the collection of sufficient evidence of its effectiveness.

O-02 Engineering new follicles from ovarian stems cells: How far away are we?

Javier Santamaria Costa (Spain)

Abstract not received

O-03 The AboulGhar lecture

What are the most important criteria for selecting the single best embryo for transfer?

Luca Gianaroli (Italy)

Abstract not received

Room: Hall B

Session2 : Reproductive Surgery

O-04 When should we operate myomas in infertile patients?

Cihat UNLU, Professor in Ob & Gyn

Acibadem University, Bakırköy Acibadem Hospital, Department of Obstetrics and Gynecology, Istanbul

Uterine leiomyomas are benign solid tumors occurring in about 20% to 30% of women during their reproductive years. Submucous myomas may present a greater risk to the patient than either the intramural or subserous varieties because they cause excessive uterine bleeding, usually during menses, and they can cause dysmenorrhea as well as interfere with normal reproductive mechanisms. Hysteroscopy is an excellent method

for not only identifying intrauterine lesions but also for removing them. The relationship between uterine fibroids and infertility has long been a concern to the gynecologic community, but the medical literature regarding this important topic is problematic. Uterine myomas are heterogeneous tumors in composition, size, location, and number; variations in any of these factors could possibly alter the effect on a woman's fertility status.

- Uterine myomas (fibroids) occur in 20%–50% of reproductive- age women. Uterine myomas may be identified in approximately 5%–10% of infertile women, only 2%–3% of infertility may be attributed to the effects of myomas when all other causes are exclude

There are 5 types of fibroids based on their locations.

Submucous myomas were classified into the following three types: type 0 pedunculated myomas, not involving the myometrium; type 1 with <50% myometrial involvement; and type 2 with >50% myometrial penetration.

First of all, we all know infertility and uterine fibroids, we have no problem with submucous fibroids but especially subserous and intramural fibroids are common debates in gynecology. Therefore, there are some questions we should ask to ourself:.

- What is the relation ???
- Which way do fibroids influence fertility ???
- Are all fibroid locations interfere in fertility ???
- Does myomectomy has success ???
- Do fibroids have an impact on ART cycles ???
- Which myomectomy technique has priority ???
- Does myomectomy has risk ???

Fibroids are common in reproductive age % 20-30 and Incidence of fibroids in infertile women %1 -2.4

So there should be a major relation between them and the most common accepted ways for influence are.....

- Hindered gamete transportation,
- Failure of implantation
- Increased uterine cavity irregularity,
- Endocervical ve fallopian tubal ostium obstruction,
- Prostaglandine induced uterine contraction,
- Endometrial changes (atrophy, ulceration, focal hiperplasia and polyps),
- Vascular changes (venous congestion, etc.),
- Anovulation.
- Complications

In addition to all ways, also the second common ways for infertility cause are the complications....

- Spontan Abortion
- Premature labor
- Ectopic pregnancy
- IUGR
- Abruption of Placenta
- Malpresentation
- Dystocia
- Postpartum Hemorrhage

When evaluating the outcomes of women with any location of fibroid, the relative risks of clinical pregnancy, implantation, and ongoing pregnancy/live birth were all significantly lower in women with myomas than in control subjects. In addition, the spontaneous abortion rate was significantly greater in women with fibroids. No significant difference in preterm delivery rates was observed

The women with SM fibroids, compared with infertile women without fibroids, demonstrated a significantly lower clinical pregnancy rate, implantation rate, and ongoing pregnancy/live birth rate and a significantly higher spontaneous abortion rate. No difference was seen in rate of preterm delivery.

Women with IM fibroids produced significantly lower clinical pregnancy rates, implantation rates, and ongoing pregnancy/live birth rates and significantly higher spontaneous abortion rates. No difference was seen in the rate of preterm delivery.

Women with no cavity involvement had a significantly decreased implantation rate and ongoing pregnancy/live birth rate as well as an increased spontaneous abortion rate compared with non fibroid control subjects. No significance was seen in clinical pregnancy rates or preterm delivery rates

So all types have an effect on fertility But What is the chance of treatment? As I said before fibroids reduce fertility..... and some authors maintain that myomectomy should be offered to infertile women. And Finally the results of myomectomy are.... Myomectomy leads to %25-70 conception rates, Miscarriage rates reduce dramatically from %50-63 to 7.1-20, After the surgery the conception rates improve within 3-12 months In the first year % 32-56 of patients have conceive.

One of the most advocated opinion is that.... Intramural fibroids related with endometrial cavity reduce ART success. The supporters suggest that ... Intramural fibroids related with endometrial cavity reduce ART success. And also Fibroids with submucous component leads to failure in ART cycles.

There are several excellent reasons for avoiding myomectomy in the infertile woman with IM myomas.

- Abdominal or laparoscopic myomectomy can be associated with
 - significant morbidity,
 - including infection,
 - damage to internal organs,
 - risk of blood or blood product transfusions.
 - Also of concern for the infertile woman is the
 - high rate of postoperative adhesion formation, especially with myomectomies performed through posterior uterine incisions

Add to these the risks of uterine rupture during pregnancy and increased likelihood of cesarean section, and there are many reasons to be wary of myomectomy when the indications are unclear.

CLINICAL MANAGEMENT

Medical Treatment

- OCPs
- Gonadotropin- releasing hormone (GnRH) agonists
- Androgen therapy with gestrinone or danazol
- P4 antagonist- mifepristone
- Selective estrogen receptor modulators (SERMs)
- Selective progesteron receptor modulators (SPRMs)
- Aromatase inhibitors

Although myoma volume may be reduced approximately 50% by medical treatments, the uterus typically returns to pretreatment size after the medications are discontinued. There is no evidence that fertility improves with medical therapy.

Medical therapy also may delay more effective treatments and therefore cannot be recommended for the treatment of infertility.

Surgical Treatment

Indication

- Women who wish to maintain potential fertility.
- SM or IM fibroid distorting the uterine cavity
 - Fibroids >5cm
 - Multiple fibroids
- 75% of conceptions following myomectomy occur in the first year (*Dessole et al, 2001*), with PR drops sharply after this time.
- If possible, therefore, the surgery should be timed to take place when a woman is ready to start a family

Abdominal Myomectomy is The route of choice for:

- large SS or IM fibroids (>7 cm),
- when multiple fibroids (>5) &
- The incidence of adhesions is extremely high
- Incision posterior of the uterus → 94%
- Incision anterior of the uterus → 55%

Recently published two studies suggest that with 4 year follow up there are not any differences between Laparotomic and laparoscopic myomectomy.

- They have equal results in Cumulative pregnancy rate, Preterm labor risk, Abortion rate, Caesarean ratio, Recurrence rate
- And also they have equal pregnancy and recurrence rates

Robotic-assisted technology, in its present state, is enabling more surgeons to perform endoscopic surgery. Its advantages are 3D Vision and a faster learning curve for suturing and operating while sitting. It's an exciting enabling technology with a great future.

The other important risk after myomectomy is uterine rupture. There were 10 cases reported especially after laparoscopic myomectomy. The risk factors for uterine rupture are reported as... Inappropriate uterine repair, Increased energy use for haemostasis, (electrautotomy, unipolar or bipolar), and Poor recovery. Recently defined Laparoscopic Assisted Myomectomy might be a solution and alternative to laparoscopic myomectomy. With this operation technique we could have Reduced operation time, Appropriate uterine incision repair, Prevention of unnecessary electrautotomy usage, Reduced postoperative adhesion.

O-05 Surgery prior IVF/ICSI : Can we improve pregnancy outcome ?

Timur Gurgan, MD

Professor, Hacettepe University, Faculty of Medicine, Dept of Ob&Gyn, Reproductive Endocrinology and IVF Unit, Ankara, Turkey

Abstract not received

O-06 An actual approach for endometrioma in the infertile patient

Cihat Unlu, Professor in Ob & Gyn

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There has been a general consensus that a cystectomy should be considered the treatment of choice for endometriomas. However, the safety of this technique has been questioned with respect to the damage to the ovary that is occasionally caused by surgery.

AMH belongs to the transforming growth factor-b family, and is produced by the granulosa cells of primary to small antral follicles to prevent depletion of the primordial follicle pool. Recently, it has been shown that the serum AMH levels may be a valuable marker of the ovarian reserve.

Hirokawa et al demonstrate that the post-operative serum AMH levels significantly decreased in comparison to the preoperative levels in patients with endometriomas, especially bilateral endometriomas. Their results suggest that the ovarian cystectomy for endometriomas affects the ovarian reserve. They found that the rate of decline of the serum AMH level showed a significant difference between unilateral and bilateral endometriomas and a significant correlation to the severity of endometriosis, but not with patient age, cyst diameter, blood loss during surgery or the number of follicles removed in specimens.

All things considered, although removal of endometriotic lesions of the ovary using a surgical approach is recommended, it will be necessary to determine what type of surgery should be selected each for different types of endometriosis and for individual patients.

Surgical intervention and surgical modality may decrease the ovarian reserve. Chang et al Showed that Laparoscopic ovarian cystectomy is associated with a decreased ovarian reserve, measured by serum AMH levels, in the immediate postoperative period; the decreased reserve was restored thereafter until 3 months postoperative. In the present study, the decreased serum AMH levels after surgery was recovered to the 65% of preoperative levels at an early 3 months. Several mechanisms about the recovery of serum AMH levels have been postulated. First, the improvement of serum AMH levels may reflect a reperfusion of ovarian tissue and release of AMH produced from the remaining ovarian follicle pool after the reestablishment of ovarian vasculature. Second, the function of granulosa cells could be hyperactivated compensatory to ovarian damage in remaining follicles. Third, several investigators have postulated that follicles can be rescued from atretic follicles. Finally, the most controversial theory is that surgery-related inflammation may stimulate the regeneration of ovarian follicles which originate from either the ovarian surface epithelium or bone marrow stem cell.

The solution of the ovarian damage is a good surgical technique. We insist the combined technique is the most appropriate way to preserve ovarian reserve after an endometrioma surgery.

- L/S Cystectomy
 - Histopathologic diagnosis
 - Decreased risk of infection
 - Multiple attempt → decreased ovarian reserve
 - Extensive surgery → decreased ovarian reserve

O-07 Is Hysteroscopy Justified In Infertile Women

Elbareg, AM.; ElMahashi, MO.; ELfortia, IM.; Essadi, FM.

Objective: To assess the value of diagnostic Hysteroscopy (HS) in studying the rate and types of abnormalities found in uterine cavity during evaluation of infertile patients in comparison to Hysterosalpingography (HSG).

Design: Prospective controlled study

Materials and Methods: 194 infertile women underwent HS for primary & secondary infertility, recurrent abortions and failed IVF cycles in a period of two years and half from 1st February 2010 to 31st July 2012. Preoperative assessment: history, pelvis evaluation with necessary investigations including ultrasound and HSG. Data were analysed in terms of type & rate of abnormality found, their relation with age and type of infertility including correlation between HSG and HS findings. Statistical analysis was performed using chi-square test and P-value considered to be significant if < 0.05.

Results: Abnormalities of uterine cavity were detected in more than half of the patients studied (59%), significantly more at ages of 31-42 years (58.3%) when compared with ages of 20-30 years (34.6%),(P < 0.05). Endometrial polyps (19.1%), septate and subseptate uterus (16.8%). Submucous myomas, cornual polyps and intrauterine adhesions were seen at same rate (6%), endometrial hyperplasia (2.8%), adenomyosis (0.8%). Most of the pathologies were seen in primary infertility patients except the intrauterine adhesions which exclusively found in those with secondary infertility. In this study, abnormalities seen during HS were significantly more than those detected with HSG, (P < 0.05). When compared with HS, HSG found to have a sensitivity of 61.4%, specificity of 57.9%, false positive rate of 33.4% and a false negative rate of 30.6%. In HS neither intra-nor postoperative complications were encountered.

Conclusions: Hysteroscopy should be considered as a part of first-line investigations in infertility workup regardless of age, while HSG shows unpromising diagnostic value for intracavitary and structural pathologies in infertility evaluation.

Room: Hall A

Session3 : Assisted Reproductive Technologies

O-08 Is it how or when? eSET might provide some clues.

Elias M. Dahdouh^{1,2}, Francisco L. A. Ferreira Gomes¹, Pierre St-Michel¹

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Introduction: eSET is considered the best alternative to minimize multiple pregnancies following IVF. Moreover, eSET provides a unique opportunity to test hypotheses, since it circumvents confounding results of single pregnancies derived from multiple embryos transferred. This study analyzes the relative influence of ovarian stimulation protocols, mode of fertilization ("how?") and day age of embryos transferred ("when?"). We hypothesize that patients stimulated via Antagonist protocol, cIVF-inseminated and having a blastocyst transferred have superior IR/FHB.

Methods: This was a retrospective non-randomized analysis in the setting of a private fertility clinic. All patients who underwent fresh eSET (n=314) from 04/08/2010 to 05/08/2011 were included. 64 patients stimulated via GnRH antagonist protocol (Antagonist) were compared to 250 patients stimulated by GnRH long protocol (Long). The choice of stimulation and mode of insemination (ICSI or cIVF) were determined according to embryological and medical evaluation. Fresh eSET was performed either on embryonic day3, at the 8-cell stage, or on embryonic day5-6, at the blastocyst stage.

Results: All patients were homogenous for age, infertility duration and type, and basal day3-FSH. IR/FHB was 32.8% in Antagonist and 28.8% in Long without reaching significant difference (P=0.5). When comparing the day of transfer between Long and Antagonist, irrespective of the mode of insemination, the IR/FHB for blastocyst transfers (44.1%) was significantly higher than day3 embryo transfers (20%; P= 0.04) within the Antagonist. No difference was found within Long. Moreover, a detailed analysis concurrently comparing the age of embryo transferred and insemination with Long (Table 1) and Antagonist failed to show a significant difference in IR/FHB (Table 2). However, fresh eSET at the blastocyst stage had a significantly higher IR/FHB (33.5%) than eSET day3 (20.8%; P=0.03) regardless of the stimulation protocol and type of insemination performed (Table 3).

Conclusion: Our preliminary data seems to reject our initial hypothesis. Neither the choice of protocol nor the type of insemination (how?) alone or in combination with the day of embryo transfer suffices to predict a higher IR/FHB. Conversely, "when" eSET is performed at blastocyst stage it appears to be the single and foremost factor influencing a higher implantation rate in fresh eSET cycles. To corroborate these findings further evaluation is needed. Data collection is still ongoing.

O-09 Could mild IVF displace conventional IVF in poor responder women undergoing IVF/ICSI treatment cycles: Systematic review & meta-analysis?

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³Center for reproductive medicine, Department of Obstetrics & Gynaecology, Academic Medical Center, 1105AZ Amsterdam, the Netherlands

Introduction: Most IVF/ICSI treatment protocols for poor ovarian responders include high doses of gonadotropins and only vary in their means of ovarian suppression. High doses of gonadotropins did not result in higher pregnancy rates. Moreover, Such a demanding protocol is more burdensome to the patient, costly and may result in embryos of lower quality. Alternatively, mild ovarian stimulation in the form of the administration of GnRH antagonist co-treated cycles plus fewer days or mild doses of exogenous gonadotropin, and oral compounds for ovarian stimulation for IVF has been proposed to be a more patient friendly. **Material & Methods:** We conducted a systematic review & meta-analysis of prospective randomized trials to evaluate the efficacy of different modalities of mild stimulation in poor ovarian responders as follow 1) Letrozole ± minimal dose of FSH/HMG ± GnRH antagonist, 2) Clomiphene citrate ± minimal dose of FSH/HMG ± GnRH antagonist, 3) lower dose of FSH/HMG versus higher dose of FSH/HMG. 4) Natural cycle/modified natural cycle ± minimal dose of FSH/HMG ± GnRH antagonist. 5) GnRH antagonist versus long GnRH agonist, 6) GnRH antagonist versus short GnRH agonist. **Primary outcome:** clinical pregnancy rate. **Secondary outcomes:**, duration of stimulation, amount of FSH, number of retrieved oocytes, number of embryos obtained, fertilization rate. Searches (until Jan. 2012) were conducted in MEDLINE, EMBASE, Science Direct, Cochrane Library and databases of abstracts. **Results:** There was no evidence of statistically significant difference between letrozole-mild IVF group and control group as regards the CPR (3 RCTs, OR: 0.93; 95% CI: 0.42 -2.08) & cycle cancellation rate (OR: 0.95; 95% CI: 0.45 -2.02); CC-mild IVF group and control group as regards the CPR (2 RCTs, OR: 1.67; 95% CI: 0.78 -3.55) & cycle cancellation rate (2 RCTs, OR: 0.39; 95% CI: 0.20-0.75); lower dose FSH/HMG versus higher dose FSH/HMG (3 RCT s, OR: 1.30; 95% CI: 0.51-3.30); natural/modified natural- IVF group and control group as regards the CPR (4 RCTs, OR: 0.75; 95% CI: 0.40 -1.41); GnRH antagonist co-treated IVF versus long GnRH agonist (6 RCT s, OR: 0.71; 95% CI: 0.49-1.41) and GnRH antagonist co-treated IVF versus short GnRH agonist (8 RCT s, OR: 0.98; 95% CI: 0.64-1.48.) **Conclusion:** Mild ovarian stimulation/ IVF could replace conventional IVF protocols in women with poor ovarian stimulation undergoing IVF/ICSI treatment cycle.

O-10 Natural-cycle IVF: An option for poor ovarian responders?

Sánchez-Martín Fernando; Sánchez-Martín Pascual; Traverso Elena; Troncoso Elena; Estevez Manuel; García J; Kopieczny Anna; Bru Irene; Carrillo Raquel; Molini Juan Luis.
Clínica GINEMED. Sevilla Spain.

A poor responder patient is a problem in which we will always have bad results. Since the appearance of consensus Bologna to be classified as poor responder must have two of the three following criteria, age over 40, a previous response of 3 or less oocytes and altered ovarian reserve test. The natural cycle is an option in the treatment of low responders. It has the advantage to use the best ovum, selected by nature, with a natural LH peak, which is different from the occasionated by hCG or agonist bolus. In the same manner in the natural cycle the endometrium is prepared naturally and the expressed genes are different from those in stimulated cycle. It's a cycle that is less expensive, less monitoring, and generates less stress to the patient, and can be repeated monthly. Unfortunately its use also has an aspect of marketing that involve cost associated with the ART in some contexts. Pregnancy rates (PR) per cycle of 10.2% against 7.4% in cycles gives agonists or 10.6% in cycles with antagonists support its use. The same is true when compared to flare up cycles with PR per cycle of 6.1% versus 6.9%. In a study with 8.8% PR per cycle th accumulated PR reaches above 60% at a maximum of 10 cycles. In one article using the Bologna criteria rates are 2.6% of LBR. In GINEMED we use the complete natural cycle with diclofenac and fixing the moment of pick up with hormonal and ultrasonographic control. We present a study on 34 patients with 132 cycles with 6 pregnancies and 4 babies with a pregnancy rate of 8.57 per transfer and live birth of 5.7% this gives a rate of 17.64% per patient with a LBR 11.7% per patient initiated. The natural cycle may have application in a special patient group, aware of the limitations, it is not aggressive and is the most we can do for these patients without offering donation, but does not justify its routine use.

O-11 The candidate for single embryo transfer

J. Gerris, MD, PhD, Centre for Reproductive Medicine, University Hospital Ghent, Belgium

For about 10 years now, single embryo transfer has been introduced in our IVF practices as an effective means to limit twins & higher-order multiple pregnancies (HOMPs). This major risk of transferring more than one embryo had reached in some countries unacceptably high proportions of >30% of all pregnancies. This implies that >50% of all IVF children belong to a set of twins or HOMPs. While twins and HOMPs, by themselves, are no more than a risk, the potential complications are frequent and cause both mortality and (long lasting) morbidity. However, the implementation of SET has been slow, largely because a truly judicious implementation differs widely from one country to another. This is due, a.o., to the presence or absence of reimbursement of ART treatments; to differences in perception of what a risk and a complication is, to the fact that fertility doctors are rarely those who follow-up the pregnancies or care for the early born neonates and children, to underestimation of what it means to raise twins or triplets.

The question "Who is the candidate for SET?" therefor remains of burning actuality.

A lot of clinical research has been conducted to explore many aspects of SET: medical aspects (which patient?), embryological aspects (which embryo?), psychological, legal, and financial aspects. The question who is a good candidate for SET cannot be answered independently from which embryo, which attempt and in which individual reproductive, relational and societal circumstances. A consensus has grown, supported by meta-analysis, that although transferring two embryos does result in a higher pregnancy rate than transferring just one embryo, the difference disappears when one additional cycle of either fresh or frozen SET is added. Although correct as a conclusion drawn from methodological correct work, it is my contention that this is a "container observation". Young (<35years old) women, in their first or second IVF/ICSI-attempt (without or with previous birth after ART treatment), who produce good quality embryos, especially if there or 4 or more GQE producing good quality blastocysts, are the good candidates for elective transfer of just one blastocyst (or day 3 embryo). In this group at least eSET should be performed. The effect of eSET in this group alone may be to halve the incidence of twins, depending on the patient population of the centre.

Apart from this group of patients, there is a small group of women in whom for strictly medical reasons, SET is the only good medical practice (e.g. congenital abnormalities of the uterus, isthmic insufficiency previously leading to premature birth, insulin dependent diabetes mellitus).

Although eSET has become the state of the ART in this more or less strictly defined good prognosis group of twin prone patients, transfer of two and even more embryos should be equally judiciously applied in the poor prognosis group of patients, who are more difficult to strictly define. There will always be a trade-off to be made between effort, cost and risk.

Room: Hall B

Session4 : Preimplantation Genetics

O-12 Convergent Genomic Analyses Support Disease Associations

Cynthia Morton

William Lambert Richardson Professor of Obstetrics, Gynecology and Reproductive Biology and Pathology - Harvard Medical School

Director, Partners Cytogenetics laboratory

Program Director, Developmental Genome Anatomy Project

Brigham and Women's Hospital. Boston, MA

President- Elect, American Society of Human Genetics

This presentation will review the use of apparently balanced chromosomal rearrangements in gene discovery. Specifically, the identification of genes involved in autism and neurodevelopmental disorders will be discussed with the use of copy number variants and genome-wide association studies for validation.

O-13 Predictive Diagnosis in a Clinical Setting by Sequencing Prenatal Samples

Cynthia Morton

William Lambert Richardson Professor of Obstetrics, Gynecology and Reproductive Biology and Pathology - Harvard Medical School

Director, Partners Cytogenetics laboratory

Program Director, Developmental Genome Anatomy Project

Brigham and Women's Hospital. Boston, MA

President- Elect, American Society of Human Genetics

This presentation will follow up on the use of next-gen sequencing (introduced in the prior presentation) in evaluating apparently balanced chromosomal rearrangements detected *de novo* in the prenatal setting.

Nucleotide level resolution of breakpoints will be discussed with reference to the ability to inform genetic counseling and pregnancy management.

O-14 Can genomics be used to predict the most suitable stimulation protocol? Role for pharmacogenetics in IVF .

Dimitris Loutradis

1st Department of OB/GYN Athens Medical School .Division of Human Reproduction.

Investigators have focused on identifying a genetic tool that could predict the response to gonadotropin stimulation, by implementation of a patient's genetic profile in the process of ovulation induction.

Pharmacogenetics is the study of the relationship between individual gene variants and variable drug effects . In other words, it contemplates the impact of the differences in DNA sequence on the drug response, in terms of efficacy and /or adverse events. Pharmacogenetics is a rapidly evolving field that can provide numerous public health benefits.

In this context, several genes have been studied, including those of the molecules involved in the estrogen pathway and the FSHR LHR,AMH ,AMHR1I.

Many polymorphisms of the FSH receptor gene have been discovered, but the most studied are the Ser680Asn and Thr307Ala ones. The Ser680Asn polymorphism of the FSH receptor gene has been found to influence the ovarian response to FSH stimulation in women undergoing IVF, as the FSH receptor in women carrying the Ser/Ser genotype appeared to be more resistant to FSH action. The clinical implications of this finding are highly important and the ultimate goal is the application of genetic markers as routine diagnostic tests before ovarian stimulation in order to predict the ovarian response, determine the required FSH dose and avoid the possible complications related to FSH stimulation.

We have examined the frequency distribution of the Ser680Asn polymorphism of the FSHR, in ovarian dysfunction (OD) infertile women, 'poor responders' (PR) and normo-ovulatory controls (good responders, GR) of Greek origin.

This study demonstrates that for OD patients the FSHR Ser/Ser variant was more prevalent (45.5%), while the Asn/Ser variant is correlated with more follicles and oocytes. Furthermore, data from the three different groups leads to the suggestion that the Ser/Ser variant is related with a higher level of serum FSH while the Asn/Ser variant with a lower. Furthermore, in the GR group, patients belong more often in the Asn/Ser genotype. A hypothesis that a discrete set of genes including FSHR, ESR1 and ESR2 genotype patterns may explain the poor response to FSH, in order to investigate this hypothesis we using a specific biostatistical programs, if they provided significant evidences of genetic interaction between FSHR, ESR1 and ESR2 markers in relation to COH outcome, supporting the hypothesis that a set of genes, all related to the FSH hormone mechanism of action, may participate along

with other factors to the control of the ovarian response to FSH. In that direction, a more recent observational molecular study by our department focused on the ESR1

Pvu II, ESR2 Rsa I and Ser680Asn polymorphism of the FSH receptor in a Greek

population of women undergoing IVF/ICSI, alone and in combination, concerning the ovarian stimulation outcome and pregnancy rate. This study brings to light evidence that the patients carrying the polymorphisms in an homozygous state in both ESR1 and FSHR genes (simultaneously) are over-presented in the poor responders group in a statistically significant way ($p=0.038$). This is supported also by the fact that this certain genotype combination presents the worst ovulation induction profile when compared with the rest of genotype combinations, considering the total amount of gonadotrophins used, the peak E2 and the number of follicles produced ($p<0.05$).

Luteinizing hormone (LH) exerts its actions through its receptor (LHR), which is mainly expressed in theca cells and to a lesser extent in oocytes, granulosa and cumulus cells. The aim of the present study was the investigation of a possible correlation between LHR gene and LHR splice variants expression in cumulus cells and ovarian response as well as ART outcome.

Forty patients undergoing ICSI treatment for male factor infertility underwent a long luteal GnRH-agonist downregulation protocol with a fixed 5-day rLH pre- treatment prior to rFSH stimulation and samples of cumulus cells were collected on the day of egg collection. RNA extraction and cDNA preparation was followed by LHR gene expression investigation through real-time PCR. Cumulus cells were investigated for the detection of LHR splice variants using reverse transcription PCR. Concerning LHR expression in cumulus cells, a statistically significant negative association was observed with the duration of ovarian stimulation (odds ratio 0.23, $p=0.012$). Interestingly, 6 over 7 women who fell pregnant expressed at least two specific types of LHR splice variants (735 bp, 621 bp), while only 1 out of 19 women that did not express any splice variant achieved a pregnancy. However the present study provide a step towards a new role of LHR gene expression profiling as a biomarker in the prediction of ovarian response at least in terms of duration of stimulation and also a tentative role of LHR splice variants expression in the prediction of pregnancy success.

AMH (as a paracrine product of immature follicles) is a more direct measure of ovarian status compared with other endocrine reproductive hormones. AMH is primarily produced by the preantral and small antral follicles, and correlates with the number of primordial follicles at the gonadotrophin-independent stage of follicular development. The inhibitory action of AMH on the physiology of ovaries is due: a) to the initial recruitment of follicles independently of FSH b) to the cyclic recruitment: rescue of a restricted number of antral follicles from atresia. In the absence of AMH primordial follicles are recruited at a faster rate, resulting in premature exhaustion of the primordial follicle pool and consequently to a premature menopause. The first end point in our study was to examine the distribution of AMH and AMHRII SNPs in the Greek population and the second end point to investigate the possible association between the presence or not of polymorphisms and the different parameters of ovarian stimulation in women undergoing IVF. Women of IVF group heterozygotes or homozygotes for AMH polymorphism (Ile/Ser και Ser/Ser) showed statistically significant higher E2 values at ovulation compared to women without the polymorphism (Ile/Ile) (p-value = 0.009). Women of IVF group – carriers of AMHRII SNP (A/G και G/G) showed: statistically significant lower levels of E2 at ovulation (p-value = 0.009). Statistically significant lower number of follicles (p-value = 0.026). Statistically significant lower number of oocytes (p-value = 0.034) Our conclusions are :1.AMH SNP and without AMHRII SNP probably have a better prognosis regarding the outcome of ovarian stimulation.2 : Women carriers of the AMHRII SNP perhaps should be treated as “poor responders” modification of gonadotrophin dose according to the genetic profile of each patient.

In conclusion the impact of these factors (Genetics) may be small. In order to ensure that a beneficial effect is achieved, an array of molecular tools will be needed and hundreds of thousands of polymorphisms must be examined in appropriate phenotypic groups such as “poor responder” patients. Genotyping of patients scheduled for ovarian stimulation could be an attractive tool to individualize FSH dosage according to the genetic differences in ovarian sensitivity.

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O-15 Does PGS improve IVF outcome in couples with recurrent implantation failure?

Luca Gianaroli (Italy)

Abstract not received

Room: Hall C

Session5 : Infertility

O-16 Update on genetic testing of the sub fertile male?

Christopher L.R. Barratt.

Male sub-fertility is a very significant global problem and, what is most worrying, is that the recent reports suggesting that its prevalence is increasing. In the majority of cases the causes of male infertility are unknown. However, recently there have been a plethora of information relating to the genetic causes of male infertility and sperm dysfunction. A number of these are currently of only scientific interest for example in the identification of genes that are strongly associated with globozoospermia which is a very well-known but very rare condition.

In this cases a significant proportion of men with globozoospermia have been identified with a deletion in DPY19L2 (Koscinski et al 2011 Am J Hum Gen 88:344-50). However these reports are currently of limited practical benefit. The clinical benefits in the genetic diagnosis of male fertility have taken place in the field of chromosome assessment and specific analysis of the Y chromosome.

Several recent reviews of the literature (McLachlan & O'Bryan 2010, J Clin Endocrinol Metab 95:1013-24.2010) and EAU Guidelines (Jungwirth et al., 2012 Eur Urol. 62:324-32) have suggested clear criteria for the genetic testing of the sub fertile male. In general the data shows as the semen quality is reduced there is a higher risk of a genetic cause of male in fertility. Amongst other key recommendations the following are suggested:

- (1) Karyotype screening for men with less than 10 million sperm per ml of semen.
- (2) Y deletion screening for men with men with less than 5 million sperm per ml of semen

The details of these recommendations will be synthesized and presented.

O-17 Fertility choices and management for HIV-positive women

Oriol Coll (Spain)

Abstract not received

O-18 Use of DNA damage assays in male fertility ?

Christopher L.R. Barratt.

Sperm dysfunction is the single most common cause of infertility and affects approximately 1:15 men. Studies using semen assessment as the criteria for sub fertility (sperm concentration $<20 \times 10^6$ /ml) show that 1:5 18 year olds are classed as sub-fertile. Thus, male sub-fertility is a very significant global problem and, what is most worrying, is that the recent reports suggesting that its prevalence is increasing.

There is an urgent requirement to develop new and robust tests of sperm function to accurately diagnose male infertility and identify what we would call a good sperm. The value of traditional semen parameters (concentration, motility and morphology) in the diagnosis and prognosis of male infertility has been debated for 60 years. Unquestionably, even with appropriate quality assurance, traditional semen parameters can only provide a limited degree of prognostic and diagnostic information for the infertile couple primarily at the lower ranges of the spectrum. It is therefore necessary to develop simple, robust and effective tests of sperm function. Yet, despite the plethora of potential assays available, results have been very disappointing.

Over the last 30 years there has been a proliferation in research on male germ cell DNA including the packaging of DNA during spermatogenesis and it's unpacking in the oocyte, assessment of DNA damage in the male germ line and, the consequences of this damage upon early embryo development and the subsequent generations. Recently an ESHRE position report concluded that DNA assessments for fertility prediction were still not a robust measure (Barratt et al., Hum Reprod 2010; 25:824-38). However there was evidence of an increased risk of miscarriage in women whose partners had high levels of DNA damage. A recent meta analysis of the literature has confirmed this (Robinson et al., Hum Reprod. 2012 Jul 12. Epub ahead of print).

Currently there are a number of challenges in the assessment of sperm DNA damage (1) which tests to use? (2) What does a positive result mean? (3) What causes high levels of DNA damage? and (4) Can we treat men with antioxidant therapy? These challenges will be discussed.

O-19 Gonadotropins: Which to choose

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Abstract not received

Room: Hall D

Session6 : Reproductive Surgery

O-20 Impact of endometrial polyps diagnosed during an IVF cycle: Cancel or proceed

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Endometrial polyps are one of the most common pathologies interfering with the intrauterine cavity. The only randomized controlled trial comparing polypectomy versus polyp biopsy in IUI cycles showed a statistically significant higher pregnancy rate following polypectomy. While most authorities agree that a polyp detected before the start of an in vitro fertilization (IVF) stimulation cycle need to be removed, controversy exists regarding the management of newly diagnosed polyps during the stimulation cycle.

Whenever a new endometrial polyp is identified, the reproductive endocrinologist is faced with the dilemma of proceeding with the fresh embryo transfer, despite the potential deleterious effect of the polyp on the implantation rate, or freezing the embryos and resecting the polyp before doing a frozen embryo transfer with the potential lower pregnancy rate.

We will review the current evidence favoring or discouraging the practice of resecting small endometrial polyps. We will also present our center series of 3,004 patients; 57 of whom had a de novo polyp diagnosed during the IVF stimulation cycle.

O-21 Treatment of Hydrosalpinx prior to ART: A must?

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Impact of hydrosalpinx: Tubal disease is a known negative prognostic factor for natural conception with a multiplication factor of 0.1 of the baseline chance of conception (1). Patients with a hydrosalpinx – either unilateral or bilateral have a poor chance of conception with IVF with a relative reduction of about 0.5 (2). Hydrosalpinx does not affect response to ovarian stimulation or fertilization rates, but affects implantation rates. The possible mechanisms of action are thought to relate to the hydrosalpinx fluid draining into the uterine cavity and adversely influencing the implantation environment.

Unilateral hydrosalpinx: Treatment of unilateral hydrosalpinx by salpingectomy has been reported to dramatically increase natural conception rates. In one study 22 of 25 patients treated with either salpingectomy or proximal tubal occlusion conceived an intrauterine pregnancy without IVF (3).

Severity of hydrosalpinx: Removal of ultrasound visible hydrosalpinges appears to be more beneficial than non-visible hydrosalpinges. Presumably this is because of the extent of hydrosalpinx fluid which drains into the endometrial cavity. These are likely to be thin walled hydrosalpinges, which are more likely to be amenable to corrective surgery, than the thickened fibrotic tubes, and which led to an interesting debate on whether the salpingostomy or salpingectomy was the better approach (4,5).

