

Abstracts of the 15th Congress of Iranian Society for Reproductive Medicine

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O-1

Hysteroscopic Direct Endometrial Embryo Delivery (DEED)

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Introduction: Prior to the Success of Blastocyst Subendometrial Embryo Delivery (SEED) versus the routine blind transfer technique of catheter, introduction into the uterine cavity has been previously reported. This technique appears to increase pregnancy rates while reducing the side effects. We set out to use a similar technique, which utilized a flexible mini-hysteroscope with a flexible catheter for direct delivery of embryo(s) at the 4-12 cell stage onto the endometrium under direct visualization.

Objective: Since the traditional embryo transfer technique is 'blind' and may contribute, in part, to the failure of implantation in many IVF cases, we sought to develop a procedure that allows placement of embryo(s) at the desired location in the uterus under direct visualization". To provide an objective, visually confirmed, replicable technique for embryo transfer.

Materials and Methods: 13 consecutive patients, with the infertility of various origins (average age = 37.6 years), underwent hysteroscopic DEED on day 2 or 3 after fertilization. Controlled ovarian hyperstimulation was done using standard protocols. Transvaginal oocyte retrieval was performed under local anesthesia with mild sedation. All women received some type of luteal support, be it progesterone or hCG. Oocytes were fertilized and cultured in a human tubal fluid formulated medium at 37 °C and 5% CO₂ in air. Embryos were transferred after 48-74 hours post fertilization.

Results: Nine (9) pregnancies were ensued (7 clinical and 2 biochemical). There was no incidence of uterine scratching, bleeding, or ectopic pregnancy. Of note, neither placenta accrete and percreta nor pregnancy-associated-hypertension occurred. There was 1 twin pregnancy.

No. of patients started	13
No. of patients Cancelled	1
No. of Oocytes Retrieved (Average)	8.4 (7-14)
No. Embryos Tx (Average)	3.4 (3-4)
No. Pt. Pregnant	9
No. Biochem	2
No. Clinical	7
Twins	1
Singletons	6

Conclusion: Together, these preliminary data suggest hysteroscopic early embryo transfer results in a high pregnancy outcome. The accuracy of the procedure is beneficial to patients who have experiences of difficulty in ET.

Key words: Embryo, Transfer, Hysteroscopy.

O-2

PCOS, still a debate

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PCOS is a syndrome recognized from half a century, but still there are many points unclear in its clinics and management.

What to do with PCOS in adolescence?

When does PCOS pathophysiology start?

Can we prevent it from childhood or it goes back to the intrauterine life?

What is the best way to subside insulin resistance?

Where and when is the place of drug therapy to reduce insulin resistance? Is it not better to start with diet and exercise instead of using drugs?

Which diet is better?

How can we treat the infertility?

Which kind of treatment for the ovulation induction is more effective?

What to do to prevent metabolic syndrome? What's the place of life style in metabolic syndrome?

O-3

Oxidative stress and antioxidants: exposure and impact on female fertility

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Introduction: Reproductive failure is a significant public health concern. Although, relatively little is known about the factors affecting fertility and early pregnancy loss, but a growing body of literature suggests that environmental factors and lifestyle plays an important role. There is sufficient evidence to hypothesize that diet, particularly its

constituent antioxidants, and oxidative stress (OS) may influence the timing and maintenance of a viable pregnancy. We hypothesize that conditions leading to OS in the female affect time-to-pregnancy and early pregnancy loss.

Materials and Methods: We review the epidemiology of female infertility related to antioxidant defenses, oxidation and examine the potential sources of OS from the ovarian germ cell through the stages of human pregnancy and its complications related to infertility. Articles were identified through a search of the PubMed database.

Results: Female OS is a likely mediator of conception and threshold levels for OS exist, dependent on anatomic location and stage of preconception.

Conclusion: Prospective pregnancy studies with dietary assessment and collection of biological samples prior to conception with endpoints of time-to-pregnancy and early pregnancy loss are needed.

Key words: Antioxidants, Female Infertility, Oxidative stress.

O-4

Study of the risk factors of premature ovarian failure

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Introduction: Premature ovarian failure (POF) is a disorder characterized by cessation of menstruation before the age of 40 years. The causes of POF are extremely heterogeneous. Acquired forms such as those occurring after treatments for neoplastic diseases or autoimmune diseases account for many cases. POF has a strong genetic component with X chromosome abnormalities. It has been proposed that some environmental factors and dietary habits may play a role in this regards. This study was aimed to evaluate the probable risk factors of POF.

Materials and Methods: In a cross-sectional, analytically-descriptive setting, 80 women with amenorrhea and/or infertility age of 40 years or less were recruited in Tabriz Alzahra Hospital and infertility clinics during a 13-month period. Two separate measurements of serum FSH confirmed the diagnosis of POF in these patients (FSH>30IU/L). Eighty other women, without amenorrhea or infertility, enrolled as healthy controls. Probable risk factors were compared between the two groups.