Benefits of treatment of hydrosalpinx: A recent Cochrane review (6) quantified the odds ratio of a clinical pregnancy around 2.4 (1.49 – 3.86) in favour of salpingectomy or 4.66 (2.17, 10.01) in favour of tubal occlusion compared to no treatment. Comparing salpingectomy with tubal ligation, there was no difference in treatment effect.

Risks of treatment of hydrosalpinx: The incidence of major complications appears to be about 1-5/1000, but is dependent on surgical skill and complexity (7). In a prospective multicenter study in 72 hospitals, there were 145 serious complications from 25,764 laparoscopies (5.7/1000). There were 2 fatalities and 84 women (3.3/1000) underwent a laparotomy (8).

Recently there have been reports of tubal occlusion using hysteroscopic placement of the Essure device in an ambulant setting in women who subsequently underwent IVF. Amongst 20 patients, there were no reports of procedure related complications, and there were 12 live births (9).

Another approach has been to drain the hydrosalpinges at the time of oocyte retrieval, though treatment benefit was not demonstrated due to the small size of the study. (10)

Balance of risks and benefits: Clearly in good prognosis patients, there is much to be gained from treating hydrosalpinx in terms of an absolute increase in pregnancy rates. In poor prognosis patients the absolute benefits are much smaller, and in the presence of non-ultrasound visible hydrosalpinges may be of more marginal benefit. However, the surgical risks of treating the hydrosalpinx appear to be very low, and even in complex cases can be treated with hysteroscopic tubal occlusion.

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O-22 New developments in the prevention of postpartum haemorrhage (PPH)

Professor Tim Draycott,
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In global terms, post partum haemorrhage (PPH) remains one of the most important causes of maternal mortality, accounting for 11% of all maternal deaths. The World Health Organisation (WHO) estimates a 1% case fatality rate for the 14 million annual cases of obstetric haemorrhage. However, PPH is a largely preventable condition and the vast majority of these deaths are also preventable, but poor access to care, medication and training mean that women are dying unnecessarily across the world.

Active management of the third stage of labour (delivery of the placenta onwards) using oxytocic drugs and controlled cord traction can reduce the risk of haemorrhage by 50%. However, these drugs often require refrigeration, can cause stroke, have short half lives and are not available in many areas of the world.

Misoprostol is cheap and useful in areas of the world with poor access to drug facilities, but may not be as effective as other options.

New oxytocic drugs including carbetocin have longer half lives and initial studies have been promising: they reduce the use of other oxytocics at both CS and after vaginal delivery.

O-23 Stage I – II excision of endometriosis – does surgery make a difference?

Dr Haider Najjar

Endometriosis is a common, chronic and oestrogen dependant condition. It is associated with both infertility and pelvic pain. Despite many different staging systems being proposed the r-AFS score is still the most commonly used. Stage I-II is minimal to mild endometriosis. (1985)

The association between infertility and endometriosis is still poorly understood. There are a number of studies that show an association. D’Hooghe 2003 showed that there was an increased prevalence of endometriosis in subfertile populations compared with women of proven fertility. However there has never been a proven causal link between endometriosis and infertility. Despite this it has long been hypothesised that removing endometriosis in those with infertility will improve pregnancy rates.

There are two important randomised controlled trials looking at pregnancy rates in subfertile women following removal of min-mild endometriosis. Marcoux et al (1997) randomised 341 women to either diagnostic laparoscopy or laparoscopy and treatment of endometriosis. They showed that in the removal of endometriosis arm the pregnancy rate was 36.6% compared with 21.9% on the diagnostic laparoscopy alone group. (OR 2.06 CI 1.28 – 3.33). The other RCT examining this question (Parazzini 1999) showed no difference between the operative and the diagnostic group (19.6% vs 22.2%, OR 0.75 CI 0.3 – 1.85).

These studies were the subject of a Cochrane meta analysis which, when pooled, showed an overall positive effect on pregnancy rates in the operative group – OR 1.65 (95% CI, 1.06 – 2.58). Jacobson et al 2002.

The guidelines from the major organisations and bodies (ARSM 2006, ESHRE 2005, RCOG 2006) all recommend, albeit cautiously, surgery for min-mild endometriosis to improve fertility.

Vercellini (2009) published a very thorough review of the literature relating to infertility, surgery and endometriosis. He does further analysis on the numbers from the 2 trials and shows that in order to achieve 1 extra pregnancy we must remove endometriosis in 12 patients. He also points out that in fact as it is not possible to identify who has endometriosis preop we must operate on 24-36 patients to achieve 1 pregnancy.

Vercellini's review highlights the fact that there needs to be wide consideration of all factors. Surgery has risks and benefits apart from its possible effect on infertility. There are well know complications relating to surgery but it can also address other issues, including pain and provide a diagnosis. There must be a careful case-by-case examination of each patient with all the factors reviewed.

There is, however, no doubt from the literature that treating minimal to mild endometriosis surgically improves pregnancy rates. The consensus from the Monash Endosurgical Unit is that in women less than 36 years old, surgery should be performed prior to referral to the reproductive biology unit.

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Room: Hall A

Session7 : Assisted Reproductive Technologies

O-24 Ovarian stimulation strategies for IVF

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Ovarian stimulation is used either for ovulation induction in anovulatory infertility or for superovulation induction for IVF treatment. In all cases, multiple pregnancies and the OHSS must be avoided. Induction of multiple follicles results in marked changes in the feedback mechanisms. To prevent a premature LH surge during FSH treatment, GnRH analogues are used with no difference in the success rate between agonists and antagonists. Nevertheless, the GnRH antagonists are preferred to the agonists in mild ovarian stimulation protocols and in patients who are at a high risk for the OHSS. Triggering of final follicle maturation with a GnRH agonist instead of HCG reduces the risk of the OHSS. In some ovarian stimulation protocols, endogenous LH secretion is markedly suppressed. It is unclear, however, if FSH treatment should be supplemented with exogenous LH in unselected patients undergoing IVF treatment. Due to the marked reduction in LH secretion from the pituitary, luteal phase support is required in the majority of IVF cycles. During superovulation induction, follicle maturation is asynchronous. Efforts have been made to synchronise multiple follicles with little success. An important role is played by FSH, which during the mid-follicular phase of the cycle is the key factor that determines the final number of the pre-ovulatory follicles.

O-25 Mild Stimulation IVF

Antoine Hannoun

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Mild stimulation IVF (MIVF) is defined as the administration of low doses (fewer days) of exogenous gonadotrophins in GnRH antagonist co-treated cycles, and/or oral compounds (like anti-estrogens, or aromatase inhibitors) for ovarian stimulation for IVF, aiming to limit the number of oocytes obtained to less than eight.

In the era where pushing towards decreasing the multiple pregnancy rate and transferring less embryos in IVF cycles is being adopted, MIVF, if truly is more patient-friendly, may become a better choice.

When compared to conventional IVF in controlled randomized trials, MIVF was found to be less expensive, has lower patient discomfort and risk, but has lower success rates and lower pregnancy rates per cycle (pregnancy rate decreased from 29% to 18%).

Barriers to the wide spread use of MIVF include the resistance of IVF clinics to changing a standardized, routine, successful conventional IVF procedures by the still less successful MIVF. Also couples, having an IVF cycle, prefer higher and more expensive dosages, a higher discomfort and complication rate in order to achieve a higher pregnancy rate.

Future directions in MIVF should focus on shifting the emphasis from mild stimulation towards mild ovarian response in IVF, improving the embryo quality and embryo freezing techniques in order to adopt single embryo transfer, developing cheaper stimulation regimens and hence increasing the access to IVF, establishing improved patient acceptance by decreasing complications and improving safety, and rethinking the definition of successful IVF better representing the interest of the woman, the child and society.

O-26 A patient oriented innovation for monitoring ovarian stimulation for IVF/ICSI

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The need for frequent vaginal sonographic monitoring of follicular growth, which in so-called “fresh IVF/ICSI cycles” easily totals 3 to 5 sonograms, remains an important impediment for many patients, either for practical reasons, because of traffic-jams or because of sheer difficulty of access in large countries. Even if no physical or financial obstacles are present, monitoring the follicular phase entails for almost all patients considerable loss of time, cost of petrol, organizational stress reg. job and other kids, waiting times at the centre, sonograms made by different operators and poor discretion. The husband’s role is reduced to that of driver. There is also a certain element of environmental stress. Finally, this part of the treatment puts a lot or stress on the centre as well, because lots of time go into routine sonograms, which has an effect on waiting lists and other consultations.

We have explored the possibility for the patient and/or her partner to perform sonograms at home herself, at convened moments of the stimulation phase, after a teaching session and supported by demo materials using a set-up consisting of a vaginal probe linked to a PC, using a specific website application (FERTIHOME). Video sequences are sent using widely available software to the centre during convened hours where they are analyzed (follicle measurement). A reply is given by mail, comprising dose, interval and further instructions, e.g. timing of HCG injection. In the ideal case, the patient has not to visit the centre even once between the initiation of the cycle and the day of oocyte retrieval. As a back up, if needed, the patient can be invited for a sonogram at the centre.

The possible advantages and challenges of this approach will be discussed.

At the moment, a prospective randomized trial is ongoing, comparing traditional monitoring with self-operated endovaginal telemonitoring (SOET). The inclusion criteria, designs and some interim data of the study will be presented.

O-27 Evidence based management of recurrent implantation failure

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Recurrent implantation failure (RIF) is a distressing phenomenon, both for infertile couple and for the physician responsible for their treatment.

A better understanding of the mechanisms responsible for implantation may improve our ability to treat RIF and improve IVF results in general. This issue's views and reviews aim to summarize the current knowledge on mechanism involved in RIF and present a clinical approach and potential treatments to overcome the problem.

RIF may be defined as failure to achieve a clinical pregnancy, following the transfer of at least four good quality embryos, in at least two fresh or frozen cycles in women aged < 40 years.

It is recognized that uterine pathology as submucous fibroid, endometrial polyp, intrauterine adhesions, and congenital uterine anomalies (especially septated uterine) interfere with implantation and contribute to RIF.

The role of intramural fibroid is still controversial. Hydrosalpinges is an important cause for RIF and it reduces the success rate by half. Uterine natural killer cells are increased in women with RIF but there is no proven treatment for this condition. Molecular abnormalities at the endometrial level and abnormal embryo-endometrium dialogue may be responsible for some cases of RIF. Furthermore, there may be over or under-expressed genes that may be related to successful implantation.

At the present time, the physician confronted with a couple presenting with RIF should discuss openly the potential causes of this phenomenon with special emphasis on correctable cause, and offer remedies that are evidence based.

Key words: Recurrent implantation failure , IVF, Assisted Reproduction.

Room: Hall C

Session8 : Ovarian Stimulation

O-28 Corifollitropin, a novel long acting rFSH: Tips and tricks

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Gonadotropin therapy in various forms has been used to restore ovulation since the 1930s. Only after the introduction of IVF, gonadotropins have been applied to stimulate multiple follicle development.

The relatively short elimination half-life ($t_{1/2}$) and rapid metabolic clearance of current FSH preparations requires that daily injections are administered to maintain steady FSH levels above the threshold level during ovarian stimulation. Frequent injections may increase stress, error rates and the treatment burden experienced by IVF patients which according to later studies have an enormous impact to IVF outcomes. Therefore, the development of FSH activity gonadotropins with a longer $t_{1/2}$ and a slower absorption to peak serum levels may be helpful to deliver an extended injection-free period. The main advantages of less frequent dosing are an increase in patient convenience, fewer chances for mistakes during drug administration and improved compliance.

That was the rationale for developing corifollitropin alfa which is a novel recombinant fertility hormone that has a half-life approximately twice that of recombinant FSH (rFSH) and is the first and only sustained follicle stimulant . The availability of recombinant DNA techniques enables modifications to recombinant proteins, and it was thought that fusion of a carboxy-terminal peptide extension from the β -subunit of hCG onto the β -subunit of FSH would result in a protein that has FSH bioactivity with a prolonged half-life. The recombinant protein that results from this fusion, corifollitropin alfa, has a longer absorption time, prolonged circulating half-life, and enhanced biological activity compared with wild-type human FSH.

The elimination half-life ($t_{1/2}$) of corifollitropin alfa ranges from 60 to 75 hours in healthy, pituitary suppressed women, whereas the elimination half life of wild-type rFSH is approximately 34 hours in healthy, pituitary-suppressed women. This extended $t_{1/2}$ of corifollitropin alfa is independent of dose within the range of doses tested, suggesting that the duration of FSH activity, too, will be consistent within that range..

Many studies were conducted in order to select the appropriate doses of corifollitropin alfa. The results of the dose-finding study indicated that the optimal dose of corifollitropin alfa to induce and sustain multiple follicular growth for 7 days is higher than 60 μg and lower than 180 μg .

To identify the optimal dose of corifollitropin alfa for use in a 1-week program for COS a simulation statistical model was employed. Because body weight turned out to be a major determinant of exposure to corifollitropin alfa and treatment outcome, 2 doses of corifollitropin alfa were selected for patients for the preparation in a COS treatment cycle clinical trials: 100 μg for patients with a body weight ≤ 60 kg, and 150 μg for those weighing >60 kg.

Due to its ability to initiate and sustain multiple follicular growth for an entire week, a single subcutaneous injection of the recommended dose of corifollitropin alfa replaces the first 7 injections of any daily rFSH .

Corifollitropin alfa is not preferred in long agonist cycles, because a larger cohort of follicles is expected with a higher risk of OHSS and as a consequence possibly high cancellation rates. Also, clinically, the main problem with corifollitropin alfa is that no dose adjustments can be made in patients with a low response or in patients with a risk of high response such as women with polycystic ovary syndrome. Compared to daily use of rFSH, Corifollitropin alfa: Has not been validated in long agonist cycles. Also, no dose adjustments can be made in patients with a low response or in patients with a risk of high response. Concerning the literature is associated with higher OHSS incidence and of course is contraindicated in patients with PCOD and probably is related with higher cycle cancellation rate. In conclusion corifollitropin alfa has equivalence and safety profile, corifollitropin alfa in combination with daily GnRH antagonist seems to be an alternative for daily rFSH injections in normal-responder patients undergoing ovarian stimulation in IVF/ICSI treatment cycles.

O-29 FSH glycosylation: From physiology to clinical practice

Maurizio Dattilo, Biogem scarl, Ariano, Italy

FSH is a glycoprotein hormone occurring in a variety of molecular variants, isoforms, distinguished according to their glycosylation pattern and traced based on their electric charge. The pituitary releases a mixture of isoforms

that varies according to the reproductive age, increased glycosylation in advanced age, and, in females, to the follicular phase.

Studies investigating the biological properties of such molecular variants have unexpectedly demonstrated selective patterns of biological responses to the different isoforms that sometime have an opposite effect on the same model system, which generated the concept of synergic antagonism. Briefly, more glycosylated acidic FSH forms are weaker inducers of steroidogenesis and keep slow the follicle growth, which is consistent with their prevalent release in luteal-follicular transition and early follicular phase. The opposite happens with less glycosylated forms that progressively increase as ovulation approaches and thus parallel the exponential growth of estradiol secretion.

This paradox is now possibly explained by the new understanding of the FSH receptor that, likely in response to endocrine regulating mechanisms, may occur and bind the hormone in a series of conformations made of monomers, dimers or polymers of receptor-hormone complexes. The post-receptorial activation pattern varies accordingly, even if a defined model of interpretation is not yet available.

Assumed that FSH isoforms play a relevant role in regulating the complex network of follicle cycling and maturation, it is important to understand what happens in cycles stimulated with industrial products that differ each other in their content of FSH isoforms, with recombinant products imbalanced for low glycosylated forms and the opposite in human-derived ones.

First, even under pituitary blockade there is a residual FSH secretion that is of very high glycosylated nature. This FSH mixes with the FSH administered as drug product to form the actual FSH reaching the follicles. Thus, starting FSH dosing following a long agonist protocol generates a mix that is very different from the one resulting from dosing FSH with a non-blockade pituitary as it is the case of an antagonist protocol. Second, even if the currently available FSH products are not guaranteed for their isoform content, the use of sequential schedules mimicking the natural shift from more to less glycosylated forms, i.e. human-derived FSH for the early days of stimulation followed by r-FSH, has generated interesting results and is worth further attention. Finally, the understanding of these mechanisms might consent the development of better effective drug products and of better tailored strategies of pituitary suppression.

O-30 Is there a place for corifollitropin alfa in IVF/ICSI cycles? A systematic review and meta-analysis

Mohamad Youssef

Objective: To evaluate the role of corifollitropin alfa, a newly developed weekly administrated long-acting recombinant FSH (rFSH), as an alternative for daily rFSH administration in women undergoing controlled ovarian stimulation in GnRH antagonist down-regulated in vitro fertilization (IVF)/intracytoplasmic sperm injection (ICSI) treatment cycles.

Design: Systematic review and meta-analysis of randomized controlled trials.

Setting: University and private centers.

Patient(s): Infertile women undergoing IVF/ICSI treatment.

Intervention(s): Comparing long-acting rFSH corifollitropin alfa versus standard daily administrated rFSH in GnRH antagonist IVF/ICSI cycles.

Main Outcome Measure(s): Ongoing pregnancy rate, live birth rate, clinical pregnancy rate, miscarriage rate, duration of stimulation, amount of FSH, number of retrieved oocytes, number of mature oocytes, number of embryos obtained, fertilization rate, ovarian hyperstimulation syndrome (OHSS) incidence, and adverse events. Searches (of literature through November 2011) were conducted in Medline, Embase, Science Direct, the Cochrane Library, and databases of abstracts.

Result(s): Four randomized trials involving 2,326 women were included. There was no evidence of a statistically significant difference in ongoing pregnancy rate for corifollitropin alfa versus rFSH. There was evidence of increased ovarian response and risk of OHSS in corifollitropin alfa.

Conclusion(s): In view of its equivalence and safety profile, corifollitropin alfa in combination with daily GnRH antagonist seems to be an alternative for daily rFSH injections in normal responder patients undergoing ovarian stimulation in IVF/ICSI treatment cycles. (Fertil Steril_ 2012;97:876–85. _2012 by American Society for Reproductive Medicine.)

Key Words: Corifollitropin alfa, FSH-CTP, follicle stimulating hormone–C-terminal peptide, Org 36286, Org36286, Org-36286, rFSH, meta-analysis,

O-31 Evidence based methods for Induction of Labour

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The rates of induction of labor (IOL) are rising all over the world and it has become one of the most common obstetric interventions; in developed countries, one of every 4 babies is born after IOL at term.

There are a variety of methods for IOL that have been investigated. The National Institute of Clinical Excellence in the UK reviewed both the indications and methods for IOL in 2008 and produced an excellent series of recommendations.

However there have been a number of relevant developments since 2008: FIGO and ACOG have both produced recommendations and there have been a series of important Cochrane reviews for IOL published, 2 in 2012.

I will review the latest evidence and information about the methods of IOL as the indications are outwith the scope of this presentation.

There have been developments in mechanical methods for IOL, which appear to have both advantages and disadvantages.

Misoprostol is commonly used and there have been a number of recommendations for its dosage as well as different methods of administration, including a new long acting preparation.

Prostaglandins remain one of the commonest methods of IOL and one of most recent systematic reviews has identified that the reduction in the need for instrumental vaginal delivery and oxytocin with the use of sustained release vaginal PGE2 is significant.

Moreover, there is a move towards outpatient IOL for selected women and I will briefly summarise the available evidence for its safety and efficacy.

Room: Hall D

Session9 : Operative Laparoscopic Surgery

O-32 The use of the single port technique for operative laparoscopy: Hysterectomy

A. Karim Nawfal, MD
Obstetrics and Gynecology
Minimally Invasive and Robotic Gynecologic surgery

The video presentation will outline a step by step guide to performing a supracervical hysterectomy using the single port technique in addition to a safe method of uterine morcellation with a single umbilical incision. The discussion will also stress the importance of the choice of instruments and ergonomics for a safe completion of the procedure.

O-33 Laparoscopic treatment of deep endometriosis surgery

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Obstetrics and Gynecology Departement
American University of Beirut Medical Center

Endometriosis is present in about 10% of patients. Its main symptoms are pain and infertility. Growing evidence shows that even for infertile patients, surgical treatment is effective. Laparoscopic surgery of deep endometriosis is challenging and difficult in the same time. Bleeding from inflammation, distorted anatomy from retraction and adhesions from previous surgery are the mainstays of this surgery. In this video session , we show laparoscopic surgery for deep endometriosis in different cases.

O-34 The use of Robotics in gynecologic surgery: Myomectomy

A. Karim Nawfal, MD
Obstetrics and Gynecology
Minimally Invasive and Robotic Gynecologic surgery

The video presentation will show the resection of a large intramural fibroid that is impinging on the endometrial cavity. It will demonstrate the added benefits of the robotic platform during the dissection of the leiomyoma in addition to the repair of the uterine incision.

O-35 Laparoscopic myomectomy

Joseph NASSIF, MD, MBA.
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Obstetrics and Gynecology Departement
American University of Beirut Medical Center

Myomas are a frequent pathology in women. Subserous and intramural myomas can be addressed by laparoscopy, whereas submucous ones need hysteroscopy. Laparoscopic myomectomy is actually very well accepted and it offers several benefits over open myomectomy: less blood loss, less post operative pain, less hospital stay and faster recovery. In this video session, laparoscopic myomectomy is showed.

Room: Hall A

Session10 : Assisted Reproductive Technologies

O-36 Three years experience with an Indian In-vitro Fertilization Gestational Surrogacy Program at Rotunda, Mumbai

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Objective: The purpose of our study was to review and evaluate retrospectively the experience of an Indian In-vitro Fertilization (IVF) Gestational Surrogacy Program in a private academic center over 3 years (2008 to 2010).

Materials & Methods: Couples were enrolled in our surrogacy program only for genuine indications where the intended mother was physically or psychologically incapable of carrying a child. We analyzed a total of 611 surrogacy cycles from the year 2008 to 2010. They were then divided into two groups, Group 1 women using their own eggs and Group 2 women using Donor Eggs. Outcome was taken as the clinical pregnancy rate described as fetal heart seen on USG at 6 weeks of gestation.

Results: We found that the clinical pregnancy rate in women below the age of 36 years using self-eggs was 51.74%, while clinical pregnancy rate of women above the age of 36 years using self-eggs was 40.5% and Clinical Pregnancy Rate in women using Donated Eggs was 58.67%. We will be presenting details of the different subgroups and results based on indications.

Conclusions: The Rotunda Gestational Surrogacy Program has successfully completed families of couples from over 31 countries till date. The difference in outcome is not statistically significant in the two groups studied.

O-37 Total fertilization failure after ICSI : What is the cause ? What is the treatment ?

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Introduction : Total fertilization failure (TFF) after ICSI is of all oocytes to exhibit 2PN 24 hours after their injection. TFF is a rare situation that occurs in 2 to 4% of all cases. The causes are technical problems, oocyte and sperm abnormalities. The solution to propose to the couple will be developed hereafter. The aim of our study is to review our cases of TFF and discuss the causes and treatment.

Material and methods : ICSI was adopted for 1525 couples in our centre, among them 59 had a TFF 3.9%. 2/59 (3.4%), that was due to a technical problem (oil with high peroxide), oocyte problem little number less than three in women less than 40 years 26/59 (44%) aged women 31/59 (37.2%), oocyte maturation failure 6/59 (10.2%) and male problem due probably to phospholipase c zeta 3/59 (3.4%). In case of women with less than three oocytes and for aged women a review of their protocol and ovarian reserve was performed. In case of oocyte maturation failure egg donation was proposed. For male cases we propose calcium ionophore activation post ICSI.

Discussion : Our results are comparable with other publication. It is very important to distinguish between different etiologies of TFF and be very clear with the couple to propose the best solution and preventing repeating failed cycles.

Conclusion : TFF is a rare and challenging situation for the couple and the clinician. We have to discuss all the etiology before proposing the best solution for the couple.

O-38 Overstimulation To Achieve More Oocytes In Pgd Cycles Yields Negative Outcome Due To Increased Aneuploidy Rates

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Introduction: Principly it is commonly believed that in IVF (InVitro Fertilisation) practice you have to mimic the natural cycle. Accordingly, the controlled ovarian hyperstimulation in IVF is accepted to be an art of science to tailor the most suitable regimen for these patients. Here in this study, we aimed to investigate the impact of the controlled ovarian hyperstimulation onto the euploidy status of the embryos in PGD (Preimplantation Genetic Diagnosis) cycles.

Material & methods: A total of 67 cycles in which preimplantation genetic diagnosis was applied only for the ones with the diagnosis of male factor infertility were included in the study. Controlled ovarian hyperstimulation was done through long luteal phase protocol and r-FSH was applied with an initial dosage of 150-450 IU/day. All the female age group was below 36. Inthe lab, ICSI was applied in all cycles and on day 3, only one blastomere was removed for genetic analysis of 7 chromosomes including 13, 16, 18, 21, 22, X ve Y chromosomes through FISH. Later on day 4 euploid embryos were transferred back to the uterus. We grouped the cycles into 3: In group I less than 6 oocytes retrieved, in group II 6-15 oocytes retrieved and in group III more than 15 oocytes retrieved. Chi-square test was applied for statistical analysis.

Results: Group I (?6 oocytes):no. of cycles: 21, % of euploid embryos: 27.5, % of cycles in which ET was cancelled: 14.3, clinical pregnancy rate: 11.1 %, implantation rate: 7.7 %, abortion rate:0 %.

Group II (6-15 oocytes): no. of cycles: 37, % of euploid embryos: 26, % of cycles in which ET was cancelled: 5.4, clinical pregnancy rate: 20 %, implantation rate: 12.5 %, abortion rate: 5.7 %.

Group III (?15 oocytes): no. of cycles: 9, % of euploid embryos: 19.4, % of cycles in which ET was cancelled: 11.1, clinical pregnancy rate: 12.5 %, implantation rate: 6.7 %, abortion rate: 0 %.

Euploidy rate was significantly lower in group III compared to groups I and II (p<0.05).

Conclusions: In literature it?s been well documented that higher estrogenic milieu distorts the implantation of the embryos in high responder IVF patients, most probably due to a detrimental effect onto the receptors. In addition to this, in this study we demonstrated that this negative effect is also due to an increased rate of aneuploid embryos. So we point out that ovarian hyperstimulation has to be within normal ranges, as named controlled in nature.

Key words: the controlled ovarian hyperstimulation,mature oocyte number, PGT,euploidy rate.

O-39 Optimal fertility outcome with minimal complications and low cost in infertile patients

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Introduction: Infertility affects about 10-15% of reproductive-age couples. About half the causes of infertility are female related and approximately 40% of the cases are caused by anovulation, mostly in PCO women. Treatments are helping ovulation through anti-estrogenic agents like clomiphene citrate and tamoxifen .These drugs occupy the estrogenic receptors in hypothalamus which then cause the increase in gonadotropin secretion.

Letrozole is an aromatize inhibitor drug and it improves cervical mucus production, increases endometrial thickness and reduces the risk for multiple pregnancies and OHSS. The aim of this prospective randomized trial was to compare results of combination of Letrozole and tamoxifen with clomiphene citrate and then letrozole drugs for ovulation induction in women with PCOS and evaluation of fertility outcome.

Method: This is a prospective clinical trial study carried out on 81 infertile women with polycystic ovary syndrome who were referred to Dr. Rasekh clinic due to 47 months infertility. The average age of them is 27.3 years (STD=5). Group A;45(55.5%) patients were prescribed letrozole + tamoxifen drugs combination. 2 tablets of each drug was started on day 3 of cycle. Group B; 36(44.4%)patients; initially 2 tab clomiphene citrate(from day 3 of menstrual cycle),then the second drug 2 tab Letrozole was started from day 8 to 11 menstrual cycle.TVS was performed on the day 8 and 12 of the menstrual cycle and monitor the number and size of developed follicles and endometrial thickness. Intramuscular injection rate of HCG was adjusted depending on the size and number of follicles.

Results: Group A; 10(22.2%)patients were conception, 8 (17.7 %) term, 2(4.4%)abortion, 3 (6.6 %)patients were mild OHSS. Group B; 8 (22.2%) patients were conception, OHSS was 0%. Data was analyzed with SPSS software.

Conclusions: Pregnancy rate is the same in the two methods that is almost considered desirable ($p<0.05$). but the rate of OHSS is at minimum($p<0.05$) in group B. Due to minimum rates of OHSS in group B, can be suggested that this method is preferred, because OHSS is a serious complication in treatment of infertile women. Another important factor is the availability of drugs and its low cost .

Key words: Fertility, outcome, ,OHSS, low cost

O-40 Serum estradiol levels and implantation rate in IVF-ET .

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Introduction: Successful implantation entails a synchronized development of endometrium and follicles. It is hypothesized that natural cycles would produce the ideal hormone environment for follicular maturity and receptivity of endometrium. Assisted reproductive technologies use controlled ovarian stimulation to recruit a large cohort of follicles in order to maximize the chances of pregnancy. Some studies have noted no adverse effects while others demonstrated a decrease in fertilization, implantation and pregnancy rates with suprphysiological levels of Estradiol after stimulation. The postulated effects may be alterations in endometrial receptivity and oocyte /embryo quality.

We conducted this study to evaluate our observations on this suprphysiological controversial phenomenon.

Aim: Do suprphysiological Estradiol levels affect quality of oocyte and embryo and subsequent implantation rates ?

Materials and Methods :246 cycles of IVF –ET for women less than 40 yrs of age underwent flare up protocol of pituitary down regulation with recombinant FSH stimulation. The cycles were classified on the basis of serum estradiol levels into three groups of <1500 pg/ml (GROUP A), 1500-2500 pg/ml (GROUP B), >2500 pg/ml (GROUP C) on the day of HCG.

The cycles were evaluated with respect to number of mature eggs, fertilized eggs, implantation and pregnancy rates in each estradiol group.

Results: There were 85 (37%), 68 (29%), 78 (34%) patients in each group. The clinical pregnancy rates in each group were 44%, 46% and 64% respectively. There was significant association between estradiol levels and pregnancy rates ($p<0.05$). The group C with estradiol > 2500 pg/ml had the highest pregnancy rate. Group C had significantly higher number of mature oocytes retrieved than A or B ($p< 0.05$) . However the highest fertilization rates were obtained in Group A (68.26%) but the difference was not statistically significant ($p>0.05$)

Conclusion: Suprphysiological estradiol levels may not be deleterious to the quality of the oocyte and embryo reflected by the number of mature oocytes retrieved in the maximum estradiol group (Group C). Higher levels of estradiol translated into higher implantation and pregnancy rates .

O-41 Does prolonged stimulation affect implantation rate ?

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Introduction: Ovarian stimulation is an essential component of ART though it has been hypothesized to have a detrimental effect oogenesis , embryo quality , endometrial receptivity and perinatal outcomes.

Pregnancies have been achieved with 7-12 days ovarian stimulation . The influence of controlled ovarian hyperstimulation on embryo development is important for achieving high implantation and pregnancy rates.

Detrimental effects of exogenous gonadotropins on embryo development have been best characterized in animal models showing disruption and delay of development of embryos into blastocysts . However human studies have not shown difference in cleavage rates , developmental capacity or degree of fragmentation in stimulated versus natural cycles . Excessive responses to stimulation have not shown a negative impact on embryo morphology in most studies . Some studies have shown that longer follicular stimulation resulted in lower numbers of oocytes and embryos . A particular study shows controlled ovarian hyperstimulation of less than 9 days resulted in more embryos with more than 10% fragmentation on post retrieval day 3.

(1) We evaluated the impact of number of days of stimulation in 246 cycles on fertilization rates , embryo quality , implantation and pregnancy rates

Aim : To determine if the length of gonadotropin stimulation during IVF-ET cycles plays a role in influencing pregnancy outcomes.

Materials and Methods : 246 cycles were analysed undergoing IVF-ET with controlled ovarian stimulation Four groups were formed based on stimulation days (<7 days , 7-9 days , 9-11 days , more than 11 days of stimulation) . Patients underwent standard protocols for stimulation using gonadotropins and embryo transfer was done on day 3 or 5 after oocyte retrieval .Chi square was used to determine clinical pregnancy rates

compared to days of stimulation . Pearson correlation was used to analyse the fertilization rate compared to number of days of gonadotropin stimulation .

Results: There was no significant correlation between the number of eggs retrieved and the length of gonadotropin stimulation. The fertilization percentage was not significantly different between days of stimulation . A maximum fertilization rate of 65 .25 percent was found

(2) in less than 7 days of stimulation . The clinical pregnancy rates as seen by the presence of a sac and cardiac activity sonographically was seen to be optimum in the group with 7-9 days of stimulation (55 %) though no significant difference was found in the four groups . Longer stimulation of more than 11 days did not affect the embryo quality as evaluated by percentage of grade 1 embryos in each group . Peak estradiol levels were not significantly different in each group on the day of HCG .

Conclusion: Length of gonadotropin stimulation did not affect the pregnancy outcome . This correlates with embryo quality and fertilization rates in IVF –ET cycles .

Room: Hall B

Session11 : Male Infertility

O-42 Are there any predictors for spermatogenesis in non – obstructive Azoospermia (NOA)?

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Introduction:The introduction to clinical practice of assisted reproduction techniques (ART) made fatherhood possible for non-obstructive azoospermic men. But before surgical testicular sperm retrieval, presence of sperm remains difficult to evaluate.

Our objective is to evaluate the predictive value of serum levels of AMH, Inhibin B, FSH, and Testicular volume as indicators of the presence of testicular spermatozoa in non-obstructive azoospermia (NOA).

Anti-mullerian hormone (AMH), is a member of transforming growth factor family (TGF-β) produced by testicular sertoli cells and involved in regression of Mullerian ducts in male embryos, but in male adults, the role of AMH is still unknown.

Material and Methods: A total of 360 patients with NOA were recruited for this prospective study. AMH in Serum have been evaluated before sperm retrieval by Enzym-Linked Immuno-Sorbent Assay (Elisa), in addition to Inhibin-B, FSH and testosterone. Testicular volume was measured by sonography.

Testicular Fine Needle Aspiration (FNA) and Testicular Sperm Extraction (TESE) were performed for sperm retrieval. The patients were classified according to presence or absence of Testicular spermatozoa into two groups (I and II respectively) .

Ethical approval was obtained from health authority, and all patients gave informed consent to participate in the study.

Results: Spermatozoa were retrieved in 161 patients (44.72%) which classified as group I and were absent in 199 patients (55.28%) in group II

Serum AMH demonstrated a sensitivity of 68.32 (95% Confidence interval [CI]:60.5-75.4) and specificity of 83.42 (CI 77.5 – 88.3) for the prediction of the presence of spermatozoa in sperm retrieval as determined by the receiver operating characteristic (ROC) curve analysis and area under curve (AUC). But serum Inhibin B demonstrated a sensitivity of 56.32 (CI: 45.26 – 66.94) and specificity of 89.36 (CI: 83.06 – 93.92) for the same prediction.

Mean serum AMH±SD was significantly higher in group I than group II (5.166 ± 3.6152) versus (2.012 ± 2.7963) respectively (P < 0.001), but other markers did not have similar prediction power. The odds ratio of AMH was 1.4171 (95% CI:1.2919 to 1.5544).

We note that the lowest levels of AMH were observed in klinefelter patients (46XXY), which the mean of AMH±SD was 0.5129 ± 0.8324.

Conclusions: AMH as a potential marker of persistent spermatogenesis seems to reach a satisfactory clinical utility, and in association with other parameters such as Inhibin B, FSH and testicular volume could allow to improve predictive value of male assessment in NOA.

Key words: Anti-Mullerian Hormone, Inhibin B, Sperm retrieval, Non-obstructive Azoospermia.

O-43 Levels of the oocyte activator PLCζ may be linked to male age

Ramadan, WR; Jones, C; Kashir, J; Navarro, C; Díaz, JC; Coleman L; Coward, K

Introduction: The fundamental process of mammalian oocyte activation is regulated by the sperm-specific protein phospholipase C zeta (PLC ζ). When introduced into the oocyte at gamete fusion, PLC ζ initiates a series of signalling mechanisms which initiate oocyte activation and early embryogenesis. Absence, reduced levels, or abnormal localisation patterns of PLC ζ in human sperm have been linked to certain types of infertility. Previous studies have identified multiple localisation patterns for PLC ζ in mouse and human sperm, suggesting differential functional roles. In the mouse, PLC ζ has been detected in both acrosomal and post-acrosomal regions. In human sperm, PLC ζ has additionally been identified in the equatorial segment. Our previous work revealed notable variability in both total level and localisation pattern of PLC ζ in human fertile controls, but whether these important parameters change with male age remains untested. Such a relationship may provide important clues as to whether oocyte activation capacity also varies with age. In the present study, we describe pilot data acquired from both a mouse model and fertile human donors.

Materials and methods: Quantitative immunofluorescent analysis of PLC ζ protein in (1) swim-out sperm from the cauda epididymus [n=15] in mice aged 6, 16 and 32 weeks of age, and (2) sperm from fertile human donors [n=9] obtained with informed written consent and categorised into four age groups [20-25, 26-30, 31-35 and 36+ years of age]. Analysis involved 100 sperm per subject.

Results: Preliminary analyses from a laboratory mouse model indicated that the total level of PLC ζ in the sperm head does not change significantly with male age. However, statistically significant changes in specific localisation pattern appear to occur with progressive male age ($p < 0.0004$) with the post-acrosomal pattern becoming more dominant with advanced age. Conversely, we detected a significant reduction ($p < 0.0007$) in the total level of PLC ζ in human sperm with advancing age, but with no apparent relationship with localisation pattern.

Conclusions: Our findings are indicative of subtle species-specific relationships between PLC ζ and advancing male age. Of particular note is the detection of a statistically significant reduction in the total level of PLC ζ in human sperm with advancing male age. Whether this indicates an associated reduction in oocyte activation capacity remains to be tested. Current studies aim to both increase the number of human donors recruited and to incorporate physiological tests of oocyte activation ability.

Keywords: Sperm, oocyte activation, PLC ζ , age, infertility

O-44 The detrimental effects of abnormal body mass index on sperm chromatin condensation and DNA integrity

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Introduction: Some studies reported that obesity has detrimental effects on GnRH-LH/FSH pulse, which is related to Leydig and Sertoli cell functions and thus can impact the sex hormone release, sperm production and maturation. Only few studies have addressed the effect of BMI on the male subfertility and DNA fragmentation and chromatin condensation. The present investigation was designed to compare semen parameters and DNA integrity in men with different BMI range.

Material & Methods: Semen samples were collected by self-masturbation of men. The body mass indices were categorized as < 20 kg/m², 20-24 kg/m², 25-30 kg/m² and > 30 kg/m². Semen parameters (sperm motility, viability and morphology) were analyzed according to World Health Organization (WHO 2010). Sperm DNA integrity and chromatin condensation were assessed by TUNEL and Aniline Blue staining respectively.

Result: We did not find any detrimental effect of male abnormal BMI on sperm parameters. With regard to sperm DNA integrity, men with BMI greater than 30 kg/m² had poorer sperm DNA integrity and chromatin condensation than other groups, but it was not statistically significant.

Conclusion: Although, some studies have presented negative relationship between different grades of BMI and sperm DNA integrity, but we did not see the same results. However, our project is still in progress and it will be possible to find different results in future.

O-45 Impact of semen cryostorage on IUI outcome

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Background: Cryostorage of semen is an easy procedure to facilitate infertile couple circumstances (e.g unequal two follicles size, home semen sample from faraway distance and others) which required more research to be a cornerstone in assisted reproduction.

Objective: The aim of this study is to assess the viability and fecundity of semen cryostored at 5°C for 24 hours using the Modified Tris Solution (MTS) mixed with 30% human serum albumin (HAS) and to be used for intrauterine insemination (IUI).

Materials and Methods: This study was conducted in the laboratories of the IVF Institute, Al-Nahrain University through the period from October 18-2009 to June 1-2010. The study included 86 couples with a total of 112 consecutive ovarian stimulation cycles undergoing insemination. Semen specimens were assessed for certain sperm function parameters namely; sperm concentration, active sperm motility grades A and B and the percentage of morphologically normal sperm (MNS) at the time of collection and 24 hours after cryostorage by using MTS mixed with 30% HAS (20%) at 5°C by using the laboratory refrigerator. Patients randomized into two groups: In group 1: Standard IUI (n = 50), specimens were prepared by Ham's F-12 medium, and used for intrauterine insemination. In group 2: Double IUI (DIUI) (n = 36), specimens were processed and used for IUI, leaving an aliquot for cryostorage for 24 hours in the MTS mixed with 30% HAS (20%) at 5°C. After cryostorage, the aliquots were re-warmed at 37°C, centrifuge (wash and spin, *in vitro* activation technique) and the final pellet was re-suspended in 0.75 ml of Ham's F 12 medium, to be used for second insemination.

Results: The overall sperm characteristics between the two groups were within normal range. Highly statistical Significant ($P < 0.001$) decreases were noted in sperm concentration (million /ml) (21.65m/ml) following cryostorage process of washed semen after 24 hours. But the percentage of active sperm motility including grade A (36.05%), grade B (48.15%) and the percentage of MNS (94.39%) were significantly improved when preparing specimens using MTS mixed with 30% HAS compared with 30 min after activation. At least (≥ 10 million/ml) motile sperm was used to provide a reasonable chance of initiating a pregnancy. The pregnancy rate achieved by double IUI was significantly higher ($P < 0.05$) than standard IUI (38.9% versus 18%) in a properly selected study patients.

Conclusions: It is concluded from this work that the use of the MTS mixed with 30% HAS is extremely convenient for patients requiring semen evaluation, cryostorage with IUI and other assisted reproductive technologies.

Key words: Cryostorage, IUI, Double insemination, Modified Tris solution

O-46 Deleterious effects of alcohol on sperm chromatin condensation and DNA Integrity in experimentally-induced Mice.

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Background: Diabetes mellitus (DM), primary or idiopathic is a chronic disorder of the carbohydrate, lipid and protein metabolism that is characterized by hyperglycemia and glycosuria. DM can affect male reproductive function at several levels. On the other hand, it is demonstrated that ethanol can suppress reproductive performance, sexual behavior and subfertility in laboratory animals and human. Alcohol abuse and DM are considered as important problems associated with poor semen quality.

Objective: Due to importance of healthy spermatozoa in reproduction, the aim of present study is survey the impact of alcohol on sperm chromatin condensation and DNA Integrity in experimentally induced diabetic mice.

Material and methods: Totally 32 Adult male mice (10 weeks old, 35g) were divided into 4 groups, mice of group 1 served as controls and fed on basal diet, group 2 received streptozotocin (STZ) (200 mg/kg, single dose, intra peritoneal) and basal diet, group 3 received alcohol (10 mg/kg, Water-soluble) and basal die and group 4 received both STZ and alcohol for 35 days. The cauda epididymis of each mouse was dissected and placed in 1 mL of pre-warm Ham's F10 culture medium for 30 min. The swim-out spermatozoa were analyzed for sperm chromatin quality and DNA integrity; the air-dried smears were fixed and then stained with cytochemical assays including Aniline Blue (AB), Toluidine Blue (TB), Acridine Orange (AO) and Chromomycin A3 (CMA3) before microscopic examinations.

Result: In diabetes + alcohol mice, regarding all of cytochemical tests, significant differences were found between groups 1 and 4. However, in diabetic mice (group 2), a significant decrease was found in sperm DNA integrity when compared to control group. In alcoholic mice, a significant decrease was found in the results of AO, TB and CMA3 tests in comparison with control animals.

Conclusion: According to our results, alcohol and diabetes can cause abnormalities in sperm chromatin condensation and DNA integrity individually. On the other hand, the combination of DM and alcohol consumption has more deleterious effects on sperm nuclear integrity.

Key words: Mice, DNA Integrity, Sperm parameters, Diabetes, Alcohol.

O-47 The beneficial effect of folic acid and zinc sulfate intervention on endocrine parameters and seminal antioxidant defense, after varicocelelectomy

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Introduction: Varicocele is one of the most causes of male infertility which defective spermatogenesis mentioned as a consequence of this vascular defect, through mechanisms that is not well understood. The present study aimed to evaluate serum hormonal level (inhibin B, FSH and testosterone) and seminal plasma antioxidant defense levels post folic acid and zinc sulfate intervention following varicocelectomy.

Material and methods: Every participant was randomly allocated into four experimental groups. Our randomization schedule was; zinc sulfate/folic acid (ZF), folic acid (FA), zinc sulfate (ZS), and placebo (PL). The patients underwent varicocelectomy, before which a blood and semen sample was obtained before varicocelectomy, and also three and six months after varicocelectomy for evaluation of blood hormonal level (FSH, testosterone, inhibin b) and seminal oxidative stress status (NO, SOD, TAC). Patients in each group took orally one capsule per day after dinner following varicocelectomy for 6 month. The dosage of the zinc sulfate was 66 mg per capsule and for folic acid it was 5 mg per capsule.

Results: In the group of patients with 6 month zinc sulfate and folic acid co-administration, a significant rise in peripheral blood inhibin B and seminal plasma (SOD) activity was detected.

Conclusion: The present evaluation indicates beneficial effects of zinc sulfate administration on endocrine parameters and seminal antioxidant condition, after varicocelectomy.

Room: Hall C

Session12 : Psychology and Counseling

O-48 The attitude of the Iranian Infertile couples toward egg, sperm and embryo donation programs.

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2. Medical Ethics and History of Medicine Research Center, Tehran University of Medical Science, Tehran, Iran

Background: Iran is the only Muslim country in which, donation programs and surrogacy is practiced whilst they are forbidden in all others. Although embryo donation is accepted by law and gamete donations and surrogacy are allowed by clergy leaders, but the acceptance of such programs is dependent to the culture and people beliefs. As the culture and the beliefs in the society changes by time, this study was done among Iranian infertile couples to evaluate their attitude and acceptability of such programs.

Methods: It was a qualitative study done on infertile couples undergoing assisted reproductive techniques in Royan Institute. The qualitative method was grounded theory and we used quota sampling method. Deep interviews were done with wives and husbands separately with the open and general questions followed by ad hoc questions. Our focus was on their acceptability of the donation programs, their idea about the parents-child relationship and their knowledge about legal and religious issues.

Results: In content analysis, there were two core themes among the cases first the stigma of infertility and the second was sharing of third party in the family. Both of the stigmas were difficult to bear but in comparison, infertility was more difficult and our cases accepted the donation because the stigma of infertility was intolerable for them. The sentence: "if there is no other way" was frequently repeated by our cases when they present their acceptance. In comparison between egg, sperm and embryo donation, sperm donation was rarely accepted by men and egg donation was easily accepted by both men and women. The reason we found for women was that they can get pregnant and have share in the baby born by donation and for men is that polygamy is accepted in Islamic contexts. There were almost agreement between couples, but most of the women followed the husband's idea regardless of the etiology of the infertility. Our cases rarely had legal or religious information about the donation but consider them acceptable legally or religiously. Also they almost believe that the child belongs to the recipient families but had doubt about the children resulting from sperm donation. Confidentiality of the procedure was really important for all.

Conclusion: Acceptability of donation programs among Muslim infertile people in Iran is significant.

Keywords: Donation, acceptability, Muslim, third party

O-49 Looking at infertility treatment through the lens of spirituality: the effect of group logotherapy on infertile psychological distress

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Anahita Khodabakshi Koolee: *PhD, family counseling Department, University of social welfare and Rehabilitation science, Tehran, Iran*
Farzane alipour: *Medical Student, students research committee, Jahrom University of Medical Sciences, Jahrom, Iran*

Background: Women in particular suffer from the psychological stress that can be caused by infertility. Psychosocial interventions are known to not only prevent and lessen various mental problems, but also to play a positive role in physical health and a rate of pregnancy. The aim of this study is the unique impact of spiritual psychotherapy on infertile worry and Perceived Stress of them as a psychological stress

Materials and Methods: This study is randomized clinical trial. The study population included all infertile couples that visited maternity and gynecology Clinic, nearly 800. Sampling was from 75 people that randomly divided into two groups of experimental (33) and control Groups (32). Experiment group received spiritual group psychotherapy 12 sessions 2 hour weekly for 3 month. Data gathering were from Penn State Worry Questionnaire (PSWQ) and perceived stress test. Data analysis by descriptive and analytic statistics in SPSS 16 software.

Results: Psychological intervention in the treatment group significantly decreased the Penn State Worry Questionnaire, $p = (0.004)$.

Differences mean score of the Penn State Worry Questionnaire (PSWQ) in two groups were significant after intervention by ANCOVA test ($p = 0.009$). Psychological intervention also in the treatment group decreased level of Perceived stress in two groups. There was significant differences between mean score of Perceived Stress Scale after intervention by analysis of covariance's test (ANCOVA) ($p = 0.01$).

Conclusion: Logotherapy is related to stress reduction and decreases level of psychiatric symptom (worry and Perceived stress). This approach can be tends to improve the infertile adjustment to their problem from finding meaning of the life. Thus, it can be concluded that logotherapy along with other treatment methods can be useful approach in infertile couples.

Key word: Spiritual group therapy, Psychological Distress, mental health, infertile women

O-50 Assessing Sexual Function with Female Sexual Function Index (FSFI) in Iranian infertile Women.

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Introduction: Infertility is a reproductive health problem. Infertility is the bitterest experience of life that Sexual function is influenced. Sexual function in women is multifactorial and is affected by psychological, sociological, environmental, and physical factors. Female sexual dysfunction includes Disorders of arousal, desire, and lubrication, as well as anorgasmia and dyspareunia, are typical complaints reported on sexual function questionnaires. The purpose of the study, Assess female sexual dysfunction in Iranian women.

Methods: A cross-sectional study was conducted between April 2001 and September 2001 using 402 infertile women. The Female Sexual Function Index (FSFI) questionnaire was used for sexual function assessment.

The data were analysed by Descriptive Statistic and presented as mean, standard deviations, minimum and maximum values and used SPSS 18 software program.

Results. A total of 402 women were surveyed. The mean age of women 28.83 ± 6.43 years were. The average total FSFI score was 17.67 ± 10.49 (median 21.10). Mean \pm SD scores for the FSFI domains.

were: desire (2.61 ± 1.68), arousal (2.70 ± 1.74), lubrication (3.14 ± 2.05), orgasm (2.82 ± 1.94), satisfaction (3.55 ± 2.13) and pain/dyspareunia (3.06 ± 1.97). Result showed that 328 (81.6%) of women had sexual dysfunction (FSFI < 26.5). While only 74 (18.4%) had normal sexual function (FSFI score ≥ 26.5). 11.4% of women had not experienced orgasm. In addition, 8% had no lubrication during sexual activity and 9% had pain within the vagina or genitalia during and after sexual activity.

Conclusion: sexual dysfunction in infertile women was rather high. Infertility had effect on sexual function. Infertile women need counseling about psychological changes in infertility.

Keywords: Sexual function, infertility, Female Sexual Function Index.

O-51 Nuptiality and Fertility in Saudi Arabia: An Appraisal of 2004 Census

Asharaf Abdul Salam

Center for Population Studies, King Saud University, Riyadh, Saudi Arabia, 2012

Saudi Arabia is the largest country in Western Asia by land area, constituting bulk of the Arabian Peninsula and second largest in the Arab World. One of the most sparsely populated countries in the world the Kingdom has its population settled as a result of rapid economic and urban growth. Higher birth rate and lower death rate with higher levels of expectation of life at birth characterizes Saudi Arabian demography. Here is an attempt at appraising nuptiality and fertility in the Kingdom as reflected by 1992 and 2004 Census. Marriage patterns are

changing with higher age at marriage, increasing ever marriage, reducing adolescent marriage, reducing divorces and reducing polygamous marriage. Fertility, in this report was captured from children ever born, parity, fertility during 12 months prior to 2004 census and sterility. The children ever born to Saudi Arabian ever married women were 3.8 with equal number of male and female children. Women of higher age (beyond 49 years) had higher number of children ever born that indicate reduction of birth rates during the past. Fertility levels remained higher. The number of woman at zero parity indicates incidences of sterility among the population. Incidences beyond 45 years were indicative of sterility that 12.5 percent of ever married women were sterile. Fertility transition was under way in the Kingdom as a result of improved female education, value of children, higher age at marriage and reduced infant and child mortality rate. But, high levels of sterility were a concern.

Keywords: Marriage, Family Planning, Parity, Children ever born, Sterility

O-52 The viewpoints of surrogate mothers about surrogacy as a treatment in Shiraz in 2011

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2General physician

Introduction: One of the new method for solving the problems of infertile people is surrogacy. Which is done by the intervention of the third person "surrogate mother". We aimed to assess the viewpoints of surrogate mothers regarding their problems in this method .

Methods and materials: In this descriptive cross-sectional study a sample of 7 surrogate mothers were selected in Shiraz and data were analyzed through a questionnaire regarding this method.

Results: For selecting a surrogate mother there are some parameters to be obeyed such as age(less than 35) and at least having a healthy child.4 of the cases had the first factor and all had the second one. Also there are other features such as psychological and physical health that 6 of the cases had it.4 of the cases claimed that they accepted that because of solving their financial problems and the others mentioned helping infertile couples.5 of the cases, mothers adopted that for the first time and the others have already donated fetus and ovum. Most of the cases wouldn't tell the truth to their family because they felt embarrassed.

Conclusion: Although all the participants accepted to be surrogate mother for internal satisfaction, half of them accepted that for their financial needs.

On the other hand, laws of surrogacy are not obeyed completely .But the culture of acceptance of surrogate mothers by the society should be progressed.

Limitation of the samples and not incorporation of surrogate mothers should be considered. That are because of cultural and religious reasons.

O-53 Septate uterus with cervical duplication and longitudinal vaginal septum

Kabli, Nadia

Introduction: Congenital uterine anomalies are known to be associated with reproductive difficulties. Structural anomalies of the female genital organs could be due to failure of one or more Mullerian ducts to either develop or canalize. Anomalies also could results from abnormal fusion of the two Mullerian ducts which may result in variable defects ranging from uterine septum to complete duplication of the uterus, cervix and vagina.

Partial uterine septum is the commonest congenital anomaly of the female reproductive tract, and it is managed successfully with hysteroscopic metroplasty. However, complete uterine septum which may extend through the cervix and vagina is considered a management challenge due to its rare occurrence and the lack of agreement on the indications and techniques of unification of the two cervical canals

Materials and methods: Total of 28 patients were diagnosed with Müllerian dysgenesis from January 2010 to June 2012 at department of Obstetrics & Gynecology, King Abdulaziz Hospital and Dr. Sameer Abbas Medical Center, Jeddah, Saudi Arabia. Diagnosis was made by ultrasound, HSG, and pelvic MRI. Among the 28 patients, one patient with T shaped uterus, 4 arcuate uterus, 2 didelphys uterus, 15 partial uterine septum and 6 patients with complete uterine septum extending to the external cervical os. Among those 2/6 cases of vaginal septum.

Hysteroscopy Metroplasty was carried out under laparoscopy direct vision. The vaginal septum was first incised. The cervical septum was then divided far up to 3 cm depth in the cervical canal using electrocautery knife. Metroplasty was carried out until unification of uterine cavity was obtained..

Follow-up HSG was performed for all patients at 2 months after surgery to assess the uterine cavity. One patient required resection of remnant of the septum.

Results: Reproductive Outcome

Patients who had abnormalities other than complete uterine septum were excluded from analysis. Pregnancy was attempt after 3 months of surgery. Pregnancy was achieved in 3/6(50%) patients. All patients undergone elective cervical cerclage. One patient achieved spontaneous vaginal delivery at 35 weeks. Two patients with ongoing pregnancies at 18 weeks and 23 weeks respectively.

No case of uterine perforation, hemorrhage or uterine perforation was reported

Conclusion: Incision of the vaginal septum using unipolar electrocautery technique is safe and easy procedure. Incision of the cervical portion of the complete uterine septum could be achieved under direct vision using electrocautery knife. Removal of the cervical septum facilitates hysteroscopic resection of a uterine septum without increasing the operative risks or jeopardizing the patients' reproductive potential.

Keywords: Uterine anomalies, cervical septum, metroplasty.

Room: Hall D

Session13 : Operative Laparoscopic Surgery

O-54 Hysteroscopic Metroplasty for T Shape Uterus

Mustapha CHAABAN M.D

The first synthetic estrogen, diethylstilbestrol (DES), was developed in 1938,¹ it was used clinically to prevent complications of pregnancy.

DES use declined after discovery of a strong association between an unusual cluster of cases of clear-cell adenocarcinoma of the vagina and cervix in adolescent girls and young women and in utero exposure to DES.

Afterwards clinical studies of women exposed to DES in utero showed developmental defects of the genital tract leading to infertility as well as several complications of pregnancy.

These anomalies include a T shaped uterus and a mediocervical restriction attributed to excessive unorganized myometrial hypertrophy, which can render a uterus unsuitable for sustaining a pregnancy leading to infertility and adverse pregnancy outcomes.

Despite the fact that the burden of this problem had to wane due to the stoppage of the use of DES worldwide after discovery its adverse effects in the 1970's we are still seeing patients who present with the typical features associated with des exposure even in young patients who do not fall within the time limits of the use of des which poses the question whether exposure to DES can induce longterm effects that could be passed to the progeny?

Hysteroplastic metroplasty, a relatively simple and reproducible technique has been developed in an effort to improve the obstetrical performance of these ladies who present with either infertility or adverse pregnancy outcomes and who present the features of a DES uterus.

We conducted a study in our center on 60 patients presenting with infertility or adverse pregnancy outcomes and who underwent hysteroscopic metroplasty and followed their performance after being operated.

In this presentation, we present our results as well as a video demonstration of the Technique.

O-55 Robotic Myomectomy using an ultrasound-guided probe

A. Karim Nawfal, MD

Obstetrics and Gynecology

Minimally Invasive and Robotic Gynecologic surgery

The use of the robotic platform offers multiple advantages during a myomectomy. However the absence of haptic feedback can be disadvantage. The utilization of an ultrasound guided probe during a Robotic myomectomy allows for an intra-operative imaging of the uterus and improved detection of leiomyomas.

O-56 Laparoscopic surgical management and fertility outcomes

Dr Haider Najjar

Endometriosis is a common, chronic and oestrogen dependant condition. It is associated with both infertility and pelvic pain. Despite many different staging systems being proposed the r-AFS score is still the most commonly used. Stage Endometriosis is a common, chronic and oestrogen dependant condition. It is associated with both infertility and pelvic pain. Despite many different staging systems being proposed the r-AFS score is still the most commonly used. Stage IV is severe disease with endometriomas and possible bowel involvement. (1985).

Surgical excision of severe colorectal endometriosis may improve patients' symptoms and fertility outcomes. The laparoscopic approach is feasible and safe. It requires multidisciplinary team approach and extensive surgical training. The different surgical options are detailed with a short video. A summary of the fertility outcomes from our series is detailed.

O-57 Assisted reproductive technology in Egypt, 2005-2006-2007: Results generated from the Egyptian IVF registry

Omnia Kamal, Ragaa Mansour, Mohamed Aboulghar, Gamal Serour
The Egyptian IVF-ET Center

Introduction: Medical registries have become a vital part of the epidemiological field allowing clinicians, regulatory bodies and the public to be aware of the success and complication rates in a given field. The objective of this report is to summarize the results of ART procedures cycles initiated in Egypt during the years 2005-2006-2007.

Material and Methods: The forms, prepared by the International Committee Monitoring Assisted Reproductive Technologies (ICMART), were distributed to all IVF centers in Egypt, and were invited to voluntarily participate.

Results: Data were anonymously received from 18 centers in 2005, 16 centers in 2006, and 15 centers in 2007, with a total of 31,971 cycles were reported. In fresh cycles ICSI constituted 98 %; while IVF constituted only 2 % of the total number of ART cycles. Frozen-thawed embryo replacement cycles represented 16.3% of all ART cycles.

For ICSI, the clinical pregnancy rates per aspiration and per transfer were 35 %, 38.5 %, respectively. The distribution of singleton, twin, triplet and high-order deliveries for IVF, ICSI and FET combined was 70.3%, 27.3%, 2.4%, respectively. This gives a total multiple delivery rates of 29.7% per delivery. As a result of ART activities, 8833 neonates were reported born and the outcome of 2202 cycles (21%) were lost to follow-up from total pregnancies.

Complications of ART were mainly ovarian hyper stimulation syndrome, complicating 382 cases (1.2 %) of cycles; the occurrence of bleeding in 114 cases and infection in 11 cases of all aspiration cycles.

Conclusions: These are the Sixth, Seventh and Eighth consecutive reports of the activities of the Egyptian IVF registry for cycles initiated during the years 2005-2006-2007. The clinical pregnancy rates were comparable with the previous reports. The multiple pregnancy rate is still higher than would be desired. The number of embryos per transfer should be limited to two or one except in certain indications, (≥ 3 embryos) per transfer. OHSS is also high and therefore preventative measures must be stricter. More efforts are needed to complete data on deliveries and perinatal mortalities.

O-58 Challenges of didelphus uterus :A rare case of twin pregnancy after assisted conception in didelphus uterus at Razan Medical Center Palestine.

Abu khaizaran A.,Naser.Z,Thawabteh .N,Younes,T .Zeq,O.Awartani,A.Rabadi.N. Abu khaizaran .S.
Razan Medical Center Palestine

Introduction: Few cases of Twin pregnancy worldwide reported after E.T in each uterus after assisted conception (didelphus uterus).

Naturally it occurred 3-5 per 1000,000.

In art it increased to be 10 per 1000,000.

Method and material:

HISTORY: couples Mrs D.G &MR H.M seen June 2010 as a case of primary infertility for four years (male factor+ pco).

After trial of IUI out side twice failed.

Investigation :SPRL 22ng/ml, TSH 2,2miu/ml.FSH 4,5 .LH 11,2.BG B positive .

HB 13,2g/dl. Plt 300,10³ /mm³.

HSG-Didelphys uterus .

Uss :double uterus adequate size ,ovaries pcos .

,motility-20%,N.F-5%.Semen analysis :count -7*10⁶

Treatment,ART.

1ST attempt: long modified protocol with 112,5 FSH for 8 days produced 16 oocytes, 12 fertilized . E.T- 4 embryos ,2 in each uterus ,8 embryos frozen luteal support given .But failed.

2ed attempt :artificial cycle Frozen E.T done 3 embryos in lt uterus with luteal support unfortunately biochemical pregnancy .

3ed attempt: long modified protocol with 112,5 FSH for 7 days produced 18 oocytes, 14 fertilized . E.T- 4 embryos ,2 in each uterus ,10 embryos frozen. PT positive.

Uss : twin pregnancy ,one in each uterus , both viable .

Antenatal care : uneventful .

N.T done normal for both .

CX assessment and cx stitch done in each cx.

Detailed uss : twin both viable ,no abnormality seen.

Received dexamethazone 12 mg 1*2*1 at 28wks.

Result:

PTL at 34+WKS delivered by C\S alive babies .

1st –male baby A\S 7\8\9, Wt 2050g.

2^{ed} –male baby A\S 6\8\9, Wt1970g.

Recommendation:

- E.T - should done in both uteruses to catch both endometrial respectability to increase pregnancy rate.
- Endometrial assessment for both cavities .
- Cx - assessment for the need of cerclage.
- N.T &Detailed scan are mandatory.
- cesarean section safer for babies.

O-59 Pregnancy rate after removal of pelvic pathologies in infertile women

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Background: Approximately 50 to 80 million people in the world suffer from infertility and about 10 to 15 percent of couples face infertility in our society. laparoscopy remains the gold standard for diagnosis and treatment of the ovarian, fallopian tubal, and pelvic pathologies. The objective of this study was to assess the rates and types of pelvic pathologies observed during diagnostic laparoscopy, and the pregnancy rate after removal of pelvic pathologies in infertile women.

methods: In this cross-sectional study, 162 infertile women referring to the Honari Clinic of Jahrom, Iran from 2009 to 2011 were enrolled. Laparoscopy was applied for these women due to other unsuccessful treatments. Information was collected from medical documents , interview , and telephone follow-up , then data was analyzed for descriptive statistics by SPSS .

Results: With the mean age of 27.2 ±5.31years, 80.2% had primary infertility. The result of hormonal assessment revealed normal hormonal range in 92 cases (57.5%), and abnormal hormonal range in 68 cases (42.5). According to the laparoscopic findings and evaluation of ovarian problems, the causes of infertility included 66% ovarian cysts, 9.9% endometriosis, and 4.3% adhesions. Also, mixed-factors consist of endometriosis and ovarian cysts, 19 cases (11.7%), tubal adhesion and ovarian cysts were 9 cases (5.6%), and endometriosis and adhesions, 4 cases (2.5%). The rate of pregnancy after laparoscopic surgery was 54.9%, most of which (84.26%) had been occurred after removal of cysts and polycystic ovaries, 8.98% of pregnancies were after treatment of endometriosis, and 6.76% were after removal of tubal adhesion.

Conclusion: Generally, common causes of infertility are ovarian cyst, endometriosis and fallopian tubal occlusion and Diagnostic laparoscopy is a golden standard for detecting pelvic pathologies and it is an useful method to choose the proper treatment for the patients.

Key words: infertility, laparoscopy, pregnancy

Friday October 5, 2012

Room: Hall A

Session14 : Keynote Lectures

O-60 Endometrial receptivity assessment: what is new?

Prof. Antonio Pellicer

Instituto Valenciano de Infertilidad (IVI), University of Valencia, Spain

The endometrium is a hormonally regulated organ that is non-adhesive to embryos throughout most of the menstrual cycle in humans. Endometrial receptivity refers to a hormone-limited period in which the endometrial tissue acquires a functional and transient ovarian steroid-dependent status allowing blastocyst adhesion. Functional genomic studies of human endometrium in natural cycles have demonstrated that endometrial receptivity is an active process involving up- and down-regulation of hundreds of genes (1), for review see (2). Personalized medicine is a well-accepted concept in reproductive medicine except for the endometrial factor that is still neglected. Our group has developed the endometrial receptivity array (ERA) (3), a customized array of 238 genes coupled to a computational predictor capable of diagnosing a functionally receptive endometrium regardless of its histological appearance (3). The accuracy of the diagnostic tool ERA has been demonstrated to be superior to endometrial histology and results are completely reproducible 29 to 40 months later (4). Clinical results obtained will be presented to demonstrate the diagnostic and therapeutic efficiency of the ERA test in patients with implantation failure (IF), through personalization of the day of embryo transfer (pET).

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5. Ruiz M, Blesa D, Díaz-Gimeno P, Vilella F, Pellicer A, **Simón C**. The endometrial receptivity array as diagnosis and personalized embryo transfer as treatment for patients with repetitive implantation failure. *Fertil Steril* 2012 Submitted

O-61 Endometrial regeneration: Science or fiction

Javier Santamaria Costa (Spain)

Abstract not received

O-62 IVM for PCOS patients: Selection criteria and tips for success

Dominique DeZiegler (France)

Abstract not received

Room: Hall B

Session15 : Fertility Preservation

O-63 Why young women with cancer are still at a disadvantage when fertility preservation is considered?

Talha Al-Shawwaf (UK)

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Objectives: To learn 1) if women with cancer who may benefit from fertility preservation (FP) are disadvantaged though lack of referral to fertility specialists, 2) how to work with cancer specialists and others on ways to provide effective pathways for women requesting FP and 3) presenting some of the newer advances in FP.

Case Presentation: A 23 year old woman with non Hodgkin lymphoma who has a large tumour in the chest and will need chemotherapy with a possibility of further moving on to TBA and stem cell treatment was referred for fertility preservation.

Case Presentation: A 39 year old woman and her husband were referred for fertility treatment. She had treatment for breast cancer 3 years ago including chemotherapy, GnRh agonist and tamoxifen. The couple have been given a one year gap to try for a child.

Background and research:

Infertility is second to mortality as a serious concern to young women recently diagnosed with cancer. Yet only less than half may have had a discussion with their cancer therapist on their future fertility and fertility preservation (FP). 70% of young men and women survive cancer and are requesting to have a full and active life. Fertility preservation is a new and rapidly evolving field which offers children and young women and men with cancer the chance that in the future they may fulfil their desire for a family. FP has been a vehicle for advancing research and developing ideas and methods in Reproductive Medicine.

There are many concerns from those involved in cancer therapy why they do not discuss FP with their young patients including ethical issues and the priority need to save their patients. Recent studies have concluded that young women who survived cancer feel very resentful that FP has not been considered with them. Many if given the appropriate advice would be able to make their choice.

The need to offer young men and women advice related to their future fertility potential needs early engagement by all concerned. This will require a multidisciplinary team in cancer centres with easy access to a specialised FP centre. At diagnosis the team needs to talk to patients and clearly explain all the options including not proceeding to FP. Early referral follows to FP centre to meet a specialist. This will lead to a more satisfying and less depressed cancer therapy as has many men and women have expressed when they write after their treatment.

Fertility preservation options now include the established methods as use of non gonadotoxic chemotherapy, translocations of ovaries, embryo and oocyte cryopreservation and the innovative as ovarian tissue cryopreservation and later auto transplantation for fertility or menopause reversal, in vitro maturation followed by oocyte or embryo cryopreservation, use of gonadotrophin releasing hormone agonist during chemotherapy, in vitro follicular culture, stem cell and others.