Results: A positive history of previous operation on ovaries, presence of similar signs and symptoms in patient's sister, lower age of maternal menopause and red or fish meat-insufficient diets were independently related to POF comparing with the healthy counterparts. In multivariate study, red or fish meat-insufficient diets were the sole independent predictors of POF. There were no significant differences regarding the location of inhabitation, smoking, living around high-pressure electricity poles or industrious areas and the use of cell-phones between the POF and the healthy groups.

Conclusion: To our knowledge, the current study is the first one to focus on the environmental and dietary risk factors related to POF. Furthermore, controlled studies are recommended to be carried out.

Key words: Premature ovarian failure, Diet, Environment.

O-5

Survey of relative frequency of pathological results of endometrial biopsy of infertile women undergoing laparoscopy at Al-Zahra Hospital, Rasht

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Introduction: Infertility has been defined as the failure to undergo pregnancy followed by sexual intercourse without the prevention methods for one year that involves nearly 10-15% of couples. Gynaecology and Obstetrics laparoscopy is used for direct observation of pelvic and peritoneal cavity. Endometrial biopsy is relatively cheap, performed with a curette in the time of laparoscopy and evaluates response of endometrium to ovarian activity and uterine causes of infertility such as inflammation, polyp, fibroma and malignancy.

Objective: The aim of this study was to determine the endometrial biopsy results in infertile women who underwent laparoscopy and biopsy during the study period.

Materials and Methods: The files of all women underwent laparoscopy and biopsy, hospitalized in this center from April 2005 –to September 2006, were studied.

Necessary data including: pathological results of endometrial biopsy, demographic data, history of obstetrics and surgery, *etc.* were elicited from the files and recorded. Finally, collected data were analyzed by SPSS software.

Results: Biopsy results of 143 infertile women were: 72 cases (50.3%) proliferative endometrium; 40 cases (28%) luteal endometrium; 5 cases (3.5%) malignancy; 5 cases (3.5%) polyp; 5 cases (3.5%) leiomyoma; 4 cases (2.8%) hypoplastic endometrium; 1 case (0.7%) endometritis and 11 cases (7.7%) insufficient samples. 52 cases of infertile women had polycystic ovary syndrome (36.4%).

Conclusion: According to the results of this study, performing endometrial curettage should be regarded as a part of infertility evaluations during laparoscopy. The chance of pregnancy is increased by diagnosis of the cases such as polyp and leiomyoma; furthermore, the discovery of malignancy cases results in on-time treatment of patient.

Key words: Pathology, Endometrial biopsy, Female infertility.

O-6

Comparison of Letrozole and Clomiphene citrate in women with polycystic ovarian syndrome undergoing ovarian stimulation and intrauterine insemination

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Introduction: Polycystic ovarian syndrome is one of frequent causes of infertility. In PCOS, the ovaries start secreting slightly more androgens. This may cause to stop ovulation, irregular menstrual periods and infertility.

Materials and Methods: To compare effects of two ovulatory agents (Letrozole and Clomiphene citrate), sixty infertile women with PCOS, eligible for ovulation induction and IUI, were divided randomly in two groups. First group received two Letrozole tablets (5mg) between cycle days 3 and 7 and second group was administered by two Clomiphene citrate (100 mg) between cycle days 3 and 7. All patients were administered two ampoules of HMG (350 IU) per day between cycle days 8 and 11. Transvaginal sonography was done for them at 11th day of cycle and the number of mature follicles, size of dominant follicles and endometrial thickness was measured. Two hCG ampoules (10000 IU) were administered on appropriate times and IUI was performed 36 hours later.

Results: Numbers of mature follicles (9.5 ± 6.88 in Letrozole vs. 8.79 ± 5.53 in Clomiphene), size of dominant follicles (16.09 ± 2.86 vs. 15.27 ± 1.77), easy performance of IUI (90.5 vs. 89.7), incidence of OHSS (19% vs. 13.8%), pregnancy rate (14.28% vs. 6.9%), endometrial thickness (8.64 ± 1.72 vs. 7.82 ± 1.82) and rate of miscarriage (6.9% vs. 4.76%).

Conclusion: At first step of examination, it seems rate of pregnancy is higher in Letrozole group. Rate of miscarriage also seems higher in Clomiphene group but based on statistical outcomes, there is no difference between two groups and variations are insignificant. Recently published studies imply that Letrozole may have teratogenic effects so it is better to wait for the results of more studies about its effectiveness. Therefore, clomiphene citrate stays as first choice treatment of anovulatory infertility and PCOS.

Key words: PCOS, Letrozole, Clomiphene citrate.

O-7

Hysterosalpingography study uterine and tubal abnormalities in infertile women

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Introduction: Hysterosalpingography is a radiographic examination of endocervical canals, uterine cavity and fallopian tubes with the use of a radiographic contrast medium. The goal of this study was to evaluate the hysterosalpingographic features of women with infertility.

Materials and Methods: The study included hysterosalpingograms of 100 infertile women who were referred to the hospitals affiliated to Tabriz University of Medical Sciences, Iran, from January 2007 to June 2008.

Results: The obtained findings were abnormal in 42% of cases. 79% had primary infertility. Abnormal uterus was seen in 25% and abnormal fallopian tubes in 21%. Abnormal uterine shape and tubal blockage were the commonest abnormal findings regarding uterine and fallopian tubes.