The cases will be discussed to identify what options to discuss with the women and their partners.

Take home message: Young men and women should have the opportunity to talk to specialists about future fertility and reproductive function early in their cancer therapy pathway.

O-64 Fertility Preservation in young women with cancer. How do women with breast cancer compare to those with other types of cancer?

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Learning Objectives: 1) Does the response to stimulation in a FP programme differ between women with breast cancer and other cancers? 2) How to advise young women with breast cancer on fertility preservation (FP)?

Clinical Case: a 32 year old woman recently diagnosed with breast cancer was referred by her oncologist to discuss FP. She is due to start chemotherapy in 3-4 weeks.

Medical Literature and Research:

The 5 year survival for women with breast cancer approaches 90%. Young women with breast cancer comprise the majority of young women requesting fertility preservation (FP). Cryopreservation of embryos and oocytes represent the most widely used FP treatment. Concerns have always been raised on the effect of rising hormones during the ovarian stimulation to promote multiple follicular developments. This hypothetical concern has made many oncologists resist discussing and referring women in their reproductive age to meet fertility specialists to consider the options available and decide on FP. It has also been of a concern if women with different types of cancer going through a FP programme have different outcomes with regards to their stimulation and number of oocytes retrieved. Various options have been developed recently. Oktay and his group have introduced letrozole as adjuvant to gonadotrophin in an antagonist protocol. The same group reported that with this stimulation there was no increase in cancer recurrence. Concern though still remains among cancer specialists. Analysis of the experience in our centre will be presented comparing FP in women with breast cancer and those with other cancers in relation to hormonal changes during stimulation and clinical outcome. The analysis supports that use of letrozole in the stimulation protocol leads to significantly lower serum estradiol and will show what factors affected the number of oocytes retrieved and other clinical parameters.

Take home message:

Breast cancer is the most common in young women requesting FP. They need a particular pathway for urgent assessment and advice. Ovarian stimulation using letrozole in an antagonist protocol results in a lower levels of serum estradiol during stimulation.

O-65 Lessons learned from the experience of a rapid access clinic in London, UK.

H Abdel Reda J Kopeika, M Khalil, Y Khalaf, N Reddy

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Introduction: Increased cancer survival has intensified the need for structured fertility preservation (FP) strategies. There is a lack of data describing this service provision. Our aim is to review the experience of a rapid access fertility preservation clinic in a tertiary assisted conception unit (ACU) over a seven year period and to share the lessons learned in order to maximise the efficiency of this service.

Materials and methods: We conducted a retrospective analysis of patients referred to Guy's and St Thomas' ACU for FP counselling prior to cancer treatment between 2005 and December 2011. The demographic and clinical characteristics were reviewed. Time intervals from referral to first consultation and subsequently to oocyte collection were reviewed. Oocyte or embryo cryopreservation cycle characteristics including details of ovarian stimulation, the number of oocytes / embryos obtained, complications, outcome and follow up to date were noted.

Results: A total of 244 female patients were counselled. After the establishment of our dedicated team in 2008, there was a significant increase in the number of patient seen. There was a ten-fold increase in the number of referrals in the year 2011 compared to 2005. On the other there was a three-fold increase in the number of male patients who banked their semen, with a total number Of 683 patients. The time interval between referral and first consultation was 7.2±5.7 days (range 0 to 21). Following the first consultation, 67 (29%) elected to undergo control ovarian (COS) stimulation for oocyte or embryo cryopreservation. Patients could not proceed with treatment for the following reasons: limitation of time due to urgency of initiating chemotherapy (18%), inappropriate referral (including patients already who already started chemotherapy 12.5%), unsuitable for FP (poor ovarian reserve, elevated BMI, diagnosis) (37%), patient choice after counselling (10%) and lack of funding (19%). Cycles were programmed with the oral contraceptive pill / progesterone from the initial diagnosis where required. All women underwent a GnRH antagonist short cycle. The time interval between initial consultation and oocyte retrieval was 22±8.8 days.

Among those patients who proceeded with COS, 49% had their embryos stored, 39% had oocyte cryopreserved, 6% had both oocytes and embryos cryopreserved and in 6% no gametes suitable for cryopreservation were recovered. Eight women returned to have embryos replaced resulting in 7 pregnancies. There were 5 healthy live births at term and one ongoing pregnancy.

Conclusion: A dedicated rapid access FP is strongly needed to meet the growing demand on FP services. Not all patients referred are suitable for this option. Our experience showed that in order to increase the uptake of oocyte or embryo cryopreservation then a well established early referral pathway, close collaboration with oncologist, a dedicated multitask IVF team, nationally agreed policy for funding and long term follow-up is of paramount importance. Ovarian tissue preservation could be a suitable alternative option in cases of haematological disease when time is limited. Patients who receive treatment using their stored material have good prospects of success.

O-66 Endometrial receptivity after oocyte donation in recipients with a history of chemotherapy and/or radiotherapy

Oriol Coll (Spain)

Abstract not received

O-67 The Development of Laboratory IVF Technology: A Historical Narrative

Jaffar Ali¹

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In our fast paced lifestyle it has become impossible to remember and pay homage to those men and women that contributed to the advancement of the science of in vitro fertilization and embryo culture that subsequently spawned the assisted reproduction; cell, gamete and embryo cryopreservation; stem cell, preimplantation genetic diagnosis, cloning and other related technologies that we have come to take for granted. It is incumbent upon us to pause, reflect, learn, empathize and recapitulate the triumphs and tears of those that came before us whose efforts and work, often times at great personal sacrifices and struggles culminated in the efficacious treatment modality of ART and related technologies. We must remember them for their contributions lest we forget our own history. The aim of this presentation is to look back, celebrate and honour those that have made significant contributions to the advancement knowledge in laboratory assisted reproduction technology. This presentation shall begin with the invention of the microscope. Sidney Ringer formulated the Ringer solution (1887) which was the forerunner of the later-day tissue culture and subsequently embryos culture media. Rock and Menkin (1944) tried to fertilize human oocytes but only a few cleaved. The work of Rock and menkin was the forerunner of the human IVF procedure. The first successful In vitro fertilization was in the rabbit described by Dautier et al. and Thibault et al. both in 1954. In 1956 and 1957 Wes K Whitten formulated the very first embryo culture medium with which he was able to culture mouse embryos to the blastocyst stage. In 1959 Chang showed that in vitro fertilized rabbit eggs could develop normally in the surrogate doe. Polge and coworkers successfully cryopreserved porcine sperm in 1970. Mouse embryos were cryopreserved by both Whittingham and Wilmut separately in 1972. Edwards and Steptoe reported the birth of the first IVF baby in July 1978. The first live-birth from frozen-thawed IVF embryos in the human occurred also in 1978 but in October (Mukherjee et al 1978). In 1981 Evans and Kaufmann isolated embryonic stem cells in the mouse. The first birth following PGD of human embryos was attributed to the group led by Handyside (1989). The first live birth from IVM oocytes was reported from oocytes obtained from ovarian follicles surgically removed and donated to another couple (Cha et al., 1991). In 1997 the very first cloned sheep was reported by Wilmut et al. Thomson et al. isolated the first human stem cell lines in 1998. Viable human embryos were generated in a completely defined and synthetic embryo culture medium that subsequently resulted in normal live-births (Ali, 1997, 2004; Ali et al. 2000). The history of laboratory assisted reproduction technology is reviewed.

O-68 The metabolic approach: The must of our age

Massimo Picari (Italy)

Summary

Metabolism is at the core of life. It creates the body and makes it work, reproduce, fight invaders, and age. When metabolic disruption goes beyond a certain limit the body falls ill or dies. The body is the macroscopic manifestation of a tremendously complex biochemical machine and as such metabolic features should always be considered at both the diagnostic and therapeutic stages. Disease and aging are based on metabolic changes which should be a primary target in the prevention and treatment of illnesses and physical and mental decline. The evidence in support of the role that type B malnutrition in developed countries plays in the development of aging and age related diseases is rapidly increasing, as is that in favor of the role of targeted supplementation in improving a number of chronic and acute diseases as well as aging. Furthermore the tremendous increase in life expectancy that has occurred in the last century is unmasking a series of "snags" in human physiology which lead to the conclusion that the human body wasn't "designed" by natural selection to reach the average life expectancy currently achieved in developed countries, Targeted dietary supplementation has been shown to be great importance in conditions such as cardiovascular disease, cognitive function decline, macular degeneration, male sub fertility, endothelial dysfunction, and many others. The metabolic approach is the targeted administration of micronutrients aimed at supporting or correcting the metabolic changes occurring in disease and aging and related to the suboptimal nutritional status of selected nutrients in order to delay ageing thus improving the quality of life, particularly in the second half of it, and reducing the prevalence of chronic and degenerative diseases. This is also a powerful tool to reduce the social cost of chronic and degenerative diseases. Furthermore the metabolic approach is of paramount importance to positively modify the outcome of increased metabolic demand conditions such as acute diseases, stress, and intoxication. My conclusion is that targeted

nutritional supplementation is currently a must in developed countries and such healthcare professionals should look at it as an effective therapeutic tool in their armamentarium, to be employed alone or in combination with drugs and surgery to improve their outcome.

O-69 Protein-free healthcare biotechnology in assisted reproduction: The safer option

Jaffar Ali¹

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Present-day embryo culture medium (ECM) contains donor serum proteins that have the potential to transmit harmful pathogenic protein-bound agents such as viruses and prions to patients/ babies/ healthcare workers. There is a need to develop culture conditions and systems that are safe and non-hazardous for utilization in therapeutic assisted reproduction, regeneration medicine and food production. The European Union recommends where possible avoidance of the use of non-uniform biological preparations (EU Tissue Directive No.2004/23/EU) by April 2007. IVF workers have not been able to comply with this directive due to non-availability of efficacious alternatives to biological supplements in ECM. This presentation aims to discuss the relevance of protein-free embryo culture in human and animal ART (food production), the research efforts spanning nearly two decades of work to develop/formulate an efficacious protein-free medium and the outcome of a clinical trial using embryos generated in the protein-free medium in the human. Efforts to overcome the need for proteins in culture have resulted in the development of a synthetic protein-free (PF) medium that is comparable in efficacy to ECM containing donor proteins. In sibling human oocytes the fertilization rate in PF medium was similar to or better than in control commercially prepared embryo culture medium containing proteins (CECM) for both conventional IVF (85.3%, 116/136 vs 79.2%, 118/149 respectively; p=0.2352) and ICSI (77.8%, 196/252 vs 69.4%, 175/252; respectively, p=0.0432). Quality of day 2 embryos in PF medium was superior to CECM. The average blastomere number was significantly higher in embryos generated in PF medium than CECM (3.7 vs 3.4 respectively; p=0.0011). Embryo grade was also significantly better in PF medium compared to CECM (3.0 vs 2.8 respectively; p=0.0007; Embryo grading range: 4=excellent; 1=poor). Human day 2 embryos generated in PF medium resulted in viable pregnancies (48%, n=114; all age groups; 55% n=95 in women <39yrs; as opposed to 33%, n=1515 in control group. This long-term systematic research effort concluded in the formulation of, for the first time, an efficacious PF medium specific for human embryos. The PF medium eliminates the risk of disease transmission, has less regulatory profile for users, and provides a safe chemically non-variable option in ART. The formulation of the PF medium has created interest in other areas as well. The protein-free culture technology has ramifications in the meat and dairy industries, stem cell technology, cell and tissue transplantation technology, cryopreservation, vaccine production, etc, which as in human ART could benefit from the application of protein-free culture technology.

O-70 Recurrent Pregnancy Loss: Best Practice

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It is estimated that fewer than 5% of women experience RPL, which is defined as 2 or more clinical losses, while only 1% experience 3 or more losses. The causes include anatomical, hormonal, cytogenetic, metabolic, infectious, and immunologic (inherited thrombophilia) factors. No apparent cause can be identified in > 50% of couples with RPL; however the chance of a successful life birth can exceed 50-60% depending on maternal age and parity.

Cytogenetic factor is the main cause of RPL (primarily trisomies), however the risk of aneuploidy at any age is lower in women with RPL than those of women who undergo sporadic miscarriages. New techniques employing microarray analysis of the products of conception (POC) with parental support have nearly eliminated maternal contamination and resulted in fast diagnosis (less than 7 days).

Room: Hall A

Session17 : Maternal and Neonatal Risks of ART Treatment

O-71 Maternal cancer risks following ovarian stimulation for ART

Professor Johannes L.H. Evers, MD PhD FRCOG, *Maastricht University Medical Centre, Research School of Oncology and Developmental Biology GROW, P.O. Box 5800, 6202AZ Maastricht, The Netherlands*

Ovarian malignancies are exceptional in young women. The lag-time (if at all) between the putative cause (ART) and the eventual effect (ovarian malignancies) is long, more than 10 years. This is the main reason why long-term effects of ART on the risk of ovarian malignancies are notoriously difficult to study. In The Netherlands, a cohort of almost 20,000 women who received IVF treatment between 1983 and 1995 was followed prospectively and compared to a group of 6000 subfertile women not treated with IVF. After a median follow-up duration of 15 years, the risk of borderline ovarian tumors was increased in the IVF group compared with the general population: standardized incidence ratio (SIR) 1.7. The overall SIR for invasive ovarian cancer was not significantly elevated, but it increased with longer follow-up duration after first IVF ($P = 0.02$); the SIR was 3.5 after 15 years. The risks of borderline ovarian tumors and of all ovarian malignancies combined in the IVF group were significantly increased compared with risks in the subfertile comparison group (hazard ratios 4.2 and 2.1 respectively, adjusted for age, parity and subfertility cause).

Ovarian stimulation for IVF may increase the risk of ovarian malignancies, especially borderline ovarian tumors. More large cohort studies are needed to confirm these findings and to examine the effect of IVF treatment characteristics.

O-72 Epigenetic profile alteration during ART treatment: Any clinical significance?

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Epigenetics: Epigenetics is the study of changes in gene function that do not entail a change in DNA sequence (1). Currently these comprise histone variants and covalent modifications of DNA bases. A new area of work is the impact not on gene function, but on the silencing and expression of non-coding sequences. The impact of epigenetics is to determine a particular form or function.

The commonest epigenetic modification in mammalian DNA is covalent modification of DNA bases through methylation. Methylation patterns can be inherited or acquired *de novo* of previous unmethylated sites.

Chromatin provides the frame around which DNA is packed. It consists of the nucleosome and DNA spooled around an octamer of histones. Each octamer consists of two units of each principal or variant histones. Specific post-translational modifications on the histones can result in different transcriptional events.

Epigenetic phenomena can have both beneficial and deleterious effects. It is not known to what extent these can be passed on between generations. Because epigenetic reprogramming occurs during germ cell development and embryogenesis, acquired epigenetic states are rarely thought to be passed on the progeny.

Although the whole genome is reprogrammed, only a limited number of loci have been investigated – specifically, those that are associated with known phenotypic changes.

Risk: Epigenetic reprogramming occurs during folliculogenesis and embryogenesis. Any disturbance of these phases could lead to epigenetic alterations.

There are plentiful examples of epigenetic disruption after ART in animals (2). By and large the observed disorders have not been seen following human ART. There are differences between animal and human ART, such as *in vitro* maturation and extended culture, which may account for this discrepancy. However, animal studies are useful, for they point to areas of interest in the genome, and they allow for studies to be carried out without the confounding variables of advancing maternal age or infertility.

The clinical risk can be classified according to what is known and theoretical considerations. We are able to measure the occurrence of perceptible clinical phenotypes. Examples include Angelman syndrome, Beckwith-Wiedemann syndrome and retinoblastoma. These risks can be quantified. It is not possible to conclusively state whether or not there is an increased risk. Given the very low incidence of these clinical phenotypes, even a 100 fold increase would lead to a small absolute risk of about 1 in 3000 births (3).

Of more concern is that pathology may emerge from an as yet unrecognized epigenetic alteration. For example epigenetic changes may result in different susceptibilities for coronary heart disease, stroke or diabetes. It is known that children born of ART have on average a lower birth weight than non-ART children (4), and low birth weight is associated with an increased risk of these clinical conditions. In a retrospective cohort study, ART

children age 8-18 were found to have greater systolic and diastolic blood pressure as well as fasting blood glucose levels (5).

There is also concern about the epigenetic status of tumour suppressors, with the possible consequence of an increased risk of cancer, or fertility concerns in individuals exposed to environmental toxins.

Conclusion: There is enough concern to call for continued monitoring of children born of ART, as well as for more basic science research. Furthermore, when considering the balance of risks and benefits, we should question the practice of performing ART for “soft” indications, such as sex selection, or egg or embryo preservation to postpone having children for convenience of timing.

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O-73 The role of GnRH agonists in preventing OHSS

Chady Yazbeck (France)

Abstract not received

O-74 The optimal final oocyte maturation trigger in GnRH antagonist co-treated IVF/ICSI treatment cycles. Systematic review & meta-analysis

Mohamad Youssef

Introduction: Final oocyte maturation in GnRH antagonist co-treated IVF/ICSI cycles can be triggered with HCG or a GnRH agonist. **Material & Methods:** We conducted a systematic review & meta-analysis of randomized and prospective cohort trials to evaluate the efficacy and safety of GnRH agonist & HCG as optimal triggerers in GnRH antagonist co-treated cycles in fresh autologous cycles, oocyte-donor cycles and freeze all and transfer later cycles. **Primary outcome:** ongoing pregnancy rate. **Secondary outcomes:** OHSS incidence. **Searches:** (though Jan. 2012) were conducted in MEDLINE, EMBASE, Science Direct, Cochrane Library and databases of abstracts. **Results:** There was a statistically significant difference against the GnRH agonist with an OPR in fresh autologous cycles (n=1024) of, OR: 0.69; 95% CI: 0.52 -0.93 . In oocyte - donor cycles (n= 342) there was no evidence of a difference (OR: 0.91; 95% CI: 0.59 -1.40,). Two prospective cohort studies evaluated the freeze all strategy with later embryo transfer in women at high risk to develop OHSS, The cumulative ongoing pregnancy rate was 37.3% (95% CI 25.3%–51.0%) & 36.8% (95% CI: 19.1–59.0) in comparison with 20% in fresh autologous cycles transfer with an almost two fold increase in pregnancy rate (OR: 2.37, 95% CI: 1.3- 4.07). There was a statistically significant difference in favor of GnRH agonist regarding the incidence of OHSS in fresh autologous (OR: 0.06; 95% CI: 0.01 -0.33 & donor cycles respectively (OR: 0.06; 95% CI: 0.01 -0.27). *As regards the proper timing of HCG administration in GnRH antagonist co-treated cycles, there was no evidence of statistically significant difference between early or late HCG administration as regards the ongoing pregnancy rate (2 RCTs, OR: 1.31, 95% CI: 0.90 -1.91), meanwhile there was a lower number of oocytes retrieved in early administration group (2 RCTs, MD= -1.20, 95% CI: -1.30 to -1.10). As regards the suitable dose of HCG for final oocyte maturation triggering, there was no evidence of statistically significant difference between the traditional dose (10.000IU) or a lower dose (2500-5000 IU) in the form of OPR with OR of 0.75, 95 % CI: 0.27 – 2.12), meanwhile, there was a lower number of oocytes retrieved at a lower dose HCG group (MD = -2.50, 95 % CI: -3.79 to -1.21). **Conclusion:** HCG administration at an earlier day (follicular size ≤ 16-17mm) and a lower dose (< 10.000IU) than the traditional HCG regimen used seems to be an optimal trigger for final oocyte maturation in GnRH antagonist co-treated IVF/ICSI treatment cycles. Conversely, GnRH agonist as a trigger seems to be safer than traditional HCG due to the associated low risk of OHSS. Moreover, a freeze all strategy seems to be an alternative option for patients at high risk to develop OHSS with a relatively better pregnancy rate, but randomized controlled studies on this issue are still lacking.*

Room: Hall B**Session18: Ovarian Stimulation**

O-75 Racial differences in ART

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Infertility is a major public health problem in the world, affecting millions of women. Over the past three decades, Assisted Reproductive Technologies (ART) is now an established method to treat infertility. Despite such advances, and unlike other disciplines in medicine, racial and ethnic disparities in infertility have attracted only limited attention. Since the initial report of racial differences in ART outcomes in 2000, there has been a mounting body of evidence identifying racial disparities related to ART access specifically in the US (level I evidence), and to a much lesser degree in other countries. Racial differences will be reviewed, especially as it relates to whites, blacks, Hispanics, South and East Asians. Ethnicity is now an established cofounder in ART success.

O-76 Clinical uses of recombinant LH in fertility treatment

Dominique De Ziegler (France)

Abstract not received

O-77 Diagnosis and management of adolescent PCOS

Ghina Ghazeeri (Lebanon)

Abstract not received

O-78 Management of clomiphene Citrate resistant women with PCOD

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Polycystic ovary syndrome (PCOS) is a heterogeneous disorder in which chronic anovulation is a common feature, despite the presence of multiple micro-structures in the ovaries. A growing body of evidence has suggested that serum hyperinsulinemia and as the result hyperandrogenemia contributes to the excess ovarian androgen secretion observed in women with PCOS. The standard therapy for anovulatory women with PCOS is oral administration of clomiphene citrate (CC). However, significant proportions of women with PCOS fail to ovulate with the use of standard dosage of CC and are called CC-resistant PCOS.

Treatment options including extended clomiphene protocol, clomiphene and dexamethasone combined therapy, insulin-sensitizing agents and /or aromatase inhibitors, as adjuvants to clomiphene citrate and gonadotropins and finally surgical management of PCOD has changed the treatment strategy. Although both standard and novel treatments were addressed in the present review, special attention was paid to the evidence in support of the introduction of glucocorticoids and aromatase inhibitors as well as surgical management of anovulatory women with CC-resistant PCOS.

Room: Hall C**Session19: Recurrent Implantation Failure and Pregnancy Loss**

O-79 Adenomyosis: A cause of implantation failure

Prof. Antonio Pellicer
Instituto Valenciano de Infertilidad (IVI), University of Valencia, Spain

Adenomyosis is a clinical and pathological entity which has been closely related to endometriosis and fibroids, although it has some characteristic features. The presence of adenomyosis is more frequently seen in infertile patients because women have substantially delayed their age for childbearing, and adenomyosis is more frequent after the age of 40. Adenomyosis has been associated with infertility and several mechanisms have been proposed, mainly its frequent association with endometriosis; an impaired uterine motility and gamete transportation; and a defective implantation due to altered uterine vascularization and oxidative stress. A defective quality of the oocytes displayed by patients with adenomyosis has also been reported, but this has never been properly dissected from the association endometriosis-adenomyosis.

Oocyte donation provides the unique opportunity to dissect two relevant steps in assisted reproduction: the origin of the oocytes and the status of the uterus. Thus, an analysis of the outcome of egg donation in women with documented adenomyosis would be relevant in understanding the mechanisms of infertility associated with the disease, if any, and in establishing a prognosis in such patients who accept egg donation, a frequent decision due to their age when attempting to become pregnant. To understand the mechanism underlying reduced implantation in these patients, we performed transcriptomic analysis of the endometrium of women with adenomyosis during the window of implantation (WOI).

Endometrial samples were obtained at LH+7 and analyzed using microarray in women with adenomyosis and healthy controls. The clinical study included patients with adenomyosis (328 cycles), patients with endometriosis (242 cycles) and a healthy control group (331 cycles). Endometrial biopsy in natural cycles 7 days after the LH peak (LH+7). Controlled Ovarian Stimulation (COS) in donors. Embryo transfer in recipients after replacement therapy. Main outcome measures were differentially expressed genes. Implantation, pregnancy, miscarriage and term pregnancy rates in OD.

There was similar endometrial gene expression pattern in both the adenomyosis groups and controls, and non-parametric tests revealed 34 dys-regulated genes in adenomyosis patients but none belonged to the group of WOI genes. Implantation in OD did not differ among the 3 groups. However, miscarriage was significantly higher in the adenomyosis group vs adenomyosis+endometriosis and control groups. Term pregnancy rate was also significantly lower in the adenomyosis group compared to others. Thus, clinical and molecular data show that implantation is not affected by adenomyosis, but the higher miscarriage rates associated with this condition lead to lower term pregnancy rates, indicating a clear negative effect on the final outcome of OD.

O-80 Increased reproductive outcome with testicular versus ejaculated sperm in patients with high levels of DNA fragmentation test'

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The use of testicular sperm to perform ICSI in azoospermic patients is controversial but there are good results in published cases. In the same way the DNA fragmentation in sperm is lower in testicular sperm than in the ejaculate. Since its use in cases of azoospermia obstructive and non-obstructive has proved safe in terms of genetic disorders in newborns, rate of abortions or malformations in newborns we considered conducting a study in this treatment option. We select patients (n = 64) who had a altered sperm fragmentation test (evaluated with SCD), more than 30%, despite the realization of a medical treatment with antioxidants, anti-inflammatory and frequent ejaculations. We offered the possibility of an IVF cycle with ICSI using testicular sperm obtained by TESE (testicular biopsy) to all of them, 20 patients accepted this option. The pregnancy rates were 65% (13/20) in the case of ICSI with TESE compared with 45% (20/44) in the case of ICSI with ejaculated. Due to the nature of the study it can't be randomized, so we analyze a number of variables to see if the differences we found can be due to some factor other than the origin of the sperm, In terms of number of cycles there is no difference (1,85 cycles of average in TESE group compared to 1.5 in ejaculate group), in the same way there is no difference in the percentage of DNA fragmentation in sperm (40.7% of average in TESE group compared to 40.5% in ejaculate). We found a slightly higher number of total eggs in the case of TESE (10.6 eggs on average compared to 8.9 TESE in ejaculate) these differences are reduced when we look at the number of total embryos obtained per cycle (7 vs 6,4) and disappear completely when we look at the number of embryos transferred (2.50 on average in TESE compared to 2.52 in ejaculate). With these results we think that the option of TESE in cases of nozoospermia is an option which must be evaluated in couples with severe malefactor, especially in cases of high fragmentation that does not respond to medical treatment. This kind of treatment can be an option too in cases with previous failures before switching to a donor.

O-81 Should we screen for Natural Killer cell activity and HLA haplotype in recurrent implantation failure?

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The complex developmental process of blastocyst implantation involves the spatiotemporally coordinated effects of numerous endocrine and immune factors. Although intriguing findings suggest multiple interrelationships between the implicated factors, the relative importance of immunological factors in human reproduction remains controversial. However, substantial evidence suggests that alterations in NK cell number and activity, an imbalanced cytokine network, and aberrant HLA expression might contribute to reproductive failure.

Peripheral NK cells and uNK cells comprise distinct cell populations, in terms of phenotype and function. Available evidence suggests hormonal regulation of both populations, but predominantly of the uNK population, through an intricate endometrial cytokine and hormonal network. Altered number, phenotype and/or function of NK cells may play a role in early pregnancy failure. However, much of the evidence is contradictory and fails to distinguish if the difference in activity and number of NK cells is a cause or effect of reproductive failure. Until more is known about the role of NK cells in normal pregnancy, there does not appear to be any benefit in offering NK cell testing to women with reproductive failure outside of research protocols.

While an extensive spectrum of immunological factors can affect reproductive outcome, numerous genetic associations with reproductive failure suggest that immunogenetic factors may also influence reproduction. Current evidence points to human leukocyte antigen (HLA) genes as playing a role in the successful development of the fetus. However, the specificity of HLA alleles or haplotypes responsible for or linked to reproductive failure susceptibility genes remains unclear. Hence, further studies with larger sample sizes, standard case definitions, and reproducible methodologies are needed to directly assess the role of HLA sharing in the risk of reproductive failure.

O-82 Evidence-based management of couples with recurrent implantation failure

A. Makrigiannakis (Greece)

Abstract not received

Room: Hall A

Session20: Assisted Reproductive Technologies

O-83 The role of androgens and growth hormones in improving the stimulation of poor ovarian responders

Dominique DeZielger (France)

Abstract not received

O-84 Follicular progesterone: The key player in ovulation

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The small amount of progesterone (P) released by human follicles at their very final stage of maturation plays a central role in the human reproduction. It anticipates the expansion of the cumulus even before the LH peak and, once the oocyte-cumulus complex has been released into the fallopian tube, it attracts the sperms toward the oocyte allowing its fecundation. While facilitating the fecundation process, follicular P also plays as the main trigger of the mid-cycle gonadotropin surge. Indeed, under raising estradiol concentration, hypothalamic cells expose P receptors (PR). These P receptors are extremely sensitive and may react to the very small amounts of hormone released from the end stage follicle. The activation of hypothalamic PR triggers the release of a peak of GnRH, which in turn triggers the midcycle gonadotropin surge.

Thus, the release of P before ovulation is physiological and is mandatory to have a competent oocyte, which is in apparent contrast with many reports attributing to high circulating P at time of pick-up a negative prognostic value in controlled ovarian hyperstimulation (COH) cycles. However, circulating P is the sum of the hormone secreted by all the developing follicles and too high values might simply reflect the asynchrony of the developing follicles, some of them being overmature and releasing too much of it.

On this basis a further understanding of the role of follicular P might generate relevant clinical outcomes. Indeed, the occurrence of cut-off values of P in follicular fluid might be used as a marker of follicular quality and competence. Moreover, a good P drive from the oocyte-cumulus complex vouches for high in-vitro fecundation

efficiency and may be used to review the rate of use of ICSI. Finally, the hypothalamic-pituitary sensitivity to P opens the opportunity to modulate the release of the midcycle surge within COH cycles by administering a receptorial progesterone inhibitor, namely mifepristone (M).

In summary, P plays a central role in folliculogenesis and fecundation just like it is known to do during pregnancy. The understanding of P actions in pre-fecundation phases and of their possible modulation might allow the development of new treatment strategies in COH.

O-85 Novel aspects in the ovarian control of LH secretion

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The feedback mechanisms are important determinants of the relationships between the ovaries and the hypothalamic-pituitary system. Estradiol during the follicular phase and progesterone during the luteal phase of the cycle are the ovarian mediators. Evidence has been provided that progesterone plays a crucial role also during the follicular phase of the cycle. It has been established that estradiol in the follicular phase sensitizes the pituitary gonadotrophs to GnRH, an effect that is augmented by the action of progesterone. This is the primary mechanism leading to the occurrence of the midcycle LH surge. Accumulated evidence has shown that gonadotrophin surge attenuating factor (GnSAF), produced by the ovaries, plays a physiological role in the normal menstrual cycle. Studies in women have proposed that GnSAF is produced under the influence of the intercycle rise of FSH maintaining the pituitary in a state of low responsiveness to GnRH for the most part of the follicular phase. In the late follicular phase, GnSAF bioactivity declines, facilitating the full expression of the midcycle LH surge.

O-86 Luteal support in ART: when, what, and for how long?

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Luteal phase supplementation is considered an essential requirement for success rates of assisted reproduction. Regimens for supplementation started empirically using Intramuscular progesterone and / or human chorionic gonadotropin, and evolved to the use of different preparations of vaginal progesterone. Recent meta-analyses have shown that progesterone supplementation is essential in ART. Estradiol supplementation has also been investigated with mixed results but recent randomized trials suggest a benefit. Other products used in many programs such as steroids, baby aspirin, and antibiotics have not been as studied and there are no evidence-based studies to recommend their use. An update on luteal support in 2012 will be presented.

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Room: Hall B

Session21: IVI Symposium

O-87 Time-lapse; a novel approach for embryo culture and selection

Marcos Meseguer (Spain)

Abstract not received

O-88 Oocyte vitrification and egg banking

Javier Santamaria Costa (Spain)

Abstract not received

O-89 The present and future of genetic assessment for embryo viability

Marcos Meseguer (Spain)

Abstract not received

O-90 AMH Gen II: Determination of levels to guide interpretation

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Introduction: Anti-Müllerian Hormone (AMH) profiles in women decline through reproductive life and mirror the decay in primordial follicles – the ovarian reserve. Correspondingly, one of the main clinical utilities of the assay is in the assessment of ovarian potential. AMH, secreted by the small antral follicles, has quickly become established as the preferred marker of ovarian response to controlled ovarian stimulation (COS). Until recently two ELISA assays have been available; from Diagnostics Systems Laboratories (DSL) and Immunotech. These are standardized differently and, although correlate well, give different values of AMH. The two assays have recently been harmonized by replacing the DSL ELISA with the AMH Gen II assay. The objective of this study was to assess the performance of the new assay versus the original assay, present reference range data for women of child bearing age and cut off values for use in COS.

Methods: AMH was measured using AMH Gen II and the DSL ELISA assays. Comparison of the two assays was performed using 196 samples from women attending a fertility clinic. Reference range data for the AMH Gen II assay was obtained from 1607 women of child bearing age (24-53 years) in whom polycystic ovarian syndrome (PCOS) and premature ovarian failure were excluded. Statistical analysis was performed using SAS 9.2® software (SAS Institute Inc., USA)

Results: The assays compared well ($y = 1.42x - 0.13$). The AMH Gen II method gave results approximately 40% higher than the old DSL method. AMH values fell with age in a non linear fashion and 5th, 50th and 95th percentiles were calculated at each age. The following AMH cut points (ng/mL) were found for AMH Gen II assay: Fertile range 1.3-7, reduced fertility <1.3 and risk of hyperstimulation 5-7.

Conclusions: This study demonstrates that results from AMH Gen II assay correlate well with the original DSL ELISA assay although results are approximately 40% higher. It provides preliminary AMH reference range data and cut points as a guide to interpretation in COS.

Room: Hall C

Session22: Ovarian Hyperstimulation Syndrome

O-91 Primary prevention strategies for OHSS: the role of Anti-Mullerian hormone in response prediction

Chady Yazbeck (France)

Abstract not received

O-92 Secondary prevention of OHSS: The role for dopamine agonists

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The use of GnRH analogs (GnRHa) to trigger ovulation has become a major step in preventing OHSS, thus the ideal controlled ovarian stimulation (COS) protocol should include gonadotrophins and GnRH antagonists (GnRH ant) in order to employ a GnRHa if the patient is at risk of developing OHSS in the final days of COS (1).

This protocol has proved to be very efficient in preventing early onset of OHSS, but its effectiveness in late onset OHSS is less documented. Moreover, in some patients the use of gonadotrophins and GnRH ant is systematically associated with asynchronous follicular growth, or some physicians prefer to employ a long protocol combining GnRHa and gonadotrophins, thus hCG needs to be employed to trigger ovulation. In these circumstances, other alternatives need to be considered in order to prevent OHSS.

hCG-induced increased capillary permeability due to the action of Vascular Endothelial Growth factor (VEGF) on the endothelial cells is the key phenomenon in the development of OHSS. It was initially shown in experimental models that blocking the specific VEGF receptor type 2 (VEGFR2) was associated with a significant decrease in vascular permeability and ascites formation employing dopamine agonists (DA), since other VEGF antagonists resulted in unacceptable side effects while DA are extensively employed in Obstetrics and Gynecology for many years, including pregnant women. It was demonstrated that adding a DA to the hyperstimulated animal decreased VEGFR2 phosphorylation and simultaneously decreased vascular permeability and ascites formation (2,3).

The concept was then tested in human subjects, especially in young oocyte donors that did not undergo embryo replacement. Employing ultrasound and magnetic resonance, it was shown a similar effect in humans as in rodents, reducing significantly the incidence of early moderate-severe OHSS and ascites from 44% to 20% (4). When the DA were employed in women who underwent a full ART cycle including embryo replacement in a prospective, placebo-controlled, blind study, oral DA was able to show again a positive effect in preventing early onset of OHSS in women who did not become pregnant reducing the incidence as compared to placebo from 31 to 11%, but was clearly inefficient in preventing late OHSS in those who became pregnant (5), showing that either the route and dose of DA was inappropriate, or avoiding pregnancy is the critical step in prevention of late onset of OHSS. Similar conclusions were obtained in recent meta-analysis collecting the available experience from the literature (6). Some publications have added to the DA a daily injection of a GnRH ant during the luteal phase, but the role in preventing late onset of OHSS needs to be documented.

Therefore, it must be clearly stated that oocyte/embryo cryopreservation avoiding pregnancy is another fundamental step in preventing OHSS. Both oocyte and embryo vitrification have to be considered, since these women display many oocytes and some couples do not want to have many embryos frozen in order to avoid future spared embryos in the ART labs. Vitrification is the method of choice and recent publications show that the chances of successful outcome in frozen/thawed cycles with embryo replacement are much higher than employing an established method of OHSS prevention such as coasting (7). Implantation was 32% as compared to 19% ($p < 0.02$) in the coasted women, and clinical pregnancy 50% vs 29.5% ($p < 0.001$).

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O-93 Novel preventive therapy for OHSS in PCOS patients

Timur Gurgan, MD

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Polycystic ovary syndrome (PCOS) is one of the most common endocrinopathies, affecting 5% to 10% of women of reproductive age. The principal features of PCOS include androgen excess, ovulatory dysfunction, and/or polycystic ovaries. PCOS is found in approximately 75% of women who suffer from anovulatory infertility.

The treatment of infertile women with PCOS is surrounded by many controversies. On the basis of the currently available evidence, and Thessaloniki ESHRE/ASRM-Sponsored PCOS Consensus Workshop Group recommendations, the recommended first-line treatment for ovulation induction remains the anti-estrogen clomiphene citrate; second-line intervention maybe either exogenous gonadotropins or laparoscopic ovarian surgery. Recommended third-line treatment is in vitro fertilization .

Whilst Favorable IVF outcomes have been reported, uncertainty remains with regard to risk of ovarian hyperstimulation syndrome (OHSS), cycle cancellation rate, oocyte / embryo quality and fertilization / pregnancy rates in PCOS women undergoing IVF. Their propensity for an exaggerated response to gonadotropin therapy places them at high risk for developing OHSS. Early OHSS is seen because of their hyper-responsiveness and the persistence in the circulation of the exogenously administered human chorionic gonadotropin. Late OHSS develops following successful implantation and the production of endogenous hCG as pregnancy is established. Indeed, a 10.5% incidence of moderate to severe OHSS has been seen in PCOS patients, which is greater than the 0.5% to 4% observed in the general IVF population. The incidence of multiple pregnancies, gestational diabetes mellitus, placental abruption, prematurity and low birthweight is also higher in cases of pregnancy complicated by severe OHSS.

- **Strategies for prevention are as follows;**
- **Coasting**
- **Albumin use**
- **Cryopreservation**
- **GnRH antagonists use**
- **Gn-RH agonist-driven ovulation triggering**
- **Reduced hCG dosage**
- **Rec versus urinary hCG**
- **r-LH for final maturation**
- **Cabergoline**
- **Steroid**
- **Novel use of calcium infusion**
- **IVM**

The exact aetiology of OHSS is not clearly understood. The most established risk factor for this clinical condition is PCOS. The treatment is currently empirical and the prevention of OHSS is the most important aspect in its management. There are three main strategies for prevention of OHSS: (1) Identification of patients at risk (women with the history of OHSS or PCOS); (2) Using different ovulation induction strategies before stimulation (Metformin, use of IVM, use of low dose FSH protocol, use of GnRH antagonist protocol); and (3) Preventive therapy modalities during stimulation (cycle cancellation, cryopreservation of all embryos for future transfer, coasting, GnRH antagonist administration, intravenous albumin, triggering ovulation by low dose HCG). The novel strategy for prevention of OHSS is use of intravenous calcium infusion, there is limited literature data on the effectiveness of this treatment modality. The effect of such therapy on prevention of OHSS in a significantly large number of patients with PCOS has not been reported previously.

We designed a study to evaluate the effectiveness of intravenous calcium infusion on prevention of OHSS in patients with PCOS undergoing ART cycles.

From the 455 couples included in this study, there were 84 in group I and 371 in group II. Mean female (30.52 ± 4.27 vs 31.35 ± 3.87 , $p > 0.05$, respectively) and male (34.46 ± 5.31 vs 37.19 ± 6.21 , $p > 0.05$, respectively) ages in group I and II were comparable. There was no significant difference in term of female age, cause of infertility, duration of infertility, basal hormone levels (FSH (mIU/mL), E2 (pg/mL)), antral follicle count, body mass index (kg/m^2), amount of FSH used (IU/L), length of ovarian stimulation (day), number of follicle on HCG day (no.), endometrial thickness on HCG day (mm.) and mean E2 on HCG day (pg/mL) .

In addition, there were also no significant differences with respect to the embryo grade, number of oocyte retrieved, fertilization rate, cleavage rate, mean no of available embryos, mean no of embryos transferred, and implantation rate among the groups.

OHSS rate was 16.2% (60 patients) in control group, while in calcium infusion group, only 3 patients (3.6%) developed OHSS. The severity of OHSS in study group were mild and no women required hospitalization. However, in the control group 20 women had severe OHSS, 22 women had moderate OHSS and the remaining 12 women had mild OHSS. All women in control group with severe OHSS required hospitalization and OHSS was resolved with supportive therapy. Three women with severe OHSS in control group had low molecular weight heparin therapy, only one (0.3%) of them developed deep venous thrombosis as a complication.

Implantation rate in calcium infused group was 11.1% compared to 12.0% in control groups; $p > 0.05$. The clinical pregnancy rate was 40.5% (34 women) in treatment group and 28.8% (107 women) in control group. The take home baby rate was 38.1% (32 women) in calcium infusion group, while this rate was 24.8% (92 women) in control group.

Allergic reactions, anaphylaxis, symptoms or signs of hypercalcemia, or other side effects were not observed in study group. Congenital anomalies in new born babies were not observed in study and control group.

All patients were preoperatively evaluated by cardiologist for possible toxic effect of intravenous calcium infusion. Intravenous calcium was administered as described by Yakovenko SA et al. Intravenous 10% calcium gluconate, 10 ml in 200 ml of physiologic saline on the day of OPU, day 1, day 2, and day 3 after OPU were administered in study group. Intravenous infusion was performed within 30 minutes. In control group, no preventive measures were given for OHSS.

This study may suggest another pathobiologic mechanism of OHAA and emphasize the need of novel medical therapeutic for prevention OHSS. Our study revealed successful outcome for prevention of OHSS by using intravenous calcium infusion in patients with high risk factor for OHSS development. We suggest another pathobiological mechanism for OHSS development. Based on our hypothesis, we believed altered renin – angiotensin system has the major role in OHSS.

O-94 Management of established severe OHSS: Best practice

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Summary:

- OHSS management prior to HCG trigger
- OHSS management post HCG trigger and egg retrieval
- Inpatient vs outpatient management

Room: Hall A

Session23: Assisted Reproductive Technologies

O-95 Immediate ambulation versus 30 minutes bed rest after Embryo Transfer

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Objective: To assess whether bed rest following embryo transfer (ET) leads to improved pregnancy rates.

Study Design: A prospective, randomized, comparative study performed in a academic private ART center

Materials & Methods: We evaluated two hundred and thirty three donor egg recipient cycles over a period of one year (January 2011 to December 2011). The embryo transfer (ET) was done by the same physician using SureView catheter(Wallace, UK). These cycles were randomized to two groups , Group A in which patients were given 30 minutes of bed rest after embryo transfer and Group B in which they were immediately ambulated . Both groups were matched for age, number and grade of embryos transferred .Primary outcome measure was clinical pregnancy rate; clinical pregnancy being defined as fetal heart beat on ultrasonography at six weeks of gestation .

Result: The clinical pregnancy rate was 52.4 % for group A and 50.72% for group B .There was no statistically significant difference between the two groups

Conclusions: We concluded that a 30-minute bed rest after the embryo transfer was not associated with any significant improvement in the clinical pregnancy rate when compared with immediate ambulation after the embryo transfer.

O-96 Infusion of recombinant hcg prior to embryo transfer dramatically improves pregnancy rates.

Philip Saroufim (Lebanon)

Introduction: Previous studies have shown that embryos secrete human chorionic gonadotropin(hcg) prior to implantation.

Recent studies have shown that the infusion of urinary hcg into the uterus prior to transfer may make the uterus more receptive to implantation.

materials and methods: the purpose of this study was to determine whether the infusion of 650 iu of rec.hcg into the endometrial cavity immediately before transfer results in increased pregnancy rates. We prospectively compared a 100 cycles using the recombinant hcg infusion to a 100 cycles using regular transfer method but introducing an empty transfer catheter to remove the variable that might cause trauma to the cavity. All parameters were compared and the study was conducted by 1 embryologist and 1 clinician. **results:** a statistically major improvement in pregnancy and implantation rates was noted. **conclusion:** Even if more studies and refinements to this breakthrough in the most difficult and challenging unsolved puzzle of ivf (implantation), we think we should all start using this technique that is going to be detailed in our publications.

O-97 Ceasarean section scar : a possible cause of infertility ?

Case review and review of the literature.

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Old large data showed after Ceasarean section there is an increase of infertility compared to natural delivery. No specific reason was known for that and more recently cesarian scar is a possible reason. The incidence of the uterine scar is between 20 to 60% on 2 D ultrasound and more frequently seen (50 to 80%) by hysterosonography and hysterosalpingography. 30% of uterine scars will have post menstrual bleeding. A series of cases in the literature (4 papers 80 cases) have been operated with successful outcome.

The questions in concern are : who are the patient at risk for infertility with a Ceasarean section scar, when to operate and how to operate.

We will review 100 women with a previous Ceasarean section. We will compare the incidence of Ceasarean scar ; with different suture techniques, in fertile and infertile women and in patient with poor implantation failure. We will present our surgical experience on women with Ceasarean section scar. And a complete review of all the literature on the subject will be presented.

Ceasarean section scar is a possible cause of infertility and surgical correction can improve fertility. Randomized controlled study are urgent to confirm if surgical correction will restore fertility.

O-98 Comparison two commercial single-step culture media for human embryos

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Introduction: Two main embryo culture media approaches exist; single-step or sequential systems. While a variety of studies have compared two sequential systems, or compared a single-step system to a sequential system, few studies exist comparing two single-step media. Furthermore, single-step media can be used continuously over 5/6 days, or media refreshed on day 3. We report, for the first time, a comparison of two single-step media, Global™ versus Continuous Single Culture (CSC™), with day 3 media refreshment.

Materials & Methods: All patients with ≥ 6 oocytes were included in the study. Inseminations were performed using either standard approaches or ICSI. Sibling oocytes (n=255) from 20 patients were randomly split between CSC™ or Global™ media. Embryos were cultured within the same incubator for both treatments using ~6% CO₂, 5% O₂ and 89% N₂ in 500ul media + 10% SSS™ covered with 300ul mineral oil. pH of Global™ was 7.27±0.004, while pH of CSC™ was 7.31±0.006 Embryos were transferred to fresh media on day 3. Data were analyzed using Chi-Square.

Results: Examining all patients, no significant differences were apparent between CSC™ or Global™ for %2PN, %3PN or %1PN at fertilization check. However, when analyzing results based on whether ICSI or standard insemination were used, CSC™ yielded significantly higher rates of normal fertilization following standard insemination (%2PN/oocytes insemination) compared to Global, p<0.04 (81 vs. 61%). When controlling for immature oocytes present at fertilization check, this significance increased, p<0.01 (91% vs. 66%).

Examination of day 2 embryo development yielded no significant difference in rates of cleavage, %3-cell, %4-cell or % <4cell between media. No difference in % of "A" quality embryos was present between media, though Global™ had significantly more "B" quality embryos compared to CSC™, p<0.04 (78 vs. 64%, respectively). No differences in rates of embryo multinucleation were present.

There were no differences in Day 3 embryo development when looking at development to various cleavage stages (≤ 4 , 5, 6, 7, 8, ≥ 9 cell) or rates of "A" quality or "B" quality development between media.

On day 5, CSC™ has significantly higher rates of blastocyst formation compared to Global™, p<0.04 (66 vs. 51%). There was no difference in percentage of high quality freezable blastocysts ($\geq 3BB$) on day 5 (25 vs. 18%).

On day 6, there was no difference in total number of blastocysts formed (75 vs. 72%) or freeze quality blastocysts (37 vs. 30%).

Conclusion: Culture in CSC™ medium resulted in higher rates normal fertilization following standard insemination and higher rates of Day 5 blastocyst formation compared to Global™ medium. Global™ medium yielded lower rates of fragmentation on day 2, as evidenced by higher rates of “B” quality embryos.

O-99 Letrozole in Poor Responders Undergoing ICSI: An Egyptian Experience

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Objective: to compare gonadotropine /antagonist protocol with and without Letrozole for controlled ovarian hyperstimulation for poor responder cases undergoing ICSI.

Design: Prospective randomized case control study.

Sitting: Mansoura Fertility Care unit, Mansoura University hospital, Mansoura, Egypt

Intervention: Controlled ovarian hyperstimulation and ICSI.

Outcome: The primary outcome is to measure duration of stimulation, total dose of gonadotropins, serum E2 level and endometrial thickness on day of HCG administration. The number and degree of maturation of retrieved oocytes, fertilization rate and number and grade of the developed embryos were evaluated. Secondary outcome includes ongoing pregnancy and take home baby rates.

Results: Duration of stimulation was shorter in group A (Letrozole/gonadotropins), 10.2 ± 1.5 days compared to 11.5 ± 1.9 days in group B (gonadotropins), total dose of gonadotropins was lower in group A 2602.5 ± 433.4 in contrast to 2752.5 ± 515.2 IU in group B, endometrial thickness was thicker in group B 9 ± 2.2 compared to 7.8 ± 2.2 mm in group B, but no significant difference was detected between the two groups apart from mean duration of stimulation.

Conclusions: Letrozole as adjuvant to gonadotropins seems to reduce stimulation period and total gonadotropins units used.

Key words: Letrozole, poor responders, controlled ovarian hyperstimulation, ICSI cycles.

O-100 Efficacy of Progestogens Supplementation in First Trimester Threatened Miscarriages

Elbareg, AM.; Elmahashi, MO.

Objective: to determine whether progestogenic therapy (Dydrogesterone) will improve pregnancy outcome in patients with first trimester threatened miscarriage.

Design: Prospective controlled study

Setting: Department of obstetrics & gynaecology at Misurata Teaching Hospital.

Subjects and methods: 300 pregnant women who had been into the gynaecology and obstetric department with vaginal bleeding before 14 weeks gestation over a period of 24 months, and diagnosed as having threatened miscarriage, were divided equally into treatment and control groups. Inclusive criteria: single pregnancies with presence of normal yolk sac and fetal heart, mild or moderate vaginal bleeding, absence of systemic illness, and without history of conception material loss. Patients of recurrent miscarriages, empty sacs, uterine anomalies or having hypertension, diabetes or liver diseases were excluded. Severity of symptoms and ultrasound findings were also included. Treatment group patients received 40 mg Dydrogesterone stat, followed by 10 mg 3 times a day orally until bleeding stopped, in addition to multivitamin supplementation (Pregncare) and bed rest. Controls managed conservatively with (Pregncare) and bed rest only. Treatment considered successful when pregnancy continued beyond 20 weeks gestation. The data were analysed using student's t test or Chi squared test, $P < 0.05$ was considered to be statistically significant.

Results: The continuing pregnancy success rate was significantly ($P < 0.05$) higher in patients treated with Dydrogesterone (89.3%) compared to women managed conservatively (67.8%).

Conclusion: Oral supplementation of progestogens (Dydrogesterone) in first trimester threatened miscarriages will reduce the incidence of pregnancy loss and improve the outcome.

Key Words: Dydrogesterone, Threatened miscarriage, Pregnancy

Room: Hall B

Session24: Preimplantation Genetics and Molecular Biology

O-101 The significance of chromosomal aneuploidy in cycles with poor embryo development

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Introduction: One of the very well known parameter of any IVF treatment is that approximately 50% of IVF embryos having various developmental potential and morphological properties are aneuploid in chromosomal number. This study aimed to retrospectively evaluate aneuploidy rates and to detail associated chromosomal abnormalities between slow growing embryos and control group embryos.

Materials and Methods: PGD for aneuploidy cycles, including numerical anomalies patients at different ratio were included and grouped into 3: Group 1 included 50 cycles in which majority of embryos showed slow or retarded embryo development throughout the preimplantation embryo culture, 73 cycle embryos show slow growing rate and 153 cycles having acceptable embryo development (as control group).

Results: Total numerical chromosomal abnormality rates of successfully analyzed 192 (group1) and 73 (group2) and 153 (group3- control group) biopsied embryos was quite similar, 47,1% and 48,5% respectively (NR). Also aneuploidy rates of these groups were not statistically significant (45,8% and 47,2% respectively). However, monosomy rate of group 1 was unexpectedly significantly higher than group 2 (30,4% and 52,3% respectively; $p < 0,01$), but considering trisomy rate reverse was observed (63,2% versus 40,1%, $p < 0,01$).

Conclusion: In this study, it was demonstrated that despite the similar aneuploidy rate in two group slow growth rate in group 1 interestingly may partly be attributed to the higher monosomy rate but this possible correlation needs further analysis and larger sampling because of possible mosaicism and FISH failure. However, comprising control group embryos trisomy rates were significantly higher. So it can be deduced that trisomy may not compromise embryo quality and development at preimplantation stage. This preliminary analytic study also provides an opportunity to compare aneuploidy rates of each analyzed chromosomes and possible associations with embryonic development and pave the way for detail gene analysis of candidate chromosomes.

O-102 What to expect from IVF/PGD for gender selection?

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Introduction: The use of IVF with pre-implantation genetic diagnosis (PGD) for family balancing gender selection (GS) is practiced in many parts of the world. Although the ethics of this practice have been widely debated in the literature, there are very few publications about its results. This information would be useful to inform the couple's counseling process, particularly that they are often fertile and therefore may have unrealistic expectations. We report our experience of 317 cases of IVF/PGD for GS, which is -to the best of our knowledge- the largest in the published literature.

Materials and methods: This study was conducted at the Istishari Fertility Center on 317 cycles of IVF/PGD between 2007 and 2011. All couples had previous children (average: 2.9); all of the opposite gender to the selected one. Controlled ovarian hyperstimulation was followed by oocyte collection and ICSI. Day-3 embryos were subjected to embryo biopsy and fluorescence in situ hybridization (FISH) with X/Y probes. Embryo transfer was on day 3 or 4 post-retrieval.

Results: The female partner average age was 34 years and the average number of oocytes collected was 9.5. The fertilization rate was 77% and the average number of day-3 embryos suitable for biopsy was 4.9. 26 couples (8%) did not proceed with GS; of those 14 (54%) had a low number or no developed embryos suitable for biopsy and 12 (46%) had no oocytes collected or no fertilization. Of a total of 1578 embryos biopsied, 39.7% were male, 40.5% were female, 15.9% were abnormal, and in 3.9% no diagnosis was obtained. Per cycle, the chance of finding embryos of both genders was 94.8%, male only 2.3%, female only 2.5% and abnormal only 0.4%. The average number of embryos transferred was 1.6, the pregnancy rate (positive pregnancy test) per cycle started was 45% and per embryo transfer procedure was 52%, implantation rate (embryos with fetal heart/ total number of embryos transferred) was 26%.

Conclusion: Couples requesting IVF/PGD for GS for family balancing should be thoroughly counseled and informed that, despite their known fertility, getting pregnant with a particular gender from the treatment is not guaranteed. According to our results, the average chance of having embryos suitable for biopsy is 77%, the chance of finding embryos from a particular gender is 95%, and the chance of pregnancy for those who have embryos transferred is 52%. This information will help couples decide if they wish to proceed with the treatment and will give them more realistic expectations.

Keywords: PGD, family balancing, gender selection.

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O-103 MIF and CD74 Genes expression in endometriosis

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Introduction: Endometriosis is a common gynecological disorder, with the prevalence of approximately 15–20% of women in their reproductive life and associated with pelvic pain, dysmenorrhea and infertility. Immunological changes that occur in patients with endometriosis include reduced natural killer cell and T-lymphocyte cytotoxicity in the peritoneal fluid, and an elevated number of activated macrophages. MIF, macrophage migration inhibitory factor, is a macrophage-secreted proinflammatory factor which is involved in T-cell activation, cell growth, apoptosis inhibition, and tumor angiogenesis. MIF via its receptor molecule, CD74, initiates a signaling cascade that leading to proliferation and survival of cells. The aim of this study was to evaluate the expression of MIF and CD74 genes in eutopic and ectopic endometrium of women with endometriosis.

Material & methods: Local ethical approval was gained for this study and informed consent was given by patients. Endometrial biopsy specimens were collect from 10 endometriosis patients, parallel to 10 women with no sign of endometriosis as control. All patients were between 20-45 years old, consulted for infertility and/or pelvic pain, and were found to have no endometrial hyperplasia or neoplasia. We investigated both ectopic and eutopic endometrium in women with endometriosis. Ectopic biopsies were obtained by laparoscopic procedure and eutopic biopsies were obtain by pipple. In women without endometriosis, control biopsies gained with pipple. Total RNA was extracted separately from each group using TRI reagent and treat with DNase I. First-strand cDNA synthesis was performed using random hexamer primers and the superscript II reverse transcriptase system. Quantitative PCR was performed using the prepared cDNA and primers for MIF and CD74. The relative expression of MIF and CD74 molecules between different groups was compared after normalization of their expression levels with that of β -Actin.

Results: The endometrium from controls and women with endometriosis expressed both MIF and CD74 genes. However, mRNA levels of MIF and CD74 were significantly higher in ectopic endometrium of endometriosis patients compared to control and eutopic endometrium.

Conclusions: Higher expression of MIF and CD74 genes in ectopic endometrium in women with endometriosis may initiate survival pathways and cell proliferation, and can be considered as a molecular biomarker for endometriosis development and pathophysiology.

Keywords: Endometriosis/MIF/ CD74/Gene expression.

O-104 The Impact Of The Origin Of Endometrial Sampling For Co-Culture Process In Poor Ivf Patients With Multiple Failures, Autologues Or Heterologues?

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Introduction: Despite the recent developments in IVF (In Vitro Fertilisation) technology specifically the culture media, the poor IVF patients either with implantation failure or poor embryo quality still remains to be a big problem in IVF practice. Although there are too many studies giving various results, the place of endometrial co-culture process is not well established yet. Here in this study, we aimed to compare the outcome in these patients whose embryos were cultured either in their own (autologues) or previously taken from other IVF patients and frozen for later use (heterologues) co-culture system.

Material& methods: A total of 81 patients with multiple IVF failures were enrolled in the study. Among them, embryos from 37 patients were cultured in their own co-culture biopsy (autologues co-culture), (Group I), whereas in 44 patients embryos were cultured in a heterologues co-culture system in which the endometrial samplings have been taken from other IVF patients and frozen for future use (Group II). All the biopsies were taken on the 21th cycle day through the endometrial pipelle sampling. In the laboratory, glandular and stromal endometrial cells were isolated by enzymatic digestion and separated based on differential sedimentation rates. These cells were cryopreserved, then plated as a 50%/50% combination of glandular and stromal cells. The conditioned medium was changed every 2 days. In group I, embryos were freshly cultured in their own endometrial sampling, in group II the frozen heterologue endometrial samplings were thawed and embryos were cultured in this culture system. Student t-test and chi-square test were applied for statistical analysis.

Results: Group I (autologues end.co-culture cycles): no.of cycles:37, mean age:34.1, mean no. of previous IVF trials:4.35, mean no. embryos transferred:1.78, no. of good quality embryos (grade I + grade II):88.8%, clinical pregnancy rate:40.54%, implantation rate:27.27%.

Group II (heterologues end.co-culture cycles): no.of cycles:44, mean age:35.9, mean no.of previous trials:3.89, mean no.of transferred embryos:1.70, no.of D3 good quality embryos (grade I+grade II):95.1%, clinical pregnancy rate:47.72%, implantation rate:30.6%.

All the given parameters given above were statistically nonsignificant between groups.

Conclusions: In this study, we demonstrated a higher clinical outcome in these poor IVF patients in both co-culture systems either autologues or heterologues. More importantly, here we suggest a new concept of endometrial sample banking for co-culture purposes and new clinical trials with larger sample sizes should be encouraged.

Key words: Autologous coculture, Heterologous coculture

O-105 TLR4 gene expression in recurrent spontaneous abortion

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Introduction: It has been suggested that proper interactions between reproductive tract and immune system influence on fertility and pregnancy. Recurrent spontaneous abortion (RSA), as one of main complications of pregnancy, is usually defined as three or more consecutive pregnancy losses before 20th week of gestation. In some cases, the cause of RSA remains unknown so named unexplained RSA. On the other hand, innate immunity as the first line of host defense plays an important role in reproduction. Immunological factors are suggested as one of etiologies of unexplained RSA. Pattern recognition receptors (PRRs) as one of important components of innate immunity, recognize ligands derived from various pathogens which are called as pathogen associated molecular patterns (PAMPs). Toll like receptors (TLRs) are one of main groups of PRRs included at least 10 functional proteins in human. TLRs are classified according to their location (cell surface and cytoplasmic) and respective ligands. TLRs activation leads to intracellular signaling cascade and induces inflammatory and /or anti viral responses. TLR4 was the first human TLR which was known. TLR4 acts with its co-receptor CD14 and the accessory protein MD2 to recognize lipopolysaccharide (LPS) derived from gram negative bacteria. In addition, TLR4 is implicated in the recognition of endogenous ligands such as heat shock protein. The aim of present study is to investigate *TLR4* gene expression in endometrium of patients with unexplained RSA in compared to normal women.

Material and Methods: This study was approved by Royan institute's ethical committee and informed consent was signed by all enrolled women. Endometrial samples were obtained between day 19th and 24th of menstrual cycle (window of implantation) from 10 women with unexplained RSA (case group) and 6 fertile women who had at least one successful pregnancy (control group). RNA extraction has been done using TRI reagent. Total RNA was then treated with DNase I. First strand cDNA synthesis was performed using oligo dT primers and Superscript II reverse transcriptase system. Reverse transcriptase PCR (RT-PCR) and Quantitative PCR were performed using the prepared cDNA and primers for *TLR4* gene. Normalization of *TLR4* gene expression was obtained by using β -actin as housekeeping gene. Relative *TLR4* expression quantities were compared between two groups. The P value less than 0.05 was considered as significant level.

Results: *TLR4* gene expression was detected in endometrium of women with unexplained RSA. The mean relative expression of *TLR4* gene was higher in women with RSA in compared to normal women.

Conclusions: Difference in expression of *TLR4* gene might have role in pathogenesis of unexplained RSA since TLR4 signaling could result in inflammatory cytokine production. It has been proposed that increased inflammatory microenvironment of endometrium may lead to implantation failure.

Keywords: Gene expression, Innate immunity, Recurrent spontaneous abortion, Toll like receptors.

O-106 Oxidative Stress Alters MicroRNAs Expression in Testis

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Introduction: Male infertility is a reproductive global problem that reactive oxygen species (ROS) are one of the most important of it. MicroRNAs (miRNAs) regulate multiple intracellular processes such as cell cycle, apoptosis and response to cellular stresses. Alterations in miRNAs expression may occur following exposure to oxidative stress inducers including organic hydroperoxides. Therefore, the modulation of miRNAs expression may be a useful tool for infertility problems treatment. In this study, the effect of oxidative stress induced by tertiary-butyl hydroperoxide (TBHP) was investigated on the expression of candidate miRNAs and some of their target genes in mouse testis.

Material and methods: After determining LD₅₀, TBHP was intraperitoneally (ip) injected at the dilution of 1:10 LD₅₀ into the adult Balb/c male mice for 2 weeks, and then their testis tissues were used for ROS assay and macroscopic-histopathology analysis. Total RNA was also extracted and the expression of some candidate miRNAs (miR-34a, miR-181b, miR-122a, miR-449 and Let7e) and their target genes were quantified by real-time PCR.

Results: The flow cytometry analysis showed a significant increase in ROS level in testis after 2 weeks injection. Also, the Leydig cells number significantly decreased in the TBHP treated mice in comparison of the control mice. Three out of miRNAs (miR-122a, miR-181b and miR-34a) showed significant expression changes following exposure to TBHP. But no significant variations were found in the expression of selected microRNAs target genes.

Conclusions: These results demonstrate that exposure to TBHP could lead to change in expression of some testis-derived miRNAs. Additionally, miRNAs are involved in response to severe oxidative stress and its variable expression by oxidative stress may causes irreparable effects on spermatogenesis process and male fertility. In future, the identification of involved genes and biological pathways is necessary to understand the exact mechanism of TBHP.

Keywords: Male infertility, Oxidative stress, Reactive oxygen species, MicroRNA (miRNA), Tertiary-butyl hydroperoxide (TBHP).

Room: Hall C

Session25: ART Laboratory

O-107 Day 5 expanded blastocysts have comparable outcome after day5 and day 6 transfer

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Objective: to study the outcome of blastocysts showing expansion on day 5 and transferred on day 5 or 6, in comparison with those unexpanded and transferred on day6.

Study Design: Prospective cohort of 221 women prepared for BET classified into three groups according to timing of blastocyst expansion and day of embryo transfer. Group I; with expanded blastocysts on day 5 having day 5 transfer, group II; with expanded blastocysts on day 5 having day 6 transfer and group III ; with delayed expansion undergoing day 6 BET.

Results: Implantation rates, pregnancy rates, ongoing pregnancy rates, and live birth rates in the first 2 groups were almost double the rates in the third group. The figures for implantation rates were 40% vs. 19% (P < 0.05), for pregnancy rates were 60.9% and 64% vs. 31.8% (P < 0.05) for ongoing pregnancy/ live-birth rates were 52.3% & 56% vs. 27.3%.

Conclusion: The current study reports better implantation and pregnancy rates with earlier expanding blastocysts regardless of the time of transfer.

Key words: *Blastocyst expansion, hatching, blastocyst embryo transfer(BET).*

O-108 The impact of freeze-thawing procedure on spermatozoa of patients undergoing IVF/ICSI therapy

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Introduction: Cryopreservation of human spermatozoa is nowadays a widely spread and recognized method in order to preserve spermatozoa for a longer time. The advantage of this technique is that sperm are available straight away when they are needed for IVF. Further in recent years it has been shown to be another important area for men with malignomas. The chances of a better cure of patients with testicular cancer and malignant lymphomas often leave behind permanent sterility.

Therefore, the aim of this study was to investigate the deleterious effect of freeze-thawing procedure on chromatin integrity, morphology, vitality and motility of native and processed cryopreserved semen samples.

Material and methods: A basic semen analysis was performed according to WHO guidelines (1999), except for morphology which was evaluated according to strict criteria. Nuclear chromatin integrity of spermatozoa was assessed with chromomycin (CMA₃) and vitality with the eosin-nigrosin test.

78 semen samples from patients undergoing IVF/ICSI therapy were divided into two aliquots. The first aliquot (G.1) was mixed with human sperm preservation medium (HSPM 1:1), whereas the second aliquot (G.2) was prepared by means of swim-up and the supernatant, which contain the selected spermatozoa was withdrawn and mixed with (HSPM, 1:1). Computerized biological freezer (Planer) was used for freezing the semen samples in both groups.

Results: The mean percentage of sperm parameters (CMA₃, morphology, vitality and motility) decreased significantly after freeze-thawing of the first aliquot of semen sample (G.1) (82.8±15.4%; 19.3±10.5%; 64.7±16.0% and 52.1±21.5% vs. ±21.0%; 9.8±4.5%; 59.7±9.8% and 15.3±13.1%). Similarly, sperm parameters (CMA₃, morphology, vitality and motility) of select spermatozoa deteriorate after freeze thawing procedure and decreased significantly from (87.5±12.3%; 21.5±10.5%; 77.8±15.3% and 72.4±24.4% into 40.1±24.7; 9.8±7.5%; 66.6±13.6 and 24.2±4.7% respectively). By comparing the mean percentage of the injury of non-selected (raw) and selected spermatozoa, it was obvious that, the selected spermatozoa chromatin sustain the deleterious effect of freeze-thawing significantly (p=0.001) significantly better than raw spermatozoa. Moreover, the vitality and motility of selected spermatozoa after freeze-thawing are significantly higher (p=0.001). However, the mean percentage of the sperm morphology in row semen decrease after freeze thawing to the level in both groups (p=0.982).

Conclusion: Sperm selection before freezing is superior to freezing of raw semen. It seems that extra damage of chromatin and other sperm organelle by reactive oxygen species (ROS) is avoided. Therefore, it is advisable to select the spermatozoa especially of patients undergoing assisted reproduction techniques before freezing.

O-109 Does coasting affect embryos development up to blastocyst? A case: control study.

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Introduction: Coasting is a commonly used strategy in reducing the risk of moderate and severe ovarian hyperstimulation syndrome (OHSS). Blastocyst-stage embryo transfer has more known advantages than cleavage-stage embryo transfer: higher implantation rates due to a more physiological transfer (endometrium is synchronized with the developmental stage of embryo), minimization of exposure of embryos to the hyperstimulated uterine environment and reduced uterine contractions at the time of transfer. Furthermore, to assess the true viability of an embryo it must be cultured to the blastocyst-stage. Moreover oocyte quality, dependent upon the age of the woman and ovarian stimulation, appears to be the key factor determining the proportion of oocytes developing into blastocysts. The aim of this study is to evaluate the effect of coasting (withholding gonadotropin administration) on embryos development to blastocyst-stage.