Conclusion: In sum, the uterine abnormalities were more than tubal abnormalities and pelvic inflammation disease was the most common cause of abnormality.

Key words: Hysterosalpingography, ART, Congenital uterine anomaly.

O-8

Comparison of the oral estrogen and later dose injection of Depomedroxy progesterone acetate (DMPA) in the treatment of abnormal uterine bleeding after the use of DMPA

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Introduction: Depomedroxyprogesterone Acetate (DMPA) is one of the long-acting methods of Contraception. It is usually administered intramuscularly (150 mg) after every 3 months. Its efficacy is the same as IUD and sterilization, but problems of spotting and amenorrhea have been seen after dosage. During the first 6 months of use, it often leads the women to discontinue the treatment. So, we take a decision to find an absolute way of treatment of these problems to prevent the discontinuation of this contraception effective method.

Materials and Methods: This clinical trial study was excersiced, in 2006-2007 in Zahedan, on the women in reproductive ages who were referred to obstetric clinics and had regular menstruation before receiving DMPA and abnormal uterine bleeding (AUB) such as; spotting or metrorrhagia after its use, selected and divided in two equal groups randomly. In first group, we prescribed oral conjugated estrogen 1/25 mg daily, and in second group, 150 mg intramuscular DMPA (its later dose) and work up our patients for two weeks. We used SPSS software and analyzed data by *Chi square* and *t*-test and considered significant differentiations if P-value was ($p < 0.05$).

Results: In 23 cases (58.9%) of patients treated with oral estrogen, AUB was stopped in average 5 days whereas in 33 cases (84.6%) of patients treated with the injection of later dose of DMPA, it stopped in average 2 days. So, their differentiation was significant ($p < 0.05$).

Conclusion: Treatment of abnormal uterine bleeding (AUB) after injection of DMPA with the injection of its later dose is more effective than oral estrogen.

Key words: Abnormal Uterine Bleeding, Depomedroxyprogesterone Acetate, Conjugated Estrogen.

O-9

GnRH antagonist/Letrozole versus microdose of GnRH agonist flare protocol in poor responders undergoing IVF

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Introduction: Failure to respond the controlled ovarian hyperstimulation is still a major concern in ART. In a prospective randomized controlled trial, we compared the efficacy of a microdose GnRH agonist flare with a GnRH antagonist/letrozole protocol in poor responders undergoing IVF.

Materials and Methods: 94 poor responder patients were randomized to an ovarian stimulation protocol with either letrozole and high dose FSH/HMG and flexible antagonist regimen (group 1) or microdose GnRH agonist flare protocol (group 2).

Results: The mean age, BMI, cause and duration of infertility, day 3 FSH and E2, duration of stimulation, gonadotropin dose, number of oocytes, endometrial thickness, fertilization rate, number of embryos transferred, embryo quality and implantation rate were similar in both groups. Mean serum E2 level, on the day of hCG administration, was higher in group 2 (951 pg/ml vs. 584 pg/ml). Total cancellation rate was 25.71% in group 1 vs. 12.82% in group 2 and clinical pregnancy rate in group 1 was 5.71% vs. 12.82% in group 2.

Conclusion: The addition of letrozole to the antagonist regime for poor responders doesn't improve outcome of ART cycles. Micro dose of GnRH agonist flare protocol remains the regime of choice in poor responders.

Key words: GnRH antagonist, Letrozole, IVF.

O-10

The effect of ritodrin on implantation rate in IVF-ET patients

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Introduction: One theory for the failed implantation after ET implantation is uterine contractions. Therefore, inhibition of contraction can improve success rate of the ET. The aim of this study was to evaluate ritodrin effect on implantation rate.

Materials and Methods: In a controlled clinical trial, 106 patients of IVF+ET were divided into two groups. In case group I, 200 mg ritodrin was prescribed after ET for one week. The pregnancy rate was compared in two groups by \hat{I}^2 HCG titer.

Results: Pregnancy rate in case groups were 13.2% and in the controls were 15% that was statistically non-significant.

Conclusion: Uterine contractions have not effect on implantation rate.

Key words: IVF+ET, Implantation rate, Ritodrin.

O-11

GnRH agonist long protocol versus GnRH antagonist protocol in the first cycle of ART

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Introduction: The aim of this prospective study was to evaluate the efficacy of gonadotropin releasing hormone (GnRH) antagonist in comparison with the standard long protocol in the first cycle of ART

Materials and Methods: We randomized 120 patients undergoing ART for the first time. Included criteria were FSH<10 IU and age <35 years; excluded criteria were endocrine abnormality and polycystic ovaries. Group 1 (n=60) was stimulated with a standard long protocol and group 2 (n=60) received GnRH antagonist.

Results: There was no statistically significant difference in the age, infertility duration, basal FSH, BMI, the number of oocytes retrieved, embryo transferred, endometrial thickness, ovarian hyperstimulation syndrome and clinical pregnancy in two groups. Serum estradiol and consumption of gonadotropins were significantly lower in the antagonist protocol.

Conclusion: GnRH-antagonists are effective, safe and well tolerated alternative to agonists in the first cycle of ART.

Key words: Pregnancy rate, Gonadotropin releasing hormone, ART.

O-12

The effect of Estradiol as luteal phase support on pregnancy rate in IVF/ICSI cycles

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Introduction: Progesterone is used for luteal phase support and improvement of implantation

while there is controversy about using estradiol. The aim of this study was to evaluate the effect of adding estradiol to progesterone as luteal phase support in IVF/ICSI cycles.

Materials and Methods: In this case control study, infertile women less than 38 years of age, the candidates of ART cycles, were enrolled between June 2002 and December 2004 at Royan institute. Exclusion criteria consisted of high grade endometriosis, uterine pathology, serum estradiol level more than 3000 pg/ml on hCG administration. Long GnRH agonist protocol was used for ovarian stimulation. For luteal phase support, patients were randomly divided to two groups: group 1 (Placebo) consisted of patients who received vaginal supposition of progesterone supplementation of 400 mg BD on the day of oocyte retrieval until tenth week of pregnancy plus placebo. In second group, Estradiol Valrate 4 mg was initiated orally with progesterone.

Results: Sixty seven patients (27 patients in Estradiol group and 40 patients in placebo group) were studied. There were no significant differences between two groups about demographic characteristics, Estradiol level on hCG day, 7th and 12th day after embryo transfer and progesterone concentration on hCG day 7, 10 and 12th after embryo transfer. While estradiol level on 10th day after embryo transfer was statistically significant between two groups. Pregnancy rate was also similar between two groups.

Conclusion: The role of progesterone as luteal phase support in ART cycles is well determined. There is controversy about adding estradiol for luteal phase support in cycles using GnRH agonist. In present study, adding estradiol as luteal phase support, did not affect on pregnancy rate.

Key words: Assisted Reproductive Technology (ART), Estradiol, progesterone, Luteal phase support.

O-13

A randomized, controlled clinical trial comparing the effects of aromatase inhibitor (Letrozole) and gonadotropin releasing hormone agonist (Diphereline) on uterine leiomyoma volume and hormonal status.

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Introduction: The aim of this study was to examine and compare the efficacy and safety of GnRha vs. aromatase inhibitor on the premenopausal women with leiomyomas. Design of this study was multicentric, randomized, controlled clinical trial. A total of 70 subjects with a single uterine myoma measuring 5 cm or greater were eligible to be included in the study.

Materials and Methods: Subjects were randomized into two treatment groups using random table. They were treated with aromatase inhibitor (Group A) and long acting GnRha (Group B). Group A received Letrozole 2.5 mg/day for 12 weeks. Group B received Diphereline (Amp, 3.75 mg)/month for 12 weeks. Main outcome measures were measurement of myoma volume, estradiol, and follicle stimulating hormone, luteinizing hormone, and testosterone assay.

Results: A decline in total myoma volume to 45.6% by week 12 was observed in group A ($p=0.00$). During the same period, myoma volume declined to 33.2% ($p=0.02$). Reduction in myoma volume in the two groups were statistically significant ($p=0.00$).

There was no significant change in hormonal milieu in group A. Serum level hormones (estradiol, follicle stimulating hormone, luteinizing hormone and testosterone) significantly decreased in group B after 12 weeks of treatment.

Conclusion: Uterine myoma volume was successfully declined using an aromatase inhibitor. Rapid onset of action and avoidance of the initial flare-up of aromatase inhibitor may be advantageous for short-term management of women with myomas of any size who supposed to be managed transiently and to avoid surgical intervention, specifically infertile women with unexplained infertility who has uterine myoma.

Key words: Uterine myoma, Medical therapy, Aromatase inhibitor, GnRha.

O-14

Misoprostol for ripening of cervix in nulligravidas hysteroscopy

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Introduction: Hysteroscopy is an operation in which the gynecologist examines the uterine cavity using a small telescope inserted vaginally into the

cervix and this instrument is to diagnose and the intrauterine pathology. In the non pregnant state, the cervical canal is very narrow and the cervix resists mechanical force to open it and there is much complication inherent to mechanical dilatation including cervical tearing, uterine perforation, and bleeding and intra abdominal organ damage. These complications are more profound in nulliparous patients.

Materials and Methods: To determine the effect of self administered oral misoprostol 200 mg (a synthetic prostaglandin E1 analogue) vaginally the night before procedure to all infertile or subfertile patients with hysteroscopic indication and compared with unused cases. 108 patients with indication for hysteroscopy including vaginal bleeding, septate uterus, endometrial thickness or mass (polyp, submucosal myoma) were included and half of patients offered self administered misoprostol 200 mg the night before admission and the other half did not get any medication before procedure for cervical ripening. The procedure time and complications and surgeon satisfaction was compared in two groups

Results: The effect of misoprostol in ripening of the cervix was significant even in nulliparous post menopause patients and the hegar no-7 dilatator was replaced without any resistance

Conclusion: We would recommend this inexpensive and easy-to-use regiment to infertile or sub-fertile women prior to undergoing operative hysteroscopy to reduce the risk of complications and facilitate cervical dilatation

Key words: Misoprostol, Hysteroscopy, Cervical ripening.