Material and Methods: A total of 1893 cycles that underwent controlled ovarian stimulation for IVF and ICSI reaching oocyte retrieval and embryo transfer, between January 2010 and December 2011 at Barts and The London Centre for Reproductive Medicine, NHS Trust, London, UK were retrospectively analyzed. All women had a BMI between 19-30. The main outcome measure analysed was number of cycles reaching to blastocyst transfer. Secondary outcome measures were age, BMI, basal hormones level, starting dose of gonadotropin, duration of gonadotropin administration, total dose administered and the number of oocytes retrieved. In the Coasted group additional information were collected as number of coasting days, serum FSH and estradiol levels prior to starting coasting, during and on the day (or the day before) the administration of hCG. A case-control group was selected from patients who underwent IVF at the same time.

Results: The controls group (N=386) were matched with patients from the coasted group (N=390) for age and basal FSH level. The number of oocytes collected in the coasted group was 14.5± 5.88, compared to 10.4± 5.52. 490 cycles, out of the total 1893, reached blastocyst-stage ET (25.9 %). In the coasted group 170 (43.6%) reached blastocyst transfer compared to 83 (21.5%) cycles in the control group of the control group.

Conclusions: Similar number of cycles reached blastocyst transfer in the coasted and control groups. These results are preliminary and need to be confirmed by further evaluations and analysis of the data.

O-110 Maturation capacity and viability assessment of human immature oocytes after vitrification and in-vitro maturation (IVM)

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Introduction: In general, 15% of oocytes collected in assisted reproductive cycles are immature. These oocytes may be matured following IVM program. It is possible to cryopreserve the immature oocytes for further use in ART after application of IVM.

The aim was to determine the maturation rate, morphology and viability of human immature oocytes after fresh IVM and vitrified-IVM program.

Material & Methods: 63 women who underwent controlled ovarian stimulation for ART were included at Yazd Research & Clinical Center for infertility. The investigation took place over a period of 5 months in 2011. 103 immature oocytes were retrieved from these infertile women. The women aged between 18-43 years old. 53 immature oocytes were used for fresh group and 50 immature oocytes for vitrification group. The maturation medium was Ham'sF10 supplemented with 0.75 IU FSH, 0.75 IU LH (Menogon) and 40% human follicular fluid (HFF). After 48h, maturation and morphology were assessed in fresh-IVM and vitrified-IVM oocytes. Also, viability was assessed using PI/Hoechst staining.

Results: Oocytes Maturation rate were reduced in vitrification group (56.0%), in comparison with fresh group (88.7%, $P<0.001$). Oocyte viability rate after staining were reduced in vitrification group (56.0%), in comparison with fresh group (86.8%, $P<0.007$).

Conclusions: Vitrification reduces both the maturation capacity and viability of human immature oocytes. It is recommended to apply IVM on fresh immature oocytes, instead.

Keyword: IVM, oocyte, vitrification, maturation, viability.

O-111 Meiotic Spindle Visualization and Zona Pellucida Birefringence in Relation to Morphology of *in-vivo* and *in-vitro* Matured Human Oocytes

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Introduction: The meiotic spindle plays an important role in the oocyte during chromosome alignment and separation at meiosis. The zona pellucid (ZP) is a dynamic matrix composed of filaments with the properties that might reflect the history of oocyte cytoplasmic maturation. Since, spindle and ZP in living oocytes are highly birefringent, their structures can be viewed non-invasively by using a Polscope.

Objective: The aim was to investigate the relationship between the presence of the meiotic spindle and ZP birefringence with morphology of *in-vivo* and *in-vitro* matured human oocytes.

Materials and methods: The oocytes were obtained from stimulated ovaries of patients undergoing ICSI. Germinal vesicles (GV; $n=13$) and metaphase I (MI; $n=18$) oocytes underwent *in-vitro* maturation (IVM) using maturation medium supplemented with FSH + LH. They were checked for maturity 24 hours after culture. With the aid of Polscope, the presence of spindles and ZP birefringence (ZPB) were assessed in *in-vivo* ($n=21$) and *in-vitro* ($n=21$) matured oocytes. In addition, the morphology of each matured oocyte was evaluated using inverted microscope.

Results: The rate of IVM in GV and MI oocytes was 53% and 77%, respectively. Spindle was present in 52.3% and 42.8% of the *in vivo*- and *in vitro*-matured oocytes, respectively. Spindle detection rates in oocytes derived from GV and MI stage were similar. The percentage of high birefringence oocytes was higher in *in-vitro* than *in-vivo* matured oocytes (76.1 vs. 61.9%). Also, insignificant increases in rates of morphologic abnormalities were seen in *in-vitro* in comparison with *in-vivo* matured oocytes.

Conclusion: The Findings indicates that IVM is a safe technology for maturation of human immature oocytes. However, application of Polscope is recommended in IVM technology to detect the most suitable oocytes for ICSI.

O-112 Intravenous administration of mesenchymal stem cells improve functional recovery after traumatic brain injury in rats

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Introduction: Traumatic Brain Injury (TBI) is a major cause of mortality worldwide. The clinical studies have proven cell therapy as a major option to improve the brain function post trauma, and by possible regeneration of the nervous system. The aim was to investigate the role of intravenous administration of Mesenchymal Stem Cells (MSCs) after experimental TBI in rats.

Materials and methods : Rats were divided into two groups of TBI + PBS (control) and TBI + MSC (experimental). TBI was done based on model of Foda-Marmarou. MSCs were exposed with bromodeoxyuridine (BrdU) 48 hours before intravenous injection. The experimental group received 3×10^6 rat MSCs, labeled with

BrdU, and PBS was injected to control group, into the lateral tail vein, 24 hours after TBI. The neurological severity score (NSS) was performed to evaluate the neurological function at 0, 1, 7 and 14 days after TBI. The rats were killed 14 days after TBI. MSCs migration and their differentiation to neurons and astrocyte cells were examined with immunohistochemistry technique.

Results: Results from NSS showed no significant differences between the groups of control and experimental at 1 and 7 days (3.5 ± 1.41 vs. 5.63 ± 2.44 , $p=0.06$) and (2 ± 1.69 vs. 3.62 ± 1.99 , $p=0.06$), respectively. However, motor deficits decreased significantly in the experimental rats when compared with control group at 14 days (0.75 ± 0.7 vs. 2.75 ± 1.83 , $p=0.01$). Immunohistochemical studies showed that BrdU positive MSCs migrated via venous system to the cerebral tissue. Also, migrated MSCs to the injured brain were able to express neuronal (NeuN) and astrocytes (GFAP) markers.

Conclusion : Intravenous administration of MSCs seems to improve the functional recovery and neural cells regeneration after TBI in animal model. MSCs application may be suitable as therapeutic strategy for regeneration of CNS after TBI.

Key words: Mesenchymal stem cell, Traumatic brain injury, Immunohistochemistry technique

Room: Hall D

The Scientific Basis Of Troubleshooting The Art Lab: Evaluating And Selecting Products For The Art

O-113 A case of failed ovulation in an antagonist and GnRH-a trigger ART cycle occurring >3 weeks after completing a 3-month ovarian suppression with GnRH-a for endometriosis.

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Introduction: Antagonist protocols in ART have revived the possibility of triggering ovulation with a timely administration of gnrh-a, or 'gnrh-a trigger'. Accumulating evidences indicate that antagonist protocols and gnrh-a trigger eradicate the risk of frank ovarian hyperstimulation syndrome (OHSS). These protocols are therefore particularly interesting when OHSS is most feared, in young women with polycystic ovary syndrome (PCOS) or simply PCO ovaries.

Methods: A 37 year old woman underwent ART for infertility due to endometriosis and male factor. Because of the presence of adenomyosis and endometriosis documented by MRI, pre-ART ovarian suppression was prescribed for 3 months, using a depot preparation of triptoréline (Decapaptyl[®], 11.25mg). An antagonist protocol was preferred because of the high risk of OHSS due to oligo-anovulation, PCO ovaries (AFC >30) and a hormonal profile compatible with PCOS (FSH 6.2, LH 16.5 IU/L, AMH 15ng/ml). COS was conducted using FSH 150 IU/day (Puregon[®], MSD, France) from day 1-6 of COS and hmg (150 IU/day – Menopur[®], Ferring, France) thereafter. The gnrh antagonist ganirelix 0.25 mg/day (Orgalutran[®], MSD, France) was arbitrarily introduced on day 7 of COS following the fixed-protocol rules.

Results: E2 on cycle day 6 was of 336pg/ml. On COS day 9, there were 14 follicles >15mm in diameter, numerous smaller ones and E2 reached 2206pg/ml. This led to trigger ovulation using a single administration of gnrh-a (Decapeptyl 0.3mg[®]) at 9PM on that day. On oocyte retrieval day, the ovarian follicles were judged of normal size. The endometrium was measured at 7.6mm and the presence of sono-transparent cervical mucus was noted on ultrasound. The laboratory rapidly informed the clinical team that no oocytes had been retrieved and that there were no cells or debris in the follicular fluids collected. The patient who was questioned confirmed having injected the Decapeptyl at the set time. Plasma progesterone was measured at 0.8ng/ml on the retrieval day. The possibility of a 2nd ovulation trigger using hcg was not retained because of the risk of OHSS. The patient received a prescription for 10 days of vaginal progesterone (200mg/day).

Discussion: We report a case of failed ovulation in an antagonist and gnrh-a trigger protocol conducted >3 weeks after a 3-month ovarian suppression using a long-acting preparation of gnrh-a. No oocytes were retrieved in normal amounts of follicular fluid in which there were no cellular debris. This observation calls for caution to be exercised when considering gnrh-a trigger following ovarian suppression with a gnrh-a, even after a treatment-free interval of several weeks. It remains to be determined whether gnrh-a trigger may similarly fail following ovarian suppression by other means, as for example a prolonged use of OC.

O-114 Cryopreservation of human oocytes using different vitrification techniques

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Introduction: Cryogenic preservation of the oocytes gains more importance nowadays in the programs of the in vitro fertilization (IVF) all over the world and it might play a significant role over the next few years. The study aims to help extending the applications of oocytes cryopreservation into the clinical practice of assisted reproduction programs. The reasons that bring oocytes cryopreservation into the interest includes diseases, treatments; legal, ethical, social, and practical problems.

Materials and methods: Using the vitrification method applied on 676 human oocytes divided into four groups based on their maturation stage, presence of corona cells and the time in oocytes cryopreservation. Group (A) include 177 MII oocytes, fully denuded and vitrified 3-5 hours after pick up, Group (B) that includes 194 GV/MI oocytes fully denuded and vitrified 3-5 hours after pick up, Group C contain 103 MII, fully denuded oocytes that vitrified 24 hours from retrieval, Group D contain 202 MII, oocytes that vitrified with the corona cells (the cumulus cells) and vitrified 3-5 hours after pick up. survivability is determined one hour after thawing then the survived oocytes in groups A,C and D are underwent ICSI procedure ,while the oocytes survived in group (B) are cultured for *in vitro* maturation (IVM) then proceed to ICSI . Fertilization and cleavage are monitored till day five.

Results: In group (A), after thawing 161 oocytes (91%) survived, 111 oocytes (63%) fertilized, only 38 oocytes (22%) completed their development into blastocysts. In group (B), 167 oocytes (86%) survived then 60 oocytes (37%) matured to MII, and 40 oocytes fertilized. The fertilization rate in group (B) was 21% per total number of vitrified oocytes and 67 % per matured oocytes ,then 11 embryos reach blastocyst (5% per total and 18% per matured oocytes). In group C, 76 oocytes survived (73%), 44 oocytes fertilized (43%) and 8 embryos (8%) reached blastocyst stage. In Group D, 188 oocytes survived (93%), 126 oocytes fertilized (64%) and 39 embryos reached blastocyst stage (22%).

The survival rate after thawing was lowest in group (C) and the difference was highly significant as compared to groups (A, B, D). The fertilization rate was higher in groups (A, D) than in groups (B, C) and difference was significant. The blastocyst formation rate was higher in groups (A, D) than in groups (B, C) and difference was significant.

Conclusion: The vitrification method in the cryopreservation of the oocytes is very successful in preserving viability and fertilization .The presence or removal of the corona cells before vitrification didn't affect the results. Delaying vitrification 24 hours significantly lowered the results. Vitrifying GV oocytes resulted in a reasonable survival rate, however the fertilization rate was very low.

Key words: Oocytes cryopreservation, vitrification, fertility preservation, IVF, ICSI.

Poster Presentations

P-01 Sonographic findings of Ectopic Pregnancy following Assisted Reproductive Technologies (ART) among Royan Institute Referred Patients

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Introduction: To determine Sonographic findings of Ectopic Pregnancy among Royan Institute Referred Patients.

Material & methods: This study was cross sectional among 44 patients who got ectopic pregnancy following ART, referred to Royan Institute between 2009-2012. Patient's documents and sonography results were assessed to collect data. The history of patients and sonographic findings of ectopic pregnancy and prevalence of each were evaluated with SPSS16 software.

Results: Total number of ectopic pregnancies detected with TVS was 44 cases. The mean age and infertility duration in samples were 31.86 ± 4.18 and 6.27 ± 3.83 years. The causes of infertility among these patients included: male factor(36.4%), tubal factor(13.6%), ovarian factor(6.8%), endometriosis(2.3%), multifactorial(27.3%) and unexplained(13.6%). Ectopic pregnancy occurred following: In vitro Fertilization(65.9%), Intrauterine Insemination(29.5%) and ET Freezing(4.5%). Sonographic appearances found were: mixed echo mass with pelvic hematoma(47.7%), ectopic gestational sac(27.3%), mixed echo mass with gestational sac and fetal pole(13.6%) and ectopic gestational sac with fetal pole and FHR(11.4%). Ectopic sites of pregnancy were: uterine tubes(86.4%), ovary(4.5%), cervix(2.3%) and other 6.8% were ruptured tubal EP. The earliest time of determining EP in our study was 33 days after LMP (4.5 weeks of pregnancy).

Conclusion: Our study showed that the most common appearance of EP on TVS is mixed echo mass with pelvic hematoma(47.7%) which is most often located in uterine tubes and the most common cause is male factor infertility(36.4%).

Key words: Ectopic Pregnancy(EP), Assisted Reproductive Technologies(ART), Transvaginal Sonography, Sonographic findings

P-02 The Protective Effects of Vitamine E on Sperm Parameters and Chromatin Quality in Acrylamide-treated Mice.

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Introduction: Acrylamide (AA) is considered as a carcinogen, neurotoxin and reproductive toxicant. It is demonstrated that AA is able to induce sperm damage in male mice. We proposed that the vitamin E, as an antioxidant, can protect the spermatozoa from different kinds of environmental hazards including AA.

Material and methods: Totally 32 adult male mice were divided equally into four groups (n=8). Mice of group 1 served as control fed on basal diet, group 2 received basal diet and AA (10 mg/kg, orally), group 3 received basal diet and vitamin E (100 mg/kg, IP) and group 4 received basal diet, AA and vitamin E for 35 days. Finally, the tail of epididymis was incised and placed in Ham's F10 for 30 min. Released sperm were used to analyze number, motility, morphology (Pap-staining) and viability (eosin-Y staining). The sperm chromatin and DNA integrity were assessed by cytochemical techniques including acridine orange test (AOT), aniline blue (AB) and toluidine blue (TB) stainings.

Result: In AA-treated mice, a significant decrease was found in sperm number, sperm viability and sperm motility compared to control and AA + vitamin E groups. A significant increase was also found in sperm number, sperm motility and sperm viability in vitamin E group when compared with control and AA + vitamin E groups. In AA-treated mice, a significant decrease was found in sperm morphology compared to control group. A statistically significant increase was also found in sperm morphology in vitamin E group compared to controls.

Regarding sperm chromatin, a significant increase was found in rate of AB-reacted spermatozoa (immature sperm), and sperm cells with single-stranded DNA in acrylamide group compared to control and AA + vitamin E groups. A significant increase was also found in sperm cells with mature nucleus and normal DNA in vitamin E group when compared with other groups.

Conclusion: AA may have deleterious effects on sperm parameters and decrease sperm chromatin quality in mice. On the other hand, vitamin E not only is able to compensate the toxic effects of Ac, but also increases sperm chromatin quality in mice.

P-03 The improvement of sperm parameters and chromatin quality by Vitamin E supplement in mice

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Introduction: Vitamin E is believed to be the primary component of the antioxidant system in spermatozoa. There is a relationship between activity of these antioxidant and function of sperm. Vitamins E and C which are belong to non-enzymatic antioxidant are used as a supplemented drug to improve sperm quality and male fertility. The present study was carried out to investigate the positive effects of vitamin E on sperm chromatin quality and sperm parameters (count, motility, viability and morphology) in mice.

Material and methods: Totally 16 adult male mice were divided equally into two groups (n=8). The mice of group 1 served as control fed on basal diet, whereas; group 2 received basal diet and vitamin E (100 mg/kg, IP.) for 35 days. Finally, the tail of epididymis was incised and then placed in Ham's F10. Released sperm were used to analyze number, motility, morphology (Pap-staining) and viability (eosin-Y staining) of the spermatozoa. The DNA integrity and chromatin condensation assessments were done by standard cytochemical techniques including acridine orange test (AOT), aniline blue (AB), toluidine blue (TB).

Result: In vitamin-treated mice, a significant increase was found in sperm number, sperm motility, sperm viability and sperm morphology compared to control animals. A significant increase was also found in the rate of sperm cells with mature nuclei, and spermatozoa with double-stranded DNA in vitamin E group when compared with controls.

Conclusion: Vit.E not only is able to improve the sperm parameters but also can increase the sperm chromatin quality in mice.

P-04 Social phobia in infertile women (Jahrom)

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Problem statement: social phobia is a manner disorder in clinical psychology science, but has different importance outcome in sociology and psychology. According to cultural and social construct in Jahrom, infertile women there are in traditional, uncontrolled and informal environment that, make by kinsfolk. Consequently social phobia will happen. The main questions are; how much is rate of social phobia in infertile women? And which factors are affected on it?

Methods: this is a cross-sectional study. Sample size were 100 infertile women that selected by random method between 200 register women in an infertile medical institute in Jahrom. Data gathering did by researcher making questionnaire which contain 45 questions in 7 domains (social phobia & religious level & life satisfaction & age & literacy & social support & socioeconomically station). Reliability acquired by content and face methods and validity acquired by test re test method and Spearman test (0.82). data analysis did by SPSS: 16(K2, Spearman test).

Results: mean of age was (35.12±4.04). Mean of social phobia was (3.43±1.06) which was in high level. Between age & level of literacy with level of social phobia relation were significant (p=0.001). But other variables as: social support level & socioeconomically station & religious level & life satisfaction with level of social phobia relation were not significant (p=0.051-64). These variables just covered 38% of social phobia factors.

Conclusion: The study showed that more than half of the respondents had social phobia. Hence, essence of a program for assesse and support these women for social phobia are very necessary.

Keywords: social phobia-infertile women-Jahrom

P-05 Is there a difference in infertility rates and related factors between urban and rural groups?

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Introduction: Clinically infertility is defined as the involuntary absence of conception after a minimum of 12 months of exposure and it is a major socio-medical challenge in Iran especially in rural areas. The aim of this

study was to assess the difference with regard to selected criteria in the infertility experience for rural and urban individuals in Babol.

Material & methods: A retrospective, descriptive, and epidemiology study was used to assess infertility experience for rural and urban women. A total of 1,081 women aged 20-45 were selected by standard cluster sampling method. A face to face household interview was conducted using a special designed interview questionnaire.

Results: Among 1,140 women, 59 (5.2%) were voluntarily childless. Of the remaining 1,081 women, 50.5% were classified as urban and 49.5% were classified as rural based on the definitions used for this study. Around one in six subjects from the total sample experienced difficulty conceiving at same Stage of life in their life reported (15.5%). This rate compares to 15.0% of total urban and 16.1% of total rural subjects who had experienced infertility. Significant difference observed ($p < 0.05$) in educational level, own occupation for the total sample based on rurality or urbanicity. There were no statistically significant differences in the selected demographics of marital status, age, BMI, ectopic pregnancy, and total MET minutes/week physical activity between the groups. Urban infertile persons were better educated than rural persons.

Conclusions: A large prospective study is needed in order to understand the impact of rurality on infertility.

Key words: Rural, Urban, Infertility, Iran

P-06 Challenges and problems associated with infertility: perspective of infertile persons.

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Introduction: Aspects of infertility are still an aura of ambiguity. However, successful treatment for this group of patients and improve their quality of life need to understand what they involved with it in all aspects. This study aims to identify some problems of infertile people in the domain of communication and social skills, marital relationships, moral and religious aspects of treatment and assisted reproductive techniques (ART).

Material & Methods: this pilot study was done with cross-sectional method. Sample consisted of 37 infertile people that attendance Rostami infertility treatment center of Shiraz which was obtained through convenience sampling. Data collection was done with self report questionnaire that its validity and reliability before was accepted.

Results: analyses of demographic variables indicate that the average age of subjects was 30/4(SD:5), the majority was women (78/4%) and their mean duration of infertility was 7/1(SD 3/6). The statistical analysis showed problems with highest frequency in marital relations domain in perspective of infertile persons were: verbal humiliation by husband because of infertility(67/5%), lack of discussion about infertility, to prevent any verbal argument (55/7%), in ART domain ,problems with highest frequency were lack of awareness about infertility treatment and complications of surgery (64/8%) and lack of awareness about necessary care during infertility treatment (70/2%),and finally in domain of moral and religious aspects of treatment , the results indicate problems of the absence or lack of awareness about the religious order about gamete donation and the Surrogacy with frequency (70/2%),(7/77%) respectively.

Conclusion: this study results can display multi aspects of infertility; and indicate infertility treatment requires strict attention to issues such as marital relations of infertile people, informing patients about detail of treatment and care process and at least addressing source for awareness about the religious and moral various aspects of new ART.

Infertility, challenges, infertile persons

P-07 The relationship between body mass index, semen parameters and sperm acrosomal reaction

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Introduction: It has been suggested that obesity may have negative effect on male fertility. However, the impact of body mass index (BMI) on male fertility potential and semen parameters is controversial. The aim of this investigation was to compare semen parameters and acrosomal reaction in men with different BMI levels.

In some investigation an inverse relationship between BMI and total number of normal-motile sperm per ejaculate was observed but

Material & Methods: semen was collected by self-masturbation from 128 normal healthy men (age range 20-45 years) presenting for routine semen analysis in Yazd infertility center. The samples were analyzed according to World Health Organization (WHO 2010). Sperm morphology and acrosomal reaction were assessed by Papanicolaou staining and double staining respectively. The body mass indices were categorized as $<20 \text{ kg/m}^2$, $20-24 \text{ kg/m}^2$, $25-30 \text{ kg/m}^2$ and $>30 \text{ kg/m}^2$.

Result: We observed only minor difference in semen parameters between groups that was not statistically significant. Also, there was no relationship between different BMI, sperm morphology and acrosomal reaction.

Conclusion: According to our results we could not find any relationship between different male body mass indices, sperm motility and sperm morphology yet. However our project is still in progress and it will be possible to find different results in future.

P-08 Effect of centrifugation tube on sperm recovery rate

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Introduction: Centrifugation of raw semen is inevitable step in sperm processing in ART. There are rare investigations regarding the effect of the type of centrifugation tubes on sperm parameters. The objective was to compare the sperm parameters between five different centrifugation tubes following sperm processing.

Materials and methods: Twenty-one normozoospermic specimens were evaluated in this prospective study. After direct swim-up, the uppermost medium was divided into five aliquots and placed in five different sterile tubes: conical, glass round bottom, glass conical, plastic round bottom, and microtube. The samples diluted with Ham's F10 supplemented with human serum albumin (5mg/ml) and centrifuged 300-500g for 5 min. Sperm motility and viability were evaluated according to WHO manuals.

Results: The progressive motility was higher using conical tube (87.6%±4.2) and the difference was significant compared to glass round bottom tube (79.95%±6.3, P=.001) and plastic round bottom (79.15%±5.8, P<.001). The immotile spermatozoa were lower in conical tubes (8.5%±3.5) compared to other tubes, but the difference was significant compared to glass round bottom tube (15.8%±9, P=.001) and plastic round bottom tube (15.5%±4.9, P=.005). There is significant difference for viability test between conical and plastic round bottom tubes (93.05%±3.2 Vs. 87.6%±3.1, P=.01).

Conclusion: Conical centrifuge tube has better sperm recovery rate compared to other tubes. This may be related to the design of the tube and non-toxic materials used during tube manufacturing.

Key words: sperm recovery rate, centrifugation tube

P-09 Evaluation of morphology of immature human oocytes after vitrification and IVM

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Introduction: Germinal vesicle (GV) and metaphase-I (MI) are considered as immature oocytes. 85% of retrieved oocytes are mature (MII), 4% are at MI stage and the rest are at the GV stage. These immature oocytes should be first matured in vitro (IVM), so they may be used in IVF program. The aim was to compare.

Materials & methods: 103 immature oocytes were retrieved from 42 ovarian stimulated cycles enrolled for ICSI program. The women aged between 19-40 year-old (mean 28.5±6.5 years). The average women age was 30.3 ± 6.3 years (range 19 – 49 years). The patients in operating room under anesthesia by intravaginal ultrasound guided follicle puncture, oocytes aspiration and send to laboratory. 69 oocytes were at GV, and 34 oocytes at MI stage underwent IVM technology. The oocytes were assessed for 48 h, and the rates of maturity were recorded. The maturation medium was Ham's F10 supplemented with 0.75 IU FSH, 0.75 IU LH (Menogon) and 40% human follicular fluid (hFF).

Results: From morphology point of view, three characteristics were assessed: 1.Cytoplasm color 2.PVS normality 3.Round oocytes normality These cases were observed by Stereomicroscope. In both IVM and vitrification groups, at first oocytes were investigated morphologically, then entered into the given process and finally after analyzing oocytes in terms of maturity, the matured ones(MII) were analyzed morphologically. Since the morphological characteristics of the rest, mostly degenerated, were not comparable with those of normal cases.

Conclusions: Oocytes morphology is one of the indicator oocytes quality. The quality of oocytes has a direct impact on the fertilization and developmental competence of oocytes. Vitrification could influence oocytes morphology and quality after thawing. This study showed that about half of the oocytes changed the color of the cytoplasm that compared with the first group(IVM) was significantly different.

P-10 The psychological experiences of menopausal women: A phenomenology study

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Introduction: With the increasing Life expectancy of women, menopause has become one of the inevitable crises. While women spend a third of his life in menopause. So Review and understand the psychological problems of these women will help to solve their problems. Aim of this study was the psychological experiences of menopausal women that has been studied as a qualitative study

Method: In this study, one of the qualitative research methods as descriptive phenomenology from about the experiences menopause women was used .population was from women who referred to special clinic as accompany with patients. The data were gathered through a semi-structured interview with Purposive sampling and which was continued to the point of data saturation. Data analysis was from seven step Colaizzi.

Results: 5 themes has been driven from the obtained results of this study which describe the structures of psychological experiences of the menopause as follow :1- Negative feeling about events 2-change in attitude to self and life 3-change in self concept 4-change in interaction 5-change in marital relationship

Conclusion: Attention to psychological problem in infertile women. Its necessity to provide culturally appropriate education which provide appropriate coping with problems and promote mental health.

Key word: The psychological experiences of menopausal women: A phenomenological study

P-11 Addition of serum albumin to culture media improves human sperm recovery

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Introduction: One of the critical steps in ART is recovery of enriched spermatozoa from raw semen following sperm processing. Some scientists believe that addition of serum albumin to dilution medium in direct swim-up would be efficient for sperm recovery. So, this work was designed to evaluate the impact of addition of human serum albumin (HSA) on sperm parameters.

Materials and methods: Twenty normozoospermic specimens were evaluated in prospective manner. After direct swim-up, the uppermost medium was aliquot into two groups of Ham's F10 supplemented with HSA (5mg/ml) (A) and Ham's F10 alone (B) for dilution and centrifugation. All samples were incubated for 45min before sperm evaluations. Sperm motility was evaluated by Makler chamber and sperm viability was assessed by eosin staining according to WHO manuals.

Results: Total motility as well as progressive motility was significantly higher in group A compared to B ($91.8\% \pm 7.7$ Vs. $88.1\% \pm 1.4$, $P=.03$ and $87.60\% \pm 9$ Vs. $83.40\% \pm 1.3$, respectively, $P=.01$). Also, immotile spermatozoa was higher in group B compared to A ($11.9\% \pm 1.4$ Vs. $8.05\% \pm 8$, $P=.02$). Besides, viability was significantly higher in group A ($P=.01$).

Conclusion: It seems that using HSA (5mg/ml) for sperm washing and processing following direct swim-up in normozoospermic specimens would yield more motile and viable spermatozoa.

Key words: human serum albumin, normozoospermia, sperm recovery rate

P-12 Correlation between *in vitro* sperm preparation technique, endometrial thickness, hormonal profile and successful pregnancy rate following IUI: retrospective and prospective study

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Background: The IUI is an easy, simple and effective method to overcome the infertility that resulted from different causes. Although the equipments and methods of assisted reproductive technologies (ART) are highly developed, the percentage of successful IUI live-birth not exceed 20-30%.

Objective: The present study aim to elucidated the cut off values of *in vitro* sperm preparation technique follicular number and size, endometrial thickness and hormonal profile that lead to successful pregnancy rate following IUI.

Materials and Methods: In retrospective study, one hundred cases of infertile couples who were became pregnant following IUI in the Institute of Infertility Diagnosis and Assisted Reproductive Technologies, through the period from January 2007 to January 2010. Depending on the results of retrospective study, IUI was achieved for 100 infertile patients between August 2010 and June 2011. The mean of significant prognostic variables were measured in both studies namely :age, type of infertility, type of sperm preparation technique, the protocol of ovulation induction medicine, the mean of hormonal status of Luteinizing Hormone (LH), Estradiol (E2), and number and diameter of follicles, endometrial thickness cycle day before HCG injection.

Results: The protocol of ovulation induction in IUI cycles by using clomiphene citrate (CC) and/ recombinant follicular stimulating hormone (rFSH) i.e. Gonal-F[®] was significantly ($p < 0.05$) improve the IUI results compared to

CC alone or CC with Pergonal[®]. The number of two follicles, and dominant follicle of 19.5mm in size with endometrium thickness of > 9.5mm were the mean values obtained by ultrasonography that gave significantly successful IUI outcome compared to other values. In prospective study similar results were obtained, therefore the overall pregnancy rate was 37% per cycle.

Conclusion: The calculated data of successful IUI outcome from retrospective study gave a best pregnancy rate in prospective study which was 37%. Consequently, these results can be considered as guideline for physician who interest in assisted reproduction to have a success in IUI.

Key words: IUI, *in vitro* preparation, endometrium thickness, pregnancy rate

P-13 Effect of *Citrullus colocynthis* medium on *in vitro* fertilization and early cleavage stages of mice embryos : a model for mammals

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Background: *Citrullus colocynthis* is an herbal medicine used in the treatment of a wide range of diseases. Recently, the effect of this plant on the reproductive system has been studied. However, its role in *in vitro* still unclear.

Objectives: The present study was designed to investigate the possibility of using *Citrullus colocynthis* (CC) extract for *in vitro* sperm direct activation technique, *in vitro* fertilization (IVF) and early embryonic development using the mice as a model of mammals.

Materials and Methods: *Citrullus colocynthis* extract (0.5mg/ml culture medium) was used for *in vitro* direct sperm activation technique. The same medium was used for oocytes insemination and for culturing the embryos after 24-48 hours of insemination. The oocytes were collected from superovulated female mice and divided into two groups: one group, 343 oocytes were inseminated and cultured in CC-free Ham's F-12 medium (the control group), and the second group, 345 oocytes were inseminated and cultured in 10% CC - Ham's F-12 medium (the treated group). Each 4 oocytes were inseminated with the same sperm concentration ($1-2 \times 10^5$ sperm/IVF well). The fertilization rate was recorded after 24 hours of insemination, while embryonic development rate were recorded after 24 and 48 hours of insemination.

Results: *In vitro* activation of epididymal sperms with 10%CC has shown positive effect on sperm concentration, sperm motility, and grade activity of progressive forward movement. There was a highly significant ($P < 0.004$) increase in FR of the treated group with 10% CC - Ham's F-12 medium (61.5%) compared to CC-free Ham's F-12 medium (50.4%) after 24 hours of insemination. Embryonic developmental rate was significantly increased after 24 and 48 hours of insemination in treated medium compared to control medium.

Conclusions: It is concluded that adding the 10%CC to the culture medium of the epididymal sperm and *in vitro* inseminated lead to an improvements in certain sperm function parameters and sustain the FR and early embryonic development rate.

Key words: *Citrullus colocynthis*, *in vitro* fertilization, embryonic development

P-14 Clinical and Biochemical symptoms of PCOs in high school girls.

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Introduction: The clinical features and metabolic complications of polycystic ovary syndrome (PCOs) may be changes at different ages. This study was designed to investigate the clinical and biochemical characteristics of PCOs girls between the ages of 16-20.

Methods: Data from 104 PCOs adolescents were obtained from north Iran. Anthropometric components, endocrine, metabolic components and insulin resistance were performed in the all cases. A P value <0.05 was considered significant. Statistical analysis was performed using SPSS version 16.

Result: The mean menarche age of PCOs girls were 12.2±1.2 year. Majority of PCOs had normal weight (68.3%), hirsutism (78.8%) according the Ferridman-Gallwey scores, Acne (30.8%), Irregular menstruation (43.3%) and positive findings of polycystic ovary in the ultrasonography (82.7%). The mean FSH, Free testosterone and Triglycerides were 6.7±2.3, 3.8±3.8, 98.8±37.6 respectively. The metabolic variables and parameters of insulin resistance were not significantly different between lean, normal weight and overweight and obese PCOs girls except Triglycerides.

Conclusions: Although we have not observed some of the complications PCOs such as of the metabolic abnormalities in at PCOs, girls, But regarded the presence of a large percentage of clinical symptoms such as,

hirsutism, Irregular menstruation and Polycystic ovary at ultrasonography, attention to these cases should be high lighted. Where as, with treatment of these girls in lower age, can to prevent the complication PCOs in the future.

Key words: polycystic ovary syndrome, high school girls, metabolic abnormalities.

P-15 Aromatase inhibitor “letrozole” versus progestin“norethisterone” in women with simple endometrial hyperplasia without atypia: A prospective cohort trial

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Introduction: our aim was to evaluate the effectiveness of the aromatase inhibitor “letrozole” to progestin “norethisterone” for women with simple endometrial hyperplasia without atypia.

Subjects and methods: One hundred women with a histo-pathological diagnosis of simple endometrial hyperplasia without atypia were divided into two groups: Groups A and B. Group A included 50 patients who received a daily 5 mg dose of letrozole for three successive months. Group B included the other 50 patients who received norethisterone 10 mg daily by non-stop regimen for 3 months. All patients in both groups were reevaluated after treatment. Women diagnosed with progressive or persistent endometrial hyperplasia at the second curettage were asked to continue on the same medication for another 3 months. Transvaginal sonography as well as serum estradiol level measurement were performed before the start of treatment and 3 months after treatment.