O-15

Ectopic pregnancy and related factor in Sanandaj

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Introduction: Ectopic pregnancy (EP) is still a second cause of maternal death in USA. Furthermore, it is one of the causes of maternal death in first trimester and it related to increased age, high gravidity, previous infertility, pelvic infection, liomyoma and previous ectopic pregnancy. This study was designed to investigate these criteria.

Materials and Methods: In this case-control study, statistical population included all of

pregnant women who were admitted from 1375 to 1380 in Sanandaj Behsat Hospital. Case groups consisted of 111 ectopic pregnant women and controls were 223 randomly selected women. Data was collected from hospital file and X and OR was analyzed by SPSS Software.

Results: The results of the study showed that the prevalence of ectopic pregnancy was 4.6 in thousand pregnancies. It was statistical relationship between EP and age, gravidity and infertility ($p < 0.05$). Chance of infertility in case group relative to control group was $OR = 12.29$ (3.27-54.42). Between previous abdominal surgery and EP, there was statistical relation ($p < 0.05$) and $OR = 32.27$ (13.35-83.12). Mean relation was between EP and method of contraception ($p < 0.05$). Prevalence of leiomyoma in EP was 2.7 percent and recurrence of EP was 4.5% and pelvic infection was 3.6%.

Conclusion: According to results of this study, the prevalence of EP in Sanandaj was lower than that of the other regions of the world. It is possible to lower prevalence of pelvic infection; sexually transmitted infection and insufficient diagnostic method.

Key words: Ectopic pregnancy (EP), Leiomyoma, Pelvic infection.

O-16

The positive effect of conservative pelvic operation in IVF failure patients

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Introduction: The aim of this study was the evaluation of positive effect of conservative pelvic operation in IVF failure patients in Isfahan Infertility Center.

Materials and Methods: In this prospective study, 63 women under <40 years with three IVF failure cycles were enrolled. Patients were divided into 3 groups: in study group ($n = 32$) before next cycle, a conservative pelvic laparoscopy and hysteroscopy was done and adhesions and uterine abnormalities were corrected. In control group, the next IVF cycle was started with no intervention. The pregnancy rate was measured.

Results: The results showed that the pregnancy rate in study group was 55% and 25% in the control group ($p < 0.05$)

Conclusion: After IVF failure, it is better to rule out all the pelvic abnormalities.

Key words: Failure, Pelvic operation, IVF.

O-17

Prevalence of clinical signs of Polycystic Ovary Syndrome

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Introduction: Polycystic Ovary Syndrome is one of the most common endocrine disorders of premenopausal women. It is associated with many reproductive, endocrine, metabolic and cardiovascular dysfunctions and its prevalence in general population is estimated to be 2-20%. This study was performed to determine the prevalence of clinical signs of PPCOS in the junior female high school students of Rasht.

Materials and Methods: In this cross-sectional study, 1850 junior girls were selected by multi-stage cluster sampling from different high schools in Rasht. Following history and physical exam, a single 4th year gynecology resident recorded the presence of menstrual dysfunction, hirsutism, severe acne and male pattern baldness. According to history and physical examination, clinical PCOS was diagnosed if both menstrual dysfunction and clinical hyperandrogenism were detected.

Results: Mean age of the students was 17.2 ± 0.7 and mean age of menarche was 12.85 ± 0.9368 . Girls (9.19%) had oligomenorrhea and 19 girls (1.02%) had amenorrhea; in sum 20.92% students had menstrual dysfunction. Clinical PCOS was present in 170 (19.9%), hirsutism in 100 (5.4%) and severe acne in 120 (6.4%). In clinical PCOS patients, mean BMI was 21.16 ± 3.6 , mean waist circumference was 73.4 ± 8 cm and mean W/H ratio was 0.77 ± 0.05 . Family history of diabetes mellitus in first or second degree relatives was present in 24.7% cases.

Conclusion: The prevalence of PCOS in this study was similar to international estimates of 10-20% in caucasians. Because of the limitations of this study, further investigation with respect to hormonal and ultrasonographic evaluation is recommended in subjects with single diagnostic criteria (such as menstrual dysfunction or clinical hyperandrogenism) to determine the accurate prevalence of PCOS.

Key words: Polycystic Ovary Syndrome, Hirsutism, Severe Acne, Male pattern Baldness, Oligomenorrhea, Amenorrhea.

2- Embryology, Genetic

O-18

Male infertility relationship with seminal parameters and therapeutic selection methods.

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This presentation is based on basic parameters that should be offered to men facing the possibility of infertility. The goal is to help couples improve fertility, where possible, and to expedite further evaluation and treatment.

The infertility of human male reproductive system includes;

- Spermatogenesis abnormalities, caused by:
 - Mumps
 - Exposure to chemicals, radiation, or excessive heat
 - Varicocele
 - Cryptorchidism
- Sperm count, morphology and motility abnormalities, caused by:
 - Varicocele
 - Antisperm antibodies
 - Unknown origins
- Endocrine disorders, including:
 - Hypothalamic dysfunction (Kallman's Syndrome)
 - Pituitary dysfunction (due to tumors, radiation, or surgery)
 - Hyperprolactinemia (due to medication use or tumors)
 - Exogenous androgens
 - Thyroid disease
 - Adrenal hyperplasia
- Sexual dysfunction, such as:
 - Retrograde ejaculation
 - Impotence
 - Decreased libido
- Idiopathic, or unknown causes Environmental and occupational toxin exposure
- Use of drugs
- Stress level and psychosocial status
- Genetics

Assess expectations for male infertility treatment:

What treatments were previously recommended?

Were they followed correctly?

What results were obtained?

Many ways of treatment are in front for male infertility in ART; IUI- IVF- ICSI- PESA- TESE- FNA and in future stem cells, but the situation of

the patient and the categorized of infertility with these questions are important for plane of treatment.

Key words: Male infertility, Treatment, Sperm, Seminal parameters.

O-19

Transgenerational genomic instability

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Introduction: Mutational events may have an indirect effect on genome stability, which is transmitted through the germ line of chemically or physically exposed parents to their offspring. The consequences of germ cell mutations in subsequent generations include genetically determined phenotypic alterations without signs of illness, or reduction in fertility, or embryonic or prenatal death, more or less severe congenital malformations, or genetic diseases with various degrees of health impairment. The aim of this study was the effect of induction of DNA damage during spermatogenesis cycle and preovulatory stage oocyte on the frequency of chromosomal abnormalities in preimplantation embryos generated by damaged sperm or oocyte.

Materials and Methods: DNA damage was induced in male NMRI mice using gamma-rays, and then mated with non irradiated super-ovulated female mice in 6 successive weeks after irradiation in a weekly interval. In experiments involving irradiation of both male and female mice, irradiated male mice for 6 weeks post-irradiation were mated with female mice irradiated after induction of super-ovulation. Standard methods were used to prepare slides from pre-embryos for chromosome and micronuclei study.

Results: The rate of both aneuploidy and MN observed in embryos generated from irradiated male compared to control group dramatically increased ($p < 0.01$). Frequency of aneuploidy and MN in embryos generated by mating both male and female irradiated mice was higher than that observed for those embryos generated by irradiated male mice alone. Cells at early spermatogenic cycle were more sensitive to radiation and led to higher frequency of aneuploidy and micronuclei.

Conclusion: Results indicate that induction of DNA damage in gonads during spermatogenesis and pre-ovulatory stage oocytes may lead to unstable chromosomal aberrations and probably stable chromosomal abnormalities affecting pairing

and disjunction of chromosomes in successive pre-implantation embryos expressed as aneuploidy and micronuclei. These types of chromosomal alterations may lead to impaired embryonic and fetal developments.

Key words: Spermatogenesis, Pre-ovulatory oocyte, DNA damage, Aneuploidy, Pre-implantation embryo.

O-20

Study of Y chromosome micro deletions frequencies among Iranian azoospermic and oligospermic infertile men

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Introduction: Genetic factors cause about 10% of male infertility. Among these, genes in AZF regions including AZFa, AZFb, AZFc and AZFd on the long arm of Y chromosome are considered to be the most important for spermatogenesis. Deletions in these regions are thought to be pathogenetically involved in some cases of male infertility associated with azoospermia or oligozoospermia. The aim of this study was to determine the incidence of AZF deletions among Iranian azoospermic patients.

Materials and Methods: We analyzed a total of 106 Iranian azoospermic infertile men for the presence of eight sequence tagged site (STS) markers, 2 markers for each AZF region including AZFa, AZFb, AZFc, and AZFd, on the Y chromosome using multiplex PCR. 100 fertile men were also included as control group.

Results: 14 (13.21%) patients showed Y chromosome microdeletions. Isolated deletions were detected in the AZFb and AZFc regions in 6 (5.66%) and 1 (0.94%) of the patients, respectively. Combined deletions including AZFab, AZFcd, AZFbcd, and AZFabcd were also detected in 1 (0.94%), 3 (2.83%), 1 (0.94%) and 2 (1.87%) of the patients, respectively. No microdeletions were found in the control group.

Conclusion: According to relatively high incidence of Y chromosome microdeletions among Iranian azoospermic patients, molecular screening

for detection of these microdeletions seems to be very informative, since different types of these deletions have prognostic value in predicting the outcome of testicular sperm retrieval for assisted reproduction.

Key words: Y chromosome, Microdeletions, AZF genes, Azoospermia.

O-21

Ultrastructural study of mice embryos obtained from old reconstructed oocytes

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Introduction: The aging of the ovary decreases in both quantity and quality of the ovarian follicle pool. Supportive evidence for this concept can be found in the restoration of normal pregnancy rates when older patients receive oocytes from young women in oocyte-donor programs. Another method was suggested transferring genetic substrate from old oocyte to young oocyte's cytoplasm. The aim of the present study was to produce embryos with reconstruction oocyte and to study ultrastructure and cytogenetics of embryos obtained from young, old and reconstructed mouse oocytes.