Results: Despite that there was no statistically significant difference between the two groups as regards the proportion of women whose endometrial sample revealed resolution, regressing or persistence after 3 months of treatment. However, endometrial thickness was significantly thinner in women who received letrozole than in women who received norethisterone (mean difference 0.12 mm ,95 % CI :0.22 -0.01 , p = 0.02). serum E2 was dsignificantly lower in the group A compared to group B (mean difference 9.1 pg , 95% CI : 13.74- 4.45 ,p< 0.001)

Conclusion : letrozole is as effective as norethisterone for women with abnormal uterine bleeding due to endometrial hyperplasia without atypia.

P-16 The accuracy of Hysterosalpingography(HSG) versus laparoscopy in the evaluation of pelvic adhesions.

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Introduction: Obstruction of the fallopian tube by pelvic adhesion is a frequent cause of infertility. Bands of scar tissue can bind organs after pelvic infection secondary to salpingitis, post abortal or postpartum pelvic infection, endometriosis, tubal pregnancy, pelvic operations and tuberculosis. Tubal patency may be present but tubal function may impaired by prevention of approximation of the fimbria to the ovary at the time of ovulation.

Material and Method: A retrospective study was conducted in imaging center of Royan Institute in 47 infertile patients during 2010 to 2011. All participants were investigated with Laparoscopy and HSG for their treatment .Results were analyzed and compared their agreement in diagnosis of pelvic adhesion.

Result: Analysis shows 19(40.4%) ladies had normal result in laparoscopy and HSG and 21(44%) participants show abnormal finding in both method and 2(4.2%) participants had normal finding in HSG and abnormal finding in laparoscopy. 5(10.6%) participants had abnormal finding in HSG and normal result in laparoscopy. sensitivity and specificity were 80.7%and 90.4% respectively. Positive Predictive Value and negative predictive value were 91.3% and 79.1%.Agreement between two methods in diagnosis pelvic adhesion was 85.1%.

Conclusion: Although laparoscopy allows direct visualization of nature, extent, and distribution of the peritubal adhesions and consider as the gold standard for the assessment of tubal patency and peritubal adhesions, HSG is a safe and simple procedure with lower cost and less inconvenience to patients. Because of high sensitivity, Positive Predictive Value and reasonably good concordance rate of Hysterosalpingography(HSG) with laparoscopy in our study, HSG could consider as a first line investigation method for detecting pelvic adhesions in infertile women.

P-17 Comparative Investigation of Marital Satisfaction in House Wives and Employed Pregnants in Iran

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Introduction: Pregnancy and lactation are factors that induce special situations for female in work place . So its important to pay attention to safety and health of working pregnant and lactating women in work place. Marital satisfaction is an index of psychological health and working affect that. In other words, mood changes and pregnant's requirements at home and work place can cause some problems for them. Many studies evaluated marital satisfaction in married and unmarried women but less studies done in pregnant women, So in this study we assess marital satisfaction between working and non-working pregnant.

Materials and methods: This is a descriptive study. Sample size include 240 working and non-working pregnant referring to Jahrom health care centers in 1390. Data was collected by questionnaires of marital satisfaction that include 35 questions. We analyze data for mean and standard deviation and use *t* test to evaluate groups.

Results: Mean age in pregnant was 28.47 ± 4.95 and age range was 18-45 years old. Almost half of women (51%) had college education . Marital satisfaction in working pregnant was 78.6 ± 18.40 and in non-workings was 84.43 ± 16.57 and difference between two groups was statistically significant ($P=0.03$). 76.2% of non-working pregnant and 89% of working pregnant had low marital satisfaction.

Conclusion: Results of this study show that working had bad effects on marital satisfaction. When the role of women increased in work place, the marital dissatisfaction increased. In other words, mood changes in pregnancy can be affected by working and may result in marital dissatisfaction.

Key words: satisfaction, working women, pregnancy, non-working women

P-18 Can date palm pollen improve male fertility rate?

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Introduction: There are many ancient records of herbal medical plants. The phoenix dactylifera date palm pollen is used in the traditional medicine for male infertility. The aim of this study was to determine the effects of orally administered date palm pollen on sperm parameters of infertile men.

Materials and Methods: In this clinical trial, 30 nonsmoker infertile men whose problem could not be solved surgically were enrolled. They were treated by date palm pollen for 2 months. 7 gram of date palm pollen, was dissolved in drinking milk and administered 3 times a week during the study course. Semen analysis was done before and after the treatment and the results were compared.

Results: The mean sperm count was $12.33 \pm 5.61 \times 10^6$ /mL at baseline and $22.03 \pm 12.17 \times 10^6$ /mL after the treatment period ($P < .05$). The mean percentage of sperm progressive motility was $14.69 \pm 6.8\%$ before the treatment which increased to $24.01 \pm 11.11\%$ thereafter ($P < .05$). No significant increase was detected in sperm with normal morphology . Fertility rate is 16.6% in these patients. All pregnancies were resulted in term pregnancies.

Conclusion: date palm pollen seems to improve the sperm count and motility in infertile men.

Pregnancy outcomes has been remarkable in this natural treatment. We believe further studies on larger sample sizes are needed to elucidate the potential role and mechanism of action of date palm Pollen in the treatment of male infertility.

Keyword: date palm pollen , sperm , male, Fertility rate

P-19 Efficacy of spiritual group psychotherapy on the infertility consequences : A randomised clinical trial

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Background: Infertility has mental, social, and reproductive consequences. Health professionals need to consider all aspects of holistic care when caring for women with fertility problems.

Objective: The aim of this study is the unique impact of spiritual psychotherapy and changes in life style on rate of pregnancy

Material and method: This research is a randomized clinical trial from 800 infertile women who were referring to gynecological clinics of Jahrom University of Medical Sciences. Those who have inclusion criteria selected, then sampling continued by 63 people that randomly divided into two groups of experimental and control groups. The experimental group received 13 sessions of spiritual group psychotherapy, and two additional sessions on

lifestyle changes. For gathering data used Persian version of Depression Anxiety Stress Scale (DASS) to assessed psychological distress and Penn State Worry Questionnaire (PSWQ) in pre- post test.

Results: Result showed there was significant change in the mean score of psychological severity symptom in experiment group after intervention($p < 0.05$).

Although the fertility rate in experiment group was higher than other group, But Difference between two groups wasn't significant ($p = 0/15$). Rate of pregnancy in experiment group was 4(12.9%) but in control group was 1(3.2) . worry of pregnant was lower than non pregnant women ($p = 0/02$).

Conclusion: The findings indicated that the spiritual group therapy could be decreases psychological severity symptom . It seems to be, psychological interventions as a group education is a good choice for improved mental health among infertile women and may be help to increases rate of pregnancy. More research is need.

Key word: Spiritual; psychotherapy; Lifestyle; Rate of pregnancy; Stress; Anxiety, Depression

P-20 Surrogacy, couples' relationships and its dilemmas

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Introduction:Infertility is one of the main disease, leading to decreased social and professional performance can influence infertile couples 'relationships deeply.Surrogacy is one of the method for treatment by helping the third person as "surrogate mother". The aim of this study is to assess the dilemmas and difficulties in surrogacy and its effect on couples 'relationships.

Methods and materials: In this descriptive cross sectional study, a sample of 10 people were selected in Shiraz in 1390 and data were analyzed through a valid questionnaire. Data including the effects of this method on their relationships, rate of depression and tension during treatment, feeling of trustiness to surrogate mother and difficulties in adopting of this method.

Results:The relationships of the infertile couples were influenced deeply in 80% of the cases.Strss and anxieties of the couples were reported in 70% of the cases during pregnancy of the surrogate mother which was threatening for their health.

The couples had little trust to surrogate mother and they were worried in 60% of the cases.And also the couples were worried about the defect in their fetus in most of the cases.

onclusion: The present study shows that not only does this method affect the couple's relationships deeply but also it causes anxiety and depression. So counseling a counselor can be helpful. We aimed to assess the psychological health of infertile couples.

Limitation of the samples and not corporation of some of the couples are because of cultural and religious reasons.

Further surveys must be performed on the quality and impact of infertile couples demanding surrogacy.

P-21 Malpractice of intrauterine insemination (IUI) in Egypt

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Introduction: IUI is non invasive, simple and inexpensive process. Ideally it should be practised in centers with facilities for IVF. In EGYPT, IUI is widely practised as an office procedure. However, this practice is not based on scientific standards as when done in IVF centers. Unfortunately the practice of IUI in the office has become a fact and a habit, but without the proper optimization.

Objective: to pinpoint the drawbacks of practising IUI as an office procedure and how to optimize this simple procedure to gain the required benefits for the couples and for the gynecologists at their offices.

Material & Method: Survey study, self administered questionnaire (Q) for randomly selected 356 general gynecologists (GG) in six Egyptian governerates.Also observtional study for failed IUI cases which were referred from private offices for our IVF center (Mansoura Integretd Fertility Center " MIFC") .

Results: Response rate for Q was 300 from 356 (84.3%) among GG. 88% of GG did/and still practice IUI in their offices, only 10% have transvaginal ultrasonic probe, 50% use neat semen, 10% have a centrifuge in the office & 8% dilute the semen with additives?!, 20% utilize remote semen preparation (RSP) .No accurate data about success rate. GG agreed that the concept of practising IUI in the office is to extend the fertility care beyond the basic work up to the provision of the first-line therapies. Also to maintain the existing couple - gynecologists relationship for a longer period without referral to special infertility centers.

Conclusions: malpractising of IUI in unoptimized offices is an alarming signal of a hidden cause of mismanagement of infertility, and is considered one of the causes of increased incidence of IVF in our center (MIFC). So facing this problem is mandatory.

Key words: Optimization IUI, office procedure.

P-22 Effects of acrylamide on sperm parameters, chromatin quality and testosterone hormone in Mice

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Background: Acrylamide (AA; CH₂CH-CO-NH₂) is an important industrial chemical primarily used in the production of polymers and copolymers which are used for different purposes. AA is also found in carbohydrate-rich foods that are prepared at high temperatures, such as French fries and potato chips. It is demonstrated that AA is a carcinogen, neuro and reproductive toxin and has ability to induce sperm damage. The toxic effects of AA in male animals include degeneration of germ cells, reduction in number of spermatozoa, and elevation of abnormal sperm cells.

Objective: Given the importance of sperm in reproductive and generation health, the aim of this study was to evaluate the detrimental effects of acrylamide on sperm parameters (count, motility, viability and morphology) and chromatin quality in mice.

Material and methods: Totally 16 adult male mice were divided equally into two groups each containing 8 mice. Mice of group 1 served as controls and fed on basal diet, group 2 received basal diet and acrylamide (10 mg/kg, water solution) for 35 days. After that, the blood samples were taken from each mice and the level of testosterone was analyzed. To evaluate the sperm parameters and chromatin quality, the right tail of epididymis was incised and then placed in Ham's F10 culture media at 37°C for 15 min. Released spermatozoa were used to analyze number, motility, morphology (Pap-staining) and viability (eosin-Y staining). To determine the sperm DNA integrity and chromatin condensation, the cytochemical techniques including Acridine Orange (AOT), Aniline Blue (AB), Toluidine Blue (TB) and Chromomycin A3 (CMA3) were used.

Results: In acrylamide-treated mice, a significant decrease was found in count, motility, viability and morphology of spermatozoa in comparison with control ones. Regarding the results of sperm chromatin assessments, except of TB, significant differences were found in all of the tests between two groups. The results also suggest a statistically significant reduction in concentration of blood testosterone in acrylamide-treated animals when compared with controls.

Conclusion: According to our results, AA can affect sperm parameters as well as sperm chromatin condensation and DNA integrity in mice. These abnormalities may be related to the reduction in blood testosterone of AA-treated mice.

Key words: Mice, Acrylamide, Sperm chromatin, sperm parameters, Testosterone.

P-23 Effects of different doses of ethanol on sperm parameters, chromatin condensation and DNA integrity in adult mice

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Introduction: Chronic ethanol abuse causes reproductive organ dysfunction, as well as infertility in both human and laboratory animals. Furthermore, ethanol exposure is known to suppress spermatogenesis and male reproductive activity through a reduction of cell proliferation and an enhancement of cell death in testes. Studies have shown that chronic consumption of ethanol decreases sperm motility, and has detrimental effects on cauda epididymal sperm content and epididymal sperm maturation.

Objective: Since sperm has a critical role in reproductive function, the objective of this study was to evaluate the effects of different doses of ethanol on sperm parameters, chromatin condensation and DNA integrity in adult mice.

Materials and methods: Totally 21 Adult male mice were divided to 3 groups. Group 1 served as control fed on basal diet, group 2 received ethanol (10% v/v) containing saccharin (0.2% w/v) and group 3 received ethanol (5% v/v) containing saccharin (0.1% w/v) for 35 days. Finally, left cauda epididymis was cut in Ham's F10. Retrieved spermatozoa were used to analyze count, motility, morphology (Pap-staining) and viability (eosin-Y staining). Sperm chromatin condensation and DNA integrity were assessed using five different tests including chromomycin A3 (CMA3), toluidine blue (TB), sodium dodecyl sulfate (SDS), SCD (sperm chromatin dispersion) and TUNEL.

Results: Following ethanol consumption, the sperm count diminished significantly in both low and high doses. A decrease in sperm motility and increase in rate of morphologic abnormalities (coiled and broken tails) were seen in experimental groups in comparison with controls. Also, Ethanol consumption disturbed DNA integrity and

caused apoptosis and production of sperm with less condensed chromatin. These effects were more obvious in group 2 (high dose) than in group 3 (low dose).

Conclusion: Alcohol has negative effects on sperm parameters, chromatin condensation and DNA integrity in mice. It should be noted that the alcohol-induced anomalies are related to dose.

P-24 Effects of acute and chronic saccharin consumption on sperm parameters, chromatin condensation and DNA integrity in adult mice

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Introduction: Saccharin is an artificial non-caloric sweetener that first synthesized in 1879. It is used to sweeten products such as drinks, candies, biscuits, medicines, and toothpaste whereas our bodies can not metabolize it. Sodium saccharin is considered as an important factor in tumor promotion, induces urinary bladder tumors in male rats but not in humans. However, according to our knowledge, there is no data on the effects of saccharin on reproductive performances especially sperm fertility potential.

Objective: Since sperm have a critical role in reproductive function, the objective of this study was to investigate the effects of acute and chronic saccharin consumption on sperm parameters, chromatin condensation and DNA integrity in adult mice.

Materials and methods: Totally 21 Adult male mice were divided to 3 groups. Group 1 served as control fed on basal diet, group 2 received water containing saccharin (0.2% w/v) as acute group for 35 days and group 3 received water containing saccharin (0.2% w/v) for 4 months as chronic. Finally, left cauda epididymis was cut and placed in Ham's F10. Swimed-out spermatozoa were used to analyze count, motility, morphology (Pap-staining) and viability (eosin-Y staining). Sperm chromatin condensation were assessed using 3 different tests including chromomycin A3 (CMA3), toluidine blue (TB) and sodium dodecyl sulfate (SDS). Sperm DNA integrity was assessed by SCD (sperm chromatin dispersion) and TUNEL.

Results: Following saccharin consumption, the sperm count and motility were diminished in both groups. Also, an increase in rate of morphologic abnormalities was seen in chronic group more than acute and control groups. Disturbance in DNA integrity, rate of apoptosis and production of sperm with less condensed chromatin had increase in group 3 when compared with other groups. In spite of these effects, in both groups, the external genitalia showed morphological alterations (inflammation). One mouse of acute group showed atrophy in external genitalia and urinary bladder tumors.

Conclusion: According to our results, chronic saccharin consumption has negative effects on sperm parameters, chromatin condensation and DNA integrity in mice.

P-25 Evaluation of Toll Like Receptors (TLRs) in human fallopian tube cell line

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Introduction: Toll Like Receptors are the main family of pattern recognition receptors. They recognise pathogen-associated molecular patterns and constitute a major part of the innate immune system. Previously it was reported that expression of these receptors are altered in the female reproductive tract during different stages of menstrual cycle. Here we used a fallopian tube epithelial cell line (OE-E6/E7) for investigating TLRs expression. In this study TLRs expression in OE-E6/E7 cells was evaluated to validate the use of these cells as a model for investigation of TLR expression in the fallopian tube.

Material and methods: OE-E6/E7 cells were cultured at 37°C in DMEM (F12) culture media supplemented with 1% penicillin and streptomycin 5% CO₂ in 75 ml flasks Total RNA was extracted separately in each group using TRI reagent and treated with DNase I. First-strand cDNA synthesis was performed using oligo dT primers and the Superscript II reverse transcriptase system. RT-PCR was performed using the prepared cDNA and primers for TLR1 to 10 in fallopian tube tissue and cell line. Besides, immunostaining were done in OE-E6/E7 cell line.

Results: TLR 1-6 genes and proteins were expressed in OE-E6/E7 cell line.

Conclusions: Our data clearly showed TLR 1-6 expression in human fallopian tube cell line. This result is in agreement with other studies that showed the presence of TLR1 – 6 in the female reproductive tract. Thus, OE-E6/E7 cell line can be used as an invitro model for future reproductive investigations.

Keywords: Fallopian tube epithelial cell/ Innate immunity /TLR .

P-26 Zona Pellucida Birefringence in Living *in-vivo* and *in-vitro* Matured Human Oocytes

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Introduction: In-vitro maturation (IVM) of immature oocyte is a promising treatment option for infertile women. The maturing oocytes during ovulation, fertilization and early embryonic development coated with zona pellucid (ZP) that is a unique extracellular matrix. Since, ZP in living oocytes is highly birefringent, its structure can be viewed non-invasively by using a Polscope.

Objective: The aim was to investigate the influence of IVM technology on ZP birefringence (ZP-BF) in living human oocytes.

Materials and methods: The oocytes were obtained from stimulated ovaries of patients undergoing ICSI. Germinal vesicles (GV; n=44) and metaphase I (MI; n=34) oocytes underwent IVM using maturation medium supplemented with FSH + LH. They were checked for maturity 24 hrs after culture. With the aid of Polscope, ZP-BF was assessed in in-vivo (n= 50) and in-vitro (n= 50) matured oocytes. The ZP-BF was scored as high/positive and low/negative.

Results: The rate of maturation in GV and MI oocytes was 56.8 % and 73.5%, respectively. Also, the rate of degeneration was 35.8% totally. From a total of 50 oocytes matured in-vitro, the high/positively scoring ZP-BF was presented in 82% of oocytes, whereas it has seen in 66% of in-vivo matured oocytes. No significant relationship was observed between in-vivo and in-vitro matured oocytes ZP-BF positive/negative scores (p=0.06).

Conclusion: IVM did not alter the ZP-BF integration. Therefore, it may be considered as a safe technology for maturation of human oocytes in-vitro. Application of Polscope is recommended for detection of the most suitable oocytes for ICSI.

P-27 **Swim-up preparation method can select spermatozoa with more DNA integrity**

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Introduction: The conventional sperm parameters, in most clinics, (e.g. sperm count, motility and morphology) were evaluated for assessment of sperm quality. But there are several studies regarding the impact of sperm DNA integrity on ART outcome. So, our main goal was to evaluate the effect of direct swim-up preparation technique on DNA integrity of prepared spermatozoa as well as traditional sperm parameters.

Materials and Methods: In this prospective study, we analyzed twenty one normozoospermic specimens. Semen analysis was performed according to WHO guidelines. The samples were prepared by direct swim-up method. Sperm morphology was evaluated by Papanicolaou staining. Sperm viability was determined by Eosin-Nigrosin staining. DNA fragmentation was assessed before and after swim-up using sperm chromatin dispersion (SCD) test. In this test, after an acid incubation and subsequent lysis, those sperm cells without DNA fragmentation show big or medium-sized halos. Whereas spermatozoa containing fragmented DNA either show a small halo or exhibit no halo.

Results: Progressive motility was significantly higher after processing compared to before (90.10%±1.02 Vs. 63.71%±1.83, p<0.0001). Besides, there was significant difference for sperm viability as well as normal morphology between before and after swim-up (p<0.0001). Also, the rate of fragmented DNA was lower after direct swim-up compared to before (4.38±.8 and 22.24±2.59, respectively, p<0.0001).

Conclusion: Direct swim-up can select spermatozoa with more DNA integrity combined with higher rates of conventional sperm parameters.

Key words: Sperm chromatin dispersion test, DNA integrity, direct swim-up, normozoospermia

P-28 **An invitro study of cytotoxicity of gossypol on GC1-spg and SFTF-PI43 cell line derived from testicular tissue**

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Gossypol is a yellow pigment from the cotton plant. Some studies indicate that the gossypol causes toxicity in human and animal and also effects on performance testis tissue. Today, this plant is used of as supplementary of feed for ruminants specially sheep. Since this substance can effect on germinal cells, so, in this study, we study about the effect of gossypol on the stem cell line of testicular tissue GC1-spg (mouse testis) and SFTF-PI43 (sheep testis). Method; The cells were cultured and solution of gossypol in four concentration expose with cells, Then get viability cells with MTT Assay and Trypan-blue dye exclusion and the IC₅₀ was determined using the MTT Assay. The result of the research show that gossypol made toxicity in 2/5, 5, 10 μ m but we didn't any toxicity in

1/25 μm concentration. In this research we found out, Gossypol reduce stem cell line survival through inhibition of mitochondrial activity which the performance of this mechanism has dependent on the dose. This fact has been observed in SFTF-PI43 (sheep testis) more than GC1-spg.

Keyword: gossypol, stem cell line, toxicity, testis.

P-29 Long term testicular torsion evaluation to establish azoospermic model of spermatogonial stem cell transplantation recipient

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Testicular torsion is a urological emergency disorder in which one testicle twists around within the scrotum, thereby cutting off its blood supply. An affected testicle tends to ischemia and reproductive system dysfunction. Purpose of this study was to long-term investigation of testicular torsion on sperm parameters testis structure and stem cell niche alterations assessment by spermatogonial stem cell (SSC) transplantation. Unilateral testicular Torsion was created by twisting the left testis 720° in a counterclockwise direction and maintained by fixing the testis to the scrotum. Animal were divided into two groups each contain 15 mice. The first groups of animal were undergone 2 hours and the second 4 hours unilateral testicular ischemia. Control and sham animals were matched to the ages of the experimental group. The mice (n=5) were killed by cervical dislocation 2, 4 and 10 weeks after testicular ischemia reperfusion. The left testes and epididymides were gently excised for sperm analysis, weight and histopathological evaluation. Finally isolated SSC was transplanted in testis 2 week, post 2 hours ischemia.

All the investigated parameters were sharply declined 2, 4 and 10 week post testicular torsion but 2 hours ischemia was found less injurious in testicular tissue structure.

detailed information on the effects of testicular torsion on the testicular and epididymal parameters was explained, also efficient, reliable and infertile recipient animal for germ cell transplantation was concluded by present study.

P-30 OSTEOPOROSIS TREATMENT by TRACE ELEMENTS(ZN) IN ADULT OVARIECTOMIZED RATS

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Intruduction: Osteoporosis is one of the uncomfortable postmenopausal symptoms. The risk of imbalanced nutrition especially traces elements and vitamins are high during post menopause and may lead to osteoporosis due to reduction of content of mineral bone. Osteoporosis affects many people in the world and is associated with fractures, pain and disabilities especially for menopausal women so estrogen deficiency may lead to osteoporosis. There are some interests in studies concerning the role of Zinc (Zn) in maintenance of bones. Zn serves as a cofactor for many metalloenzymes involved in DNA transcription and protein synthesis and its deficiency can lead to such problems as impaired synthesis/secretion of (FSH) and (LH). The aim of this study was to investigate the potential effects of Zn treatment in protecting bone loss induced by ovariectomy in adult rats

Methods: 30 mature female Wistar rats weighing approximately 200g were selected and ovariectomized. In control group rats were given distilled water and in experimental group were gavaged with Zn (50mg/kg) for two months. The femur bone of rats was collected and tissue investigated under a light and electron microscope level.

Results: The ovariectomized rats showed a significant decrease in bone mass density in comparison with the intact control group. Ovariectomized group not treated by Zn showed disarrangement structure of lamella and uncalcified bone matrix. Administration of Zn reversed bone loss. It prevented destruction of bone tissue and arrangements were observed in the treated group had the same structure with contact rats compared to the ovariectomized group. (P<0.05).

Conclusion: Bone repair and reconstruction was considered as an effective therapeutic approach. These findings suggest that Zn could have a potential effect as a new treatment for prevention of bone loss in postmenopausal osteoporosis.

Key words: Osteoporosis, Postmenopausal, Trace elements, Zinc, Treatment, Bone

P-31 Modality of contribution of medical students in education

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Introduction: Teaching methods is very important for Promotion Knowledge of medical students to learn complicated medical Topics. The objective of this study is the application of interactive discussions method between professor and students that it can be provided continued contribution throughout the classroom with at least tiredness.

Methods: it is a descriptive cross sectional study. The statistical population is 200 of medical students from different sections of medical Sciences include basic, and clinical sections of Jahrom's university of medical Science that were request to response the questionnaires. 177questionnaires were completed and returned. Scoring was assigned by likert approach and its reliability by using of cronbach's alpha coefficient equal 0.74 .Data was analyzed by SPSS 11.5 software.

Results: 177students were completed questionnaires that 39.7 % of them were male and 60.3 % female. Mean students ages were 23.08 .The average of students' agreement in contribution design was 4.22 of the 5 scores. The average contribution of female students were $4.39 \pm .64$ and Male Students $3.84 \pm .99$ respectively. The relationship between sex and contribution of students in education was significant ($P < 0.001$). This design allocated 4.62 from 5 Score for creating motivation in medical students and it allocated 4.37from 5 Score for creating more understanding and faster Course content. The scores of 4.26 from 5 were allocated Questions designing by students and Contribution Factor of students in education. Conclusions: for analyzing complex medical subjects, using questions designing and discussion around them by medical students, and their contribution in education, In addition to applicative assistant educational tools. In this way, this research project is still continuing, because of High success.

Key word: contribution, medical students, interactive discussions method

P-32 Analysis of Expression Level of Tex11 Gene in Testis Tissues of Severe Oligozoospermic and Non-obstructive Azoospermic Men Referred to Royan Institute

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Introduction: Approximately 15 percent of young couples who are trying to conceive are infertile, and among these couples, male factor infertility accounts for approximately 50 percent of causes. Spermatogenesis is a cumulative process and thousands of genes are involved in it. Change in one of these genes or their products can cause male infertility. Tex11 is a germ cell specific gene that is located on the X chromosome (Xq13.1 region) and it is only expressed in testis. This gene was originally identified as an X-linked germ cell-specific gene of unknown function. The TEX11 protein was found to form discrete foci along the synaptonemal complexes on meiotic chromosomes and was shown to be essential for meiosis and fertility in males.

Materials and methods: The samples retrieved from patients who underwent diagnostic testicular biopsy in Royan institute. 5 patients with severe oligozoospermia and 5 patients with non-obstructive azoospermia were recruited. Total RNA was extracted with Trizol reagent and cDNA was synthesized. Quantitative real-time RT-PCR for Tex11 was performed using Power SYBR Green kit.

Results: After normalizing the relative amount of Tex11 transcript by the amount of GAPDH transcript in the same sample, it was shown that tissue samples from non-obstructive azoospermic patients had lower level of tex11 gene expression than severe oligozoospermic samples.

Conclusion: As expression level of Tex11 gene is reduced in non-obstructive azoospermic men, we can conclude that Tex11 expression levels is essential for normal spermatogenesis and deficiency in this gene can cause spermatogenic failure and infertility in men.

Keywords: Male infertility, Azoospermia, Oligozoospermia, Tex11, Spermatogenesis

P-33 Factors influencing the lack of follow-up infertility treatment in infertile women

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Intrduction: infertility is one of the most important happen in life.as if it can be a clinical state,but influenced on emotional ,social and economic aspects of couples' life . insipite of negative effect on peoples' life, but many of the patients don't fallow up and coninue their therapy and the number of infertile couple(23-60%) are discontinue their care. This article aimed to investigate a large amount of factor which influenced in

discontinuation of infertility treatment, it can be important for providing health care, infertile support, and main decision about that.

Material and Methods : This is the cross sectional study on 100 infertile women who refer to infertility center in Jahrom University of Medical Sciences by purpose sampling. Data gathering was from valid and reliable 2 part questionnaires conclude 6 demographic questions and 22 question in 5 likert scale about barrier who influence to infertility treatments. Content validity was checked by expertise view of points and reliability by Cronbach's alpha(0/73) was evaluated. Data analysed by descriptive statistics and correlation coefficient in SPSS software 15.

Results: The majority of the participant were aged between 21-30 year (81.8%). Most of them were in diploma grade. Many of them have about 5 year infertility history (70.7%) and some women (47%) have positive history of treatment in their life. The major barrier which reported to infertility treatments concluded: their husband disagreement with receiving gamet and external fetus (58%), medical care failure (60.6%), long duration of care (55.6%) and then, non acceptance of new care method (40.4%).

Conclusion: In spite of long duration and expensive care of infertility, cultural context and idealist of society and people about new method of care has most influenced on infertility treatments. So that acceptance of these methods can be usefull, and we must make couples ready for failing, boring and annoying during therapy. On the whole psychoanalytic counselling can be one of the necessity of their therapy.

Key Words: infertility; barrier, infertility treatments, follow up

P-34 Which combination drugs regimen is more effective in improvement of fertility outcome?

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Introduction: Infertility may have different reasons and also may have undiagnosed causes. One of the most important causes of infertility is PCO syndrome which can be treated with ovulation induction by drugs such as clomiphene citrate, letrozole and Tamoxifen which are non-steroidal selective estrogen receptor modulator. Clomiphene citrate is commonly used for ovulation induction in women with anovulatory infertility. However, pregnancy rates with this drug are not as good as ovulation rates. Tamoxifen may be a better choice in some patients who fail to either ovulate clomiphene due to its favorable effect on the cervical mucus and endometrium. Studies also prove a better effect for letrozole rather than clomiphene citrate. The purpose of this study was detection of effect of combination of both Tamoxifen and letrozole on improvement of pregnancy outcome in infertile patients.

Method: This prospective clinical study on 90 patient who had chief complaint of infertility referred to Dr. Rasekh clinic. They were entered in the study randomly during 12 months. Age of patients is less than 39 years. They were divided into two groups with different regimen. Group A 45 patients; Letrozole+Tamoxifen, Group B 47 patients; Letrozole+Tamoxifen+Cabergolin. Then based on sonography for evaluating the ovarian follicles, endometrial thickness patients was performed. One of the regimen was added cabergolin in order to prevent OHSS.

Results: The rate of OHSS was 6.66% in regimen A but in regimen B which was consist of cabergoline 4.44%. Pregnancy rate was in regimen A 25.5% which 21.27% of them term pregnancies and 4.2% abortions, in regimen B; 6.66% term pregnancies. Effectiveness of regimen A {32 pts(71%)} and B {40 pts(88.8%)} on size of follicles was proved (p-value: <0.05). The effect of these two regimen on endometrial quality (three layers, clear) was equal in 38 (84.4%) patients, three layers, semi clear in group A; 7(15.5%), group B; 5(11.1%), echoed pattern in group A; 0 (0%), group B; 2 (4.4%) but it was not meaningful on endometrial thickening (<8mm) (p-value: >0.05). From 11 patients with term pregnancies, 4 patients had endometrial thickness of greater than 8 mm. 7 cases had endometrial thickness between 4 to 7 mm.

Conclusion: These two regimens are more effective than administration of each drug alone. Fertility rate is favorable in two drug combination. OHSS is mild type that is low risk. Two-drug combination has had a desirable effect on follicular maturation and endometrial quality but it is not favorable effect on endometrial thickness. Add cabergoline to combination of drugs has no effect in preventing ovarian Hyper stimulation syndrome. Importantly, this method of treatment is low-cost, low complication and available. Therefore, it can be prescribed before the use of gonadotropins treatment. We expect a higher fertility rate. Therefore we strongly recommend further studies.

key words: Infertility, combination, letrozole, Tamoxifen, outcome.

P-35 Effect of subinguinal varicocelectomy on human sperm DNA, membrane integrity and semen parameters

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Introduction: Varicocele occurs in approximately 15% to 20% of the male population and it is the most common cause of poor semen.

It has been demonstrated that patients with varicocele have poor chromatin packing, DNA damage and nuclear anomalies than the healthy men. Therefore, the aim of this study was to evaluate sperm chromatin, membrane integrity and semen parameters in these patients after non microsurgical subinguinal varicocelectomy.

Materials and Methods: This study evaluated semen parameters , sperm DNA and membrane integrity before and 4 month after microsurgical varicocelectomy from 30 men with varicocele in center of infertility in Ahvaz Jundishapour University Medical Sciences. Parameters of semen were evaluated with WHO criteria. Sperm DNA integrity was analyzed by aniline blue and toluidine blue and membrane integrity was analyzed by coomassie blue. The slides were checked by light microscopy and to determine the percentage of mature or immature spermatozoa. 200 spermatozoa were counted in each slide.

Results: The percentage of positive aniline blue (AB+) and toluidine blue (TB+) significantly decreased following varicocelectomy (59.98% versus 57.08%, $P=0.047$ for TB+) and (57.08% versus 43.91%, $P=.039$ for AB+). The percentage of positive coomassie blue significantly increased (65.74% versus 82.85%, $P=0.01$). Morphology, count and motility of sperm showed improving after varicocelectomy but motility of sperm was not considered statistically significant.

Conclusion: This study suggests that microsurgical varicocelectomy can improve human sperm DNA, membrane integrity and semen parameters in men with varicocele.

Key words: DNA integrity, Membrane integrity, Varicocelectomy, Semen parameters

P-36 Hope in action: The explanation of infertile experiences from Assisted reproductive therapy: an emotional roller coaster: phenomenology study

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Background: Assisted reproductive treatments provide the hope of fertility for infertile couples, but do not always turn this hope into reality. Little study is known about the unique experience of this group from the women's attitude to ART(hope in action). The purpose of this study was to explore the lived experience of infertile women who use ART approach as a phenomenology study.

Material and methods: This is the qualitative study was performed on a population of infertile women who referring to infertility center in jahrom city (southern iran) by purposeful sampling. In this qualitative study , open and semi structured deep interview was performed on 21 infertile women who received ART and data gathering continued to the point of data saturation. We tried to analyze qualitative data based on valid criteria. Also confirmability , transferability , dependability of data was checked . Colaizzi's (1978) phenomenological methods were used to analyze transcripts of the interviews

Results: All about 93 cod gathered from data analysis ,4 main themes and 12 subthemes were emerged including Spiritual resources(To seek religious affairs, pilgrimage place) , family Support and empathy (family support , Couple interaction and empathy),Nature of the treatments(Low treatment success, Expensive treatments, lack of qualified doctors, multiple treatments, Centralized facilities), and Negative feelings(Unknown future, Fear and hope).