Materials and Methods: Female and male NMRI mice (old female: 7-9 months, young female: 6-8 weeks, male: 10-12 weeks) were used. Micromanipulation medium was KSOM containing 3% sucrose, 20% fetal calf serum and 7.5 g/ml cytochalasin B. The nucleus of old oocyte was replaced in young cytoplasm by Piezo micromanipulation method. Embryos derived from old, young and reconstructed old oocytes were fixed and prepared for electron microscopy. Samples were cut and stained with toluidine blue and examined with a light microscope where as thin sections were stained with uranylacetate followed by lead citrate and observed in transmission electron microscope.

Results: The survival rate of enucleated young oocytes was 54% and survived and fertilized reconstructed oocytes were 23%. The rate of embryo development to the 2-cell stage after cultivation was 40%. Most of the analyzed embryos (82.4%) derived from reconstructed oocytes had condensed nucleus and not possible to analyze for karyotyping. Major structural difference was not observed between young, old and M-II-t derived two-cell embryos.

Conclusion: The results of this study showed that ultrastructure of embryos derived from reconstructed old oocytes are different from those of embryo-derived old and young oocytes. These changes can be the factors, which cause decrease in fertility, abortion in old women and low success rate in reconstructed embryos.

Key words: Ultrastructure, Old oocyte, Recunstruction.

O-22

Germ cell apoptosis induced by experimental cryptorchidism is mediated by multiple molecular pathways in mouse

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Introduction: To characterize the alterations in expression of some apoptosis regulators in unilateral and bilateral heat treated mouse testis at different time courses up to 42 days after surgery.

Materials and Methods: Cryptorchidism was induced in immature mouse by returning the testis to the abdominal cavity via a surgical procedure. Transcript level of Bax, Bcl-2, p53 and surviving mRNA and protein were determined in normal and cryptorchid testes using RT-PCR and immunohistochemistry.

Results: RT-PCR data further verified the elevation of p53 expression and decrease of Bax and Bcl-2 mRNA in the cryptorchid testis in a time dependent manner. The expression of survivin 140 and 40 variants strongly decreased in the bilateral groups comparing with unilateral and control groups. These changes were significantly different in the bilateral groups as compared to the unilateral groups. Immunohistochemistry data showed that the intensity of p53 and Bax expression mainly increased in the remainder cells in the cryptorchid testis and the rates of Bcl-2 and survivin expression decreased mainly in the bilateral groups.

Conclusion: These observations suggest that multiple molecular pathways participate in the germ cell apoptosis induced by cryptorchidism

Key words: Testis, Apoptosis, Cryptorchidism.

O-23

Vitamin D receptor is expressed in murine reproductive organs throughout the gestational period

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Introduction: The active form of vitamin D3 (1, 25(OH) 2 D3) has well-established immunomodulatory effects on the reproductive system and recent studies have highlighted its eminent role on maternal tolerance induction against allogenic fetus. In this study expression of nuclear receptor of 1, 25(OH) 2 D3 (VDR) in murine reproductive organs during pregnancy has been addressed.

Materials and Methods: Gestational day of syngenic pregnant Balb/c mice was determined by detection of vaginal plug and observation of sperm in vaginal smear. Uteri and ovaries were removed in early, middle and late gestation periods and VDR gene expression was assayed in endometrium, ovary, decidua and placenta by semi-quantitative RT-PCR. Western blotting was used for evaluation the VDR protein expression in aforementioned tissues throughout the gestational period.

Results: VDR-specific transcript was expressed in pregnancy-related organs during all stages of pregnancy. Relative expression of VDR gene was highest in mid pregnancy decidua compared to that of early pregnancy. In comparison to mid pregnancy, expression of VDR was increased in late pregnancy placenta. Western blot analysis showed the same expression pattern of VDR at the protein level.

Conclusion: Expression of VDR at the both gene and protein levels in pregnancy-related organs of pregnant mice throughout the gestation may be related to its various activities in regulation of physiologic and immunologic functions at the fetomaternal interface.

Key words: Vitamin D3, Vitamin D3 receptor, Uterus, Ovary, Decidua, Placenta, Pregnancy.

O-24

The effect of progesterone on the *in vitro* maturation of mouse GV oocytes

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Introduction: The present study was carried out to investigate the role of different concentrations of progesterone on the maturation of cumulus oocyte complex (COC) and denuded oocytes (DO) during IVM of mouse germinal vesicle (GV) oocytes.

Materials and Methods: Prepubertal mice (24-28 days old) were primed with 7 IU PMSG. Oocytes were retrieved from the ovary 48 hours later for IVM. Immature GV oocytes were divided into two groups A: DO and B: COC. The oocytes were cultured in TCM199 supplemented with antibiotics (50 µg/ml penicillin and 75 µg/ml streptomycin), 0.23 mM pyruvate, 10% FBS, 75 mIU/ml rhFSH, 10 IU/ml hCG and different concentrations of progesterone (0, 10, 38, 50 or 100 µM). At the end of the culture period, the number of GV oocytes, germinal vesicle breakdown (GVBD) and metaphase II (MII) were counted using an inverted microscope.