Conclusion: As a results, It seems that several factors in both positive and negative aspects effects to fertility treatments and may be a resource of challenge in these families. It is essential that counseling centers merge to infertility centers to reduce some of these problems **and** continue this way makes it easier for infertile couples.

Key words: Qualitative study, Hope, Assisted reproductive therapy, Infertile women

Appropriate interventions based on evidence require research to discover these women's needs.

P-37 Risk factors of endometriosis in infertile women

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Introduction: Endometriosis is one of the most common health problems of women during their reproductive age. It is defined as overgrowth of endometrial tissue outside the uterine cavity. Endometriosis may be asymptomatic or associated with several symptoms including menstrual cycle changes, dyspareunia, pelvic pain and infertility. The objective of present study was to determine the risk factors related to endometriosis among Iranian infertile women.

Material and Methods: In this case control study, infertile women who referred for laparoscopy to two referral infertility clinics in Tehran were studied. Women divided into case (women who had pelvic endometriosis) and control (women with normal pelvis) groups according to laparoscopy findings. In addition, stage I and II of endometriosis were considered as mild while stage III and IV were categorized as severe endometriosis. A questionnaire consists of demographic, menstrual and reproductive characteristics were completed for each patient. For bias prevention, all forms were completed by same midwife. Data analysis was done using analysis of variance (ANOVA) and chi-square test. In order to evaluate whether studied factors could predict the presence of endometriosis, logistic regression analysis was used.

Results: In present study, 403 infertile women were studied. Among them, 250 subjects (62%) had endometriosis (case group) and 153 (38%) had normal pelvic (control group). Among case group, 20.8% (n=52) were in stage I, 28% (n=70) had stage II, 32.8% (n=82) were in stage III and 18.4% (n=46) had stage IV endometriosis.

This study revealed that age, duration of infertility, BMI, duration of menstrual cycle, abortion history, dyspareunia, pelvic pain and family history of endometriosis are the independent predictive factors for any type of endometriosis. The AUC for this model was 0.781 (0.735-0.827) for any type of endometriosis.

Conclusions: It seems that any type of endometriosis could be predicted according to demographic, menstrual and reproductive characteristics of infertile women.

Keywords: Endometriosis, Risk factor, Infertility

P-38 Array CGH screening significantly increases implantation rates in FET cycles: a pilot study

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Introduction The remaining embryos after fresh transfer are normally selected for cryopreservation based on morphology assessment in IVF treatment. The current study investigated the efficacy of applying array comparative genomic hybridization (aCGH) in selection of euploid embryos for cryopreservation and implantation outcomes in subsequent FET cycles.

Material & methods Good prognosis patients (age<35, no prior miscarriage) undergoing fresh embryo transfer and having at least one remaining embryo for cryopreservation were offered enrollment in the study. Patients were randomized into two groups: Group A patients (n=55) had embryos assessed by morphology and then by aCGH. aCGH testing was performed on trophectoderm cells obtained through biopsy on day 5 post fertilization. Only euploid blastocysts with good morphology (≥3AA) were selected for cryopreservation. Group B patients (n=48) had embryos evaluated by morphology alone and all good morphology embryos were designated for cryopreservation. 14 patients in Group A and 21 patients in Group B who failed to conceive after fresh embryo transfer completed the FET cycles. After warming, 1 to 2 blastocysts were transferred to each patient. The percentage of embryos cryopreserved for each group and implantation rates per embryo transferred in subsequent FET cycles were compared between the two groups to determine the impact of pre-cryopreservation aCGH screening. Data was analyzed by Chi-square or Fisher exact test. A value of P<0.05 was considered statistically significant.

Results In Group A, 425 blastocysts were biopsied and euploidy was confirmed in 226 (53.1%). After fresh single embryo transfer, 64 (28.3%) remaining euploid embryos with good morphology were cryopreserved for 51 out of 55 patients (92.7%). In group B, 389 blastocysts were identified and a single top quality blastocyst was selected for fresh transfer. All patients in Group B (48/48) had at least one good morphology blastocyst remaining for cryopreservation. A total of 157 (40.4%) blastocysts were frozen in this group. There were significant differences in the percentage of cryopreserved blastocysts between Group A and Group B (28.3% vs. 40.4%, respectively, p=0.003). 14 patients in Group A and 21 patients in Group B completed the FET cycles. A significant higher implantation rates were observed in aCGH screening group compared to morphology assessment alone group (63.2% vs. 26.3%, respectively, P=0.016). The miscarriage rates decreased in aCGH screening group when compared to morphology assessment alone (0% vs. 15.4%, respectively, P>0.05) although the differences did not reach the significant level with the size of the samples.

Conclusions While aCGH is recently applied for aneuploidy screening in IVF, this is the first investigation into the impact of aCGH specifically on embryo cryopreservation and implantation outcomes in the subsequent FET cycles. Our data shows that incorporation of aCGH screening significantly increases implantation rates per embryo transferred while reducing miscarriage rates in the subsequent FET cycles. Further studies with a larger sample are needed to validate our pilot data.

P-39 A novel mutation in *SEPT12* in an azoospermic infertile man

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Introduction: Male infertility is a multifactorial disorder, which affects approximately 10% of couples at childbearing age with substantial clinical and social impact. In up to 55% of couples seeking medical attention, the male partner is diagnosed with spermatogenic failure, defined as one or more semen parameters falling below the WHO cut-off for normozoospermia. Spermatogenesis is governed by the parallel and serial actions of thousands of genes, alterations in any of them or their expression may cause spermatogenic failure. Recently, *SEPT12* has been reported as a critical gene for spermatogenesis. This gene encodes a testis specific member of SEPTIN protein family which is an essential component of annulus structure in mature sperm. It has been shown by investigators that the mRNA level of *SEPT12* decreased significantly in men with sterility resulting from inability to produce mature spermatozoa. So, it has been considered that *SEPT12* is crucial for the process of spermatogenesis in mammals.

Material & Methods: In the present study, genetic analysis of *SEPT12* coding region was performed on an infertile Iranian male with azoospermia, using PCR-Sequencing technique.

Results: Sequence analysis detected a novel mutation (c.G225A) in exon 3 of *SEPT12* gene, which theoretically changes Tryptophan-75 in primary amino acid sequence of *SEPT12* protein to a premature stop codon, resulting in a truncated nonfunctional polypeptide consisted of just one third of the normal *SEPT12* protein.

Conclusions: According to the critical role of *SEPT12* in spermatogenesis, the founded novel nonsense mutation might be responsible for some cases of idiopathic male infertility, the opinion requires more investigation.

Key words: Genetic mutation, *SEPT12*, male infertility.

P-40 Comparison of two different globozoospermia groups according to prevalence of round headed forms

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Introduction: Globozoospermia is one of the most severe form of sperm morphological defects which usually results in low fertilization. The aim of our study was to analyze and compare the ART outcomes of cases which are grouped according to the prevalence of round-headed spermatozoa in the initial semen samples.

Material&Methods: According to the round-headed sperm concentration in the semen, patients were classified into two groups: Group I consisted of 10 couples with 14 cycles with sperm sample containing >70% globozoospermic forms (between 70-100%). Group II included 21 patients with 27 cycles in which male partner was diagnosed as severe teratozoospermia and the abundance of round-headed forms were ≤ 70 . Semen samples of 7 patients in group I and 10 patients from group II were also analyzed with acridine orange staining method in order to assess the degree of nuclear maturity. In both groups the mean values of sperm concentration , motility ,round head shape , acrosomal content and other accompanying abnormalities such as macrocephalic and multiple head forms , mid-piece and tail defects were compared.

Results: No difference in sperm concentration and motility were observed ($p>0,05$). However, statistically significant differences were found in terms of spermatozoa having reduced acrosomal content, macrocephalic head, multiple head as well as mid-piece defects between these two globozoospermia groups ($p<0,01$). Low fertilization rate, which is a common finding for globozoospermia cases, were observed for both groups (21,3% and 39,9% for group I and group II respectively). Also, no significant difference was found between these two groups with respect to embryo developmental ability on each day starting from prezygote stage until embryo transfer, pregnancy rates and implantation rates ($p>0,05$). Spermatozoa of the patients from both groups were observed as having higher immature nuclear structures according to acridine orange test results.

Conclusion: Although the degree of dominance may differ in different semen samples, once it is the dominant form, presence of round-headed spermatozoa can equally and negatively affect the ART outcome in both groups.

Especially for teratozoospermia cases with the dominance of round headed spermatozoa, our results emphasize the necessity and the importance of detailed sperm morphology analysis before ICSI. Once fertilized, resulting embryos may develop normally and generate successful pregnancies. However, such patients should be informed about lower fertilization, embryo development and pregnancy rates.

P-41 Migration of intravenous transplantation of mesenchymal stem cells to splenic tissue following traumatic brain injury in rats

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Introduction: Traumatic brain injury (TBI) is the common cause of death and disability worldwide. Transplantation of mesenchymal stem cells (MSCs) may provide therapeutic benefit in TBI. It has been shown that these cells migrate to injured site, and some may migrate to intact tissues and induce harmful effects on body organs. The aim was investigate the migration of MSCs in brain as injured area and spleen that was intact in this study.

Materials and method: Male rats were divided into 2 groups of TBI + MSCs (experimental) and control group that only received MSCs. TBI was done based on model of foda-marmarou. Both groups received 3×10^6 MSCs of rats via tail vein. MSCs were labeled with bromodeoxyuridine (BrdU) 48h before intravenous injection. 14 days after intravenous transplantation of MSCs, animals were perfused and brain and spleen were removed. Immunohistochemistry was used to identify MSCs distribution in both cerebral and splenic tissues.

Results: Significantly, more BrdU-positive cells were located in brain of experimental group than in control brain. (40.8 ± 4.5 vs. 10.3 ± 5.6 $p < 0.05$). The MSCs prefer to accumulate in spleen of control group, also considerable amount of cells founded in spleen of experimental group.

Conclusion: Intravenous administration of MSCs is a good strategy for therapy in TBI. However, the cells migrate to other non-cerebral tissues such as spleen. Accumulation of these cells in intact tissue may threaten recipient's health.

Key words: traumatic brain injury- mesenchymal stem cells- intravenous transplantation- spleen

P-42 The association of Herbal regimes and OHSS

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Introduction: Ovarian hyperstimulation syndrome (OHSS) is an iatrogenic complication that occurs in the luteal phase of an induced hormonal cycle. In most cases, the symptoms are self-limited and spontaneous regression occurs. It is supposed to be a complication from some forms of fertility medication. The aim of this study is to assess the association of herbal regimes and OHSS.

Method: this is a clinical trial study. 86 patients were referred to Dr. Rasekh clinic from Aug 2011 to Aug 2012. A list of Herbal regimes are recorded that they are consuming. All patients had a vaginal ultrasound before the diagnosis of ovarian hyperstimulation syndrome (OHSS). After a vaginal ultrasound, the diagnosis was OHSS pattern. Data was analyzed by SPSS 15 software.

Result: All of the 86 cases were married. The age range between 18-51 years (mean:31). 54% of cases didn't have history of infertility, 36.5% were diagnosed with primary infertility and 9.5% with secondary infertility. The Herbal regimes were used by the 86 patients include: nigrum (pepper) 56%, zingiber officinale (ginger) 30.2%, cinnamomum verum (Cinnamon) 25.6%, thymus vulgaris (Thyme) 19.8%, carum carvi (cumin) 18.6%, matricaria recutita (Chamomile) 15.1%, thethum graveolens dhi (dill) 14%, corocus sativus (saffron) 14%. Consumption period was from third to eighth day of menstrual cycle for 1 to 4 months. 32 (37.2%) patients were normal BMI (18.5-24.09), BMI 34 (39.5%) patients <18.5, BMI >24.09 in 15 (17.4%) patients, BMI >30 in 5 (5.8%) patients. Dosage of herbal regimes is One tablespoon (3g) of each of them. 80 (93.02%) individuals consumers of herbal regimes were mild OHSS, 5 (5.8%) Moderate OHSS, 1 (1.1%) severe OHSS.

Conclusion: From this research, we concluded that the indiscriminate use of herbal regimens can lead to OHSS. Important point that the standpoint of patients taking herbal diet is considered unimportant. Some of patients have been used herbal regimens in combination of chemical drugs. In many patients could hardly be aware of their herbal regimes, because they were unwilling to uncover their secrets. We hope to obtain the appropriate dosages of herbal regimes that is safe and could be replaced by synthetic drugs with high side effects. Because the patients tend to consume herbal regimes a lot.

Key words: association, Herbal, regimes, OHSS

P-43 Comparison of the characteristics of PCOS patients with other researches

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Introduction: Polycystic ovary syndrome is one of the most common endocrine disorders that diagnosed by tree criteria; chronic anovulation, clinical evidence of hyperandrogenism or hyperandrogenemia Hyperandrogenism is characterized clinically by hirsutism, acne, and androgen-dependent alopecia and biochemically by elevated serum concentrations of androgens, particularly testosterone and androstenedione. Obesity is seen but not universal. Typically, these features are associated with hypersecretion of luteinizing hormone and androgens but with normal or low serum concentrations of follicle-stimulating hormone.

Transvaginal ultrasound examination typically reveals ovaries that are modestly enlarged and contain numerous small follicles aligned in the periphery. The aim of this study is Comparison of the characteristics of PCOS patients with other researches.

Method and material: This is a clinical trial study. The statistical population is 60 patients with PCOS in clinical appearance. Their history concentrate on menstrual cycle, hirsutism, infertility, and their hormonal lab data such as FSH,LH. Transvaginal ultrasound examination was done for all of them.

Result: From the 60 cases, 14 person (23.3 %) were single ,46 person(76.7%) married. The age range were between 17-34(mean 25.17).12.7 % of the cases had regular menstrual cycle while 87.3% experienced irregular menstruation.50%of the cases had oligomenorrhea ,64% hirsutism and 50% Of them LH/FSH>2.

Among married cases, 7.5 % were fertile, 67.5% primary infertility and 25% secondary infertility.

43% of the cases had BMI>24.9(over weight and obese) , 57% of them in BMI 15-20. All of them were PCOS pattern in their ultrasound examination.

Conclusion: Although obesity was known as a prevalent factor in PCOS by the previous investigations. This study indicates that less than half of the cases were obese. Accordingly in our region there are another factors affect in PCOS such as genetic, nutrition and geographic area. so using usual treatment for this cases accompanied by complication such as OHSS. Therefore the treatment of this patients should be administered cautiously for safety doses and duration because of irreparable effects. It is suggested more studies.

key words: Comparison, characteristics, PCOS

P-43 The effect of in-vitro application of pentoxifylline on human sperm DNA integrity

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Background: Pentoxifylline (PTX) is a methylxanthine derivative which has been stated to enhance motility of human spermatozoa both in vivo and in vitro. Hence, It is suggested to use in ART for male factor infertility e.g. asthenozoospermia. But, probable effect of this drug on sperm DNA integrity in unknown. The objective was to evaluate the impact of in-vitro application of PTX on sperm DNA integrity.

Materials and methods: Thirty-eight asthenozoospermic patients were selected for this prospective study. After direct swim-up, specimens were aliquot into two groups of treatment and control. In treatment group, 3.6 mM PTX was added to sperm medium. All samples were incubated in 37° C for 45 min. Then, sperm parameters as well as sperm DNA fragmentation were compared between two groups. DNA fragmentation assay was done by sperm chromatin dispersion (SCD) test.

Results: PTX significantly improved progressive motility in treatment group compared to control (85.76±5.96 Vs 79.44±9.37, respectively). Also, there was significant difference for viability test between treatment group and control (87.71±8.29 Vs 83.5±9, respectively). Besides, sperm DNA fragmentation was higher in treatment group compared to control (23.36±10.25 and 18.5±8.74, respectively, P<.0001).

Conclusions: Although PTX can improve sperm motility, but may have some negative effect(s) on sperm DNA quality. Further studies are necessary in order to elucidate the safely of PTX for use in ART clinic.

P-44 Effects Of Maternal Exposure To Methamphetamine In Different Pregnancy Periods In Mice

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Introduction: Methamphetamine (METH) is a neurotoxic drug and addictive central nervous system stimulation which is widely abused by pregnant women. METH crosses through the placenta. Clinical studies showed that exposure to METH during pregnancy, was effect on fetal development in humans. In the present study, we were evaluated the histological changes of mice fetal brains which were exposed (meth) *in uterus* during different pregnancy period.

METH exposure on prenatal brain development in mice.

Methods: We were used thirty two NMRI female mice (8-12 week-old) and were divided to four groups. The first and second groups of pregnant mice were injected METH subcutaneously at a dose of 10 mg/kg/day during gestational day (GD), from 1 to 7 and 7 to 14 days respectively. The third group was administered METH at similar dose during 1 to 14 days and control group was received saline. On GD 14, fetuses of all groups were getting out and weighted. Crown–rump length of fixed fetuses in formalin and circumference of head fetuses were measured with caliper and were evaluated abnormal morphology by Hematoxilin-Eosin staining.

Results: We found various types of morphological damages in METH fetal brains, including exencephaly, cleft palate and hemorrhage and in some cases, also were observed premature fetals. Only fetuses in forth group was showed lower body weight compared to control group significantly ($P<0.001$). Maternal body weight was not significant difference between groups. Measurements showed Length of fetal body size in forth group was significantly decreased in first group compared to control group ($P<0.05$), head circumference in forth group not shown significant difference compared other groups.

Conclusion: We concluded that METH use during pregnancy can cause histological brain alterations in fetuses, which neurotoxicity might be related to reactive oxygen species and can damage development of brain fetus. Lower body weight gain, it could be caused by the pharmacological action of METH, which increases the metabolism and decreases appetite. The toxicity mechanisms of METH are not well characterized in humans.

Keyword: Methamphetamine, fetal brain, fetus, mice

P-46 ‘COH-IUI’ in patients with minimal or mild endometriosis

Mahbod Ebrahimi

Introduction: Sever endometriosis is one of cause of female infertility. Association of between minimal or mild endometriosis and infertility has not been completely established. The aim of this study was to compare the results of COH-IUI cycles in minimal or mild endometriosis and unexplained infertility.

Study Design: A prospective study, between October 2008 and October 2011 in academic reproductive endocrinology and infertility center. Two groups of patients undergoing stimulated IUI cycles were compared, thirty-four infertile couples with mild endometriosis as the sole cause of infertility in the group (I), and thirty-four couples with unexplained infertility in the group (II). The patients underwent 3 consecutive ovarian hyperstimulation (Clomiphen citrate and human Menopausal Gonadotropin) and IUI cycles. The main outcome measures were cumulative pregnancy rates (CPR) per patient for 3 consecutive stimulated IUI cycles. For statistical analysis Fisher exact test, Chi-squared test and independent T -test were used.

Results: Cycle characteristics were found to be homogenous between the both groups. CPRs were similar in the group I (7/34, 23.5%) and the group II (8/34; 20.6%) ($P=0.7$)

Conclusions: Both groups with minimal or mild endometriosis and unexplained infertility did not have any difference in response to COH-IUI. So, performing laparoscopy and other invasive procedures, in order to differentiate between minimal or mild endometriosis and unexplained infertility, is not recommended.

Key Word: Endometriosis, intrauterine insemination, ovarian Stimulation, unexplained infertility,

P-47 Health-related quality of life and first time pregnancy: a comparative study of normal pregnancy and pregnancy by assisted reproductive technique (ART)

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Background: Childbearing for the first time is a unique experience. This study aimed to assess quality of life in women who become pregnant by ART and had successful delivery for the first time, and to compare it with quality of life in women who become pregnant normally and similarly had successful delivery for the first time.

Methods: This was a cross section study of primipara women in order to compare health-related quality of life in those who had normal pregnancy and those who received assisted reproductive technique (ART). The sample was recruited from patients attending to Royan Institute and obstetric and gynecology clinics in Tehran, Iran

during March 2010 to March 2011. Quality of life was assessed using the SF-36. Women completed the questionnaire at two points in time: last trimester, and first month after delivery.

Results: In all 276 patients were approached. Of these 162 women (76 women in normal pregnancy group and 86 women in assisted reproductive technique group) and were entered into the study. Comparing the SF-36 scores between women in normal pregnancy group with ART group before childbirth it was found that normal group had better condition on physical functioning, role physical bodily pain and social functioning while the ART group reported better status on general health, vitality, role emotional and mental health. However, after childbirth the ART group reported a better condition almost on all measures except for physical functioning. Comparing score differences between two groups before and after childbirth, the results showed that improvements in health related quality of life measures for the ART group were greater in all measures expect for general health.

Conclusion: The findings from this study suggest that health-related quality of life improves in women who became a mother for the first time by either ways. Compared to women who became mother by normal conception, women who receive ART might show more benefit from this first successful experience.

Keywords: Quality of life, FS-36 questionnaire, Infertility, Pregnancy, Childbirth

P-48 Ivm for pcos in the developing countries, is it a dream?

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Introduction: Although the IVF was introduced to safe the human race and preserve fertility, yet it is still the reason that some women losses their lives because of side effects of drugs used to increase the success rate. IVM research work started since 1935 to avoid this complication beside elimination of any risk of ovarian cancer that may result from the use of ovulatory drugs. In our study we will try to evaluate the IVM cycles and if is it applicable in our developing countries.

Patient and methods: This study was conducted in Mansoura university hospital, Mansoura, Egypt in collaboration with fertility clinic Herlev university hospital, Copenhagen, Denmark, and included 40 IVM cycles from 33 PCOS patients complaining of infertility, patients priming was done using FSH 150 iu for three consecutive days starting from day 3 of the cycle, oocyte retrieval was carried out on day cycle 8-9 when the leading follicle reached 10-14 mm with endometrial thickness at least 5mm Evaluation of IVM cycles was done regarding cycle outcome, developmental competency of immature oocytes, cost and length of IVM cycles compared to routine IVF cycles.

Results: 204 oocytes were aspirated in 35 cycles (5 cycles cancelled),114 oocytes reached maturity(51%),78 oocytes fertilized(75%) ,57 oocytes cleaved(73%),36 oocytes were top quality embryos(63%),31 embryos transferred and 5 were cryopreserved.4 pregnancies resulted (11%). No complications reported in all IVM cycles. IVM cycles were with reduced cost and length by almost 1/3 for the first and 1/2 of the second than routine IVF cycles.

Conclusion: Although IVM seems to be ideal practice for PCOS patients in the developing countries as it eliminates risk of ovarian hyper stimulation syndrome, clears the mind from any suspicious of ovarian cancer, reduce the cycle cost and length, can be used for fertility preservation in cancer patients, and although 1500 baby delivered by IVM cycles yet it needs more work and support to flare up in the IVF world.

Key words: PCOS, IVF, IVM.

P-49 Psychological aspects and marital satisfaction level of fertile women following IVF cycle, infertile and fertile women (normal)

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Introduction: Infertility affects women and men in reproductive ages and causes many major psychological and emotional problems. For this reason, in International Conference on Population and Development (ICPD) which was held in Cairo in 1994, infertility has been identified as a factor that has destructive effects on reproductive health. The World Health Organization (WHO) also has identified infertility as a reproductive health disturbance. Infertility has traditionally been viewed as a female problem and women have been expected to suffer greater psychological distress due to infertility.

Material & methods: The aim of this study, is evaluation of emotional and psychological problems of infertility between healthy women (that achieve pregnancy without any treatment), infertile women (that despite of ongoing treatment, couldn't achieve pregnancy yet), and women that pregnant due to IVF cycles). Number of cases in each group is 50.

The instruments used were, SCL_90_R Questionnaire and Enrich Couple Scales. Results were obtained by using one-way ANOVA, and multivariate regression.

Results : In this study infertile women showed higher level of anxiety than other groups. Fertile women who IVF showed higher levels of aggression and paranoid ideation than another groups and level of depression in infertile was higher.

Also, marital satisfaction level of the fertile women was higher than other groups.

There is significant relationship between psychological characteristics of women and marital satisfaction level.

Conclusions: Psychological and emotional disorders of infertile women and women that achieved live birth due to IVF clearly show necessity of psychological consulting in the ART center for supporting of emotional aspect of infertile women life.

P-50 Evaluate differences in pregnancy characteristics and birth outcomes of adolescent versus adult women in Iran.

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Introduction: Teenage pregnancy, a social problem distributed worldwide, has serious implications on maternal and child health, especially in the context of developing countries. Approximately 10% of all births occur in teenage

mothers worldwide. This is of serious concern because maternal age plays a significant role in adverse outcome and complications of pregnancy. The aim of the statistical analysis was to evaluate differences in pregnancy complication and birth outcomes of adolescent versus adult women.

Materials and Methods: This is a cross sectional study was conducted between April 20011 and september 20011 using 2049 pregnant women, who attended to paymaneh Hospital.

The study group consisted of teenage mothers between 15-19 years old who were admitted to and delivered in the hospital during the study period, who were compared with group of mothers between 35-45 years old who were admitted to and delivered in the same hospital during the same period. The outcome measures were, maternal haemoglobin at delivery, IUGR, birth weight, hypertension, gestational diabetes. We compared these outcome measures in teenagers with Adult mothers aged 35 to 45 years. The data were analysed by Fisher Exact Test, χ^2 , t-test using SPSS software program and the significance level was based at $P < 0.05$.

RESULTS: Among 2049 pregnant women at this hospital, 154 cases were under the age of 19 years. Frequency of adolescent pregnancy was 7.6%. There was no teenage mother aged less than 15 years. Their mean (\pm SD) age was 18.22 ± 0.97 years.

196 cases were above the age of 35 years. Their mean (\pm SD) age was 37.07 ± 2.01 year.

The prevalence of anemia was significantly higher ($p = 0.000$) in the women in the adult group (13.3%) than in the women in the teenager group (2%). The incidence of low birth weight was significantly higher ($P = 0.02$) among the group of adult (8.2%) than among the women in the teenager group (6.8%).

The prevalence of IUGR ($P = 0.018$), hypertension ($p = 0.006$), gestational diabetes ($p = 0.04$), was significantly higher in the women in the adult group than in the women in the teenager group.

Conclusion: The findings of this study indicate that the reproductive age range pregnancy has many complications for mothers and baby. The prevention of pregnancy in high-risk age is first step.

Keywords: Anemia, complications, low birth weight, teen pregnancy, adult pregnancy.

P-51 Homocysteine and malondialdehyde levels in seminal fluid and their influence on sperm quality

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Introduction: Homocysteine is a naturally occurring sulphur containing amino acid that is produced during the metabolism of methionine. Dietary methionine is converted to S-adenosyl methionine, which is then demethylated to S-adenosyl homocysteine (SAH). SAH is hydrolyzed to homocysteine and adenosine (Radwell VW, 2000). Homocysteine is involved in a complex and dynamic vascular injury and repair system (Vaccaro et al., 2000)

Deficiencies of the vitamins folic acid (B_9), pyridoxine (B_6), or B_{12} can lead to high homocysteine levels (Miller et al., 1994). However, supplementation with pyridoxine, folic acid, B_{12} or trimethylglycine reduces the concentration of homocysteine in the bloodstream (Coen et al., 2001). Although, there was a correlation between low folate in seminal plasma and increased sperm DNA damage in a study by Boxmeer et al., 2009. There are few studies in the literature which report interactions between sperm quality, together with its severity and seminal plasma homocysteine levels.

Therefore, the purpose of this study is to determine the relationship between homocysteine and malondialdehyde concentration in seminal plasma of fertile and subfertile men, as biomarkers of oxidative stress on sperm quality count, motility, chromatin and membrane integrity and DNA fragmentation.

Material and Method: Semen sample of 48 male (fertile =19; subfertile =28) were included in this study. After semen liquefaction, semen samples were analysed according to WHO guideline (1999). Membrane integrity was assessed by (HOS-Test). Whereas, DNA integrity evaluated by Chromomycine CMA3 method and DNA fragmentation by TUNEL- Assay. Malondialdehyde (MDA) levels were measured by Thiobarbituric acid, TBA method and Homocysteine concentration was evaluated using high performance liquid chromatography (HPLC) technique.

Results: The mean values of spermatozoa concentration, motility and membrane integrity in all investigated samples were (58.20±54.40 mill/ml; 17.34 ± 23.98% and 76.51±15.02%). Homocysteine concentration was 20.2±4.9µmol/L, while Malondialdehyde level was 3.7±1.2µmol/L. However, semen concentration, motility, membrane integrity, DNA integrity and DNA fragmentation in subfertile group were (78.3±50.1mill/ml; 24.3±14.2%; 87.6±9.0%; 58.3±14.8% and 8.4±21.0% respectively) and the corresponding values of fertile group were (116.5 ±47.1mill/ml; 28.2±21.2% 81.6±11.6%; 67.9±10.2% and 8.7±25.1%).

Spermatozoa concentration, membrane (HOS-test) and DNA integrity (CMA3) from fertile group was significantly higher than those of subfertile group (p=0001). Homocysteine and malondialdehyde levels in seminal plasma were similar in subfertile and fertile groups (20.6±3.2 µmol/l; 3.9±1.3µmol/l vs. 19.6±6.6 µmol/l and 3.4±0.9 µmol/l).

Homocysteine levels correlate significantly negative with sperm concentration in both groups (r=-0.387; p=0.024). Similar was found between MDA level and DNA integrity (r=-0.390; p=0.4). However, Homocysteine levels correlate significantly with Malondialdehyde only in subfertile group (r=0.606; p=0.017).

Conclusion: Homocysteine and Malondialdehyde concentration in seminal plasma affect sperm parameters not only of subfertile but also by fertile group and should be recommended as oxidative stress biomarkers by semen evolution of patients undergoing ART therapy.

P-52 **Begin of human life: an Islamic perspective**

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Introduction: Assisted reproductive techniques and production of numerous embryos, which can be cryopreserved for years, has brought up a complex situation about the fate of supernumerary human embryos. Embryonic stem cells and hope of treatment of incurable disease made it even more complex. Iran is the only Islamic country that practices donation programs and also has human embryonic stem cell lines. Embryo donation can be another fate for the embryos. Here in this paper, we present the Islamic idea about the human embryos, when it becomes a complete human and as a result, the idea about using the embryos in research and therapeutic abortion.

Results: Pre implantation embryo is not considered as human or potential human and can be used in research with the permission of the parents. After implantation in the uterus, the embryo is considered a potential human. Before implantation embryos are just respectable because they have human origin like human organs. Islam believes in gradualness of the personhood, so, any manipulation of embryo in the uterus or abortion is considered a sin and has its own penalty according to the gestational age. After 120 days (for Shiaa Muslims) and 50 days (for Sunni Muslims), it is believed that ensoulment of the fetus happens, so the fetus is considered a complete human, and no abortion is allowed unless the mother's life is in danger. According to some of the Shiaa clergy leaders, before ensoulment, it is OK to do the therapeutic abortion if there is an absolute medical reason. Therapeutic abortion is defined as when the fetus has major abnormalities or diseases or the pregnancy has a great burden for the mother.

Authors Index

Abdel-Fatah, M.	O114	Elias, R.	O20-O94	Mosalanejad, L.	P10-P19
Abdul Salam, A.	O51	Elmetwaly, A.	O99	Nabi, A.	P11-P27
Abdullah, J.	O67-O69	Emam, M.	P21	Najjar, H.	O23-O56
Abed Reda, H.	O65	Evers, J.	O1-O71	Nassif, J.	O33-O35
Abou Jaoudeh, I	O37-O97	Fatemi, N.	O106	Nawfal, K.	O32-O34-O55
Abu khaizaran, A.	O58	Firozrezvan, M.	P14	Niknejadi, M.	P1
Afnan, M.	O21-O72	Gerris, J.	O11-O26	Omidi, M.	O111-P26
Ahmadi, F.	P16	Ghassemi, M.	O52	Parsanezhad, M.	O78
Ahmadi, S.	P47	Ghazeeri, G.	O77	Pellicer, A.	O60-O79-O92
Akbar, R.	P6	Gianaroli, L	O3-O15	Picari, M.	O68
Aldujaily, S.	O45-P12-P13	Gurgan, T.	O5-O93	Pourentezari, M.	O46
Alhalabi, M.	O27-O42	Halvaei, I	P8	Pourentezari, M.	P22
Alipour, F.	O49-P20	Hammadeh, ME.	O108-P51	Qasemi, S.	P44
Allahbadia, G.	O36-O95	Hanadi, H.	O113	RahimiPour, M.	P23-P24
Al-Shawwaf, T.	O63-O64	Hannoun, A.	O25	Rahmanian, S.	P33
Amichaghmaghi, E.	O105	Hojat, M.	P4	Ramadan, W.	O43
Anbari, F.	O11-P41	Hosseinpoor, M.	P31	Reza Talebi, A.	P2-P3
Ann Faye, S.	O90	Jahromi Athar, R.	O39-P18 P34-P42-P43	Rizk, B.	O-19
Ashoorzade, S	P7	Jahromi, G.	P49	Samani Omani, R.	O48
Azizolahy, S.	O47-P29	Jamali, S.	O50-P17-P50	Sanchez Martin, F.	O10-O80
Bagheri, Z.	P36	Javadpour, S.	O59	Santamaria Costa, J.	O2-O61-O88
Bahgat, N.	P48	Kabli, N.	O53	Saroufim, P.	O96
Barratt, C.	O16-O18	Kamal, O.	O57	Shahhoseini, M.	P39
Borjian, P.	P32	Loutradis, D.	O14-O28	Shams, A.	P30
Cengiz, F.	O38-O101-O104- P40	Mahdian, S.	O103	Shamy, M.	P15
Chaaban, M.	O54	Mahdinejad, N.	P28	Sharara, F.	O70-O75-O86
Chawla, M.	O40-O41	Makrigiannakis, A.	O81-O82	Swain, J.	O98
Coll, O.	O17-O66	Malekshah, M	P52	Talebi, A.	O44
Dahdouh, E.	O8	Malekzadeh, F.	P37	Talebi, S.	O109
Dattilo, M.	O29-O84	Mehr, A.	P45	Unlu, C.	O4-O6
De Ziegler, D.	O62-O76-O83	Meseguer, M.	O87-O89	Yang, Z.	P38
Delavar, M.	P5	Messinis, I.	O24-O85	Yazbeck, C.	O73-O91
Draycott, T.	O22-O31	Mjally, E.	O102	Yazdanpanah, F.	O110
Ebrahimi, M.	P46	Moghadam, T	P35	Youssef, A.	O9-O30-O74
Elbareg, A.	O7-O100	Mohsenzade, M.	P9	Zandieh, Z.	P25
Elgindy, E.	O107	Morton, C.	O12-O13		