Results: The percentage of MII oocytes in COC groups (0, 10, 38, 50 and 100 µM progesterone) were 85.29, 82.82, 48.43, 14.63 and 0%, respectively. There were significant differences between control and all treatment groups except for the 10 µM concentration ($p>0.05$). The MII rates in DO groups with different concentrations of progesterone were 68.80, 66.55, 53.92, 20.79 and 0%, respectively. These rates were statistically significant between control and all treatment groups except for the 10 µM concentration ($p>0.05$). Also, statistically significant difference was seen among progesterone treatment groups and the highest inhibition was seen in 100 µM progesterone in maturation medium ($p>0.05$). The results showed that maturation rate of COC was significantly higher than that of DO in control group ($p<0.05$) and progesterone was more effective to block MII maturation in COC than DO.

Conclusion: These data suggested that presence of progesterone in maturation medium of mouse GV oocyte could not improve maturation rate. However, progesterone concentrations more than 10 µM in maturation medium resulted in inhibition of GV oocyte maturation in mouse.

Key words: Progesterone, In vitro maturation, Oocytes.

O-25

Histomorphometric study of testis after administration of different doses of cyclophosphamide

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Introduction: Anticancer drugs have their effect through inhibiting cell division or inducing apoptosis. Regarding actively dividing spermatogenic cells, one of the side effects of anticancer drugs is disturbing spermatogenesis. The aim of the present study is to investigate the effect of different doses of cyclophosphamide on spermatogenesis in adult male mice.

Materials and Methods: In the present study, 40 male balb/c mice aging 6-8 weeks were used. The mice in 3 experimental groups received 15 injections of cyclophosphamide as 0.3 mg/day, 0.6 mg/day and 0.9 mg/day, the mice in control group only received the solvent. 15 days after last injection, the animals were sacrificed and serial sections from testicular specimens were stained with H and E and studied with light microscope. The stereological study was carried out using a computerized microscope and motic software was used to analyze the results via ANOVA.

Results: Microscopy revealed that spermatogenic cells were destroyed in experimental groups in comparison to control group. As in 0.9 mg dose, some of the seminiferous tubules were almost depleted from spermatogenic cells. However, the sertoli and laydig cells were not affected. According to morphology, the mean diameter of seminiferous tubules in control group was 247.52 ± 31.91 µ and in the experimental groups (1, 2 and 3), it was 167.52 ± 5.4 , 158.15 ± 6.68 and 157.35 ± 2.67 , respectively, which was significantly reduced ($p<0.05$). The thickness of spermatogenic epithelium in the control group was 247.52 ± 31.91 µ and in the experimental groups (1, 2 and 3). It was 131.52 ± 20.50 µ and in the experimental groups (1, 2 and 3), it was 98.45 ± 6.38 , 98.15 ± 6.58 and 94.05 ± 4.67 , respectively, which was significantly reduced ($p<0.05$). The testis volume in experimental groups was significantly reduced ($p<0.05$; 1.5 ± 0.4 mm³ vs. 2.2 ± 0.3 mm³).

Conclusion: According to the result obtained from present study, the daily doses of 0.3-0.9 mg cyclophosphamide for two weeks, cause a dose

dependent destruction of spermatogenic cells but not sertoli or lydig cells.

Key words: Testis, Cyclophosphamide, Sperm.

O-26

Spermatogonial stem cell culture influence of GDNF

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Introduction: Mammalian spermatogenesis is an adult stem cell-related process, which is supported by self-renewing and differentiation of spermatogonial stem cells (SSCs). Studying the SSCs gives an appropriate model for better biological understanding of stem cell, deciphering the mechanisms which controls the SSC functions may lead to treatment of male infertility and realizing the etiology of testicular germ cell tumor formation.

Developmental dynamics of SSC is controlled by the factors of stem cell niche, which is located on the surface of seminiferous basal membrane between the sertoli cells. Self-renewal of rodent SSCs is influenced by the glial cell line-derived neurotrophic factor (GDNF). Inhibition of GDNF expression causes deficiency in spermatogenesis and male infertility. GDNF signals, accompanying with other growth factors, have key role in survival and proliferation of SSC *in vitro* and *in vivo*. Laminin is the basal membrane proteoglycan regarded as one of the extra cellular matrix components. Spermatogonial stem cells for locating on the surface of basal membrane are linked by its integrin receptor to the laminin of extra cellular matrix (ECM).

Materials and Methods: So, in our laboratory, first the testicular tissue of Balb/C mouse embryo was enzymatically digested. Then, the cells were obtained two times to get the single-cell form, based on the expression of Integrin $\alpha 6$ as a SSC marker and using the MACS (Magnetic Activated Cell Sorting) technique, the spermatogonial stem cells were selected. Then the collected cells were cultured on the MEF as feeder layer. The single cell process was replicated and cells were cultured on the plate treated with laminin. Molecular analysis based on the molecular makers, Itg $\alpha 6$ and C-Kit were done.

Results: The results indicated that GDNF enhances the proliferation of SSC in culture medium and on the other hand, as we expected, the

number of SSC colonies was greatly increased in the plates coated with laminin.

Conclusion: It can be said that laminin increases the colonization of spermatogonial stem cells.

Key words: Spermatogonial stem cell, Cell culture, GDNF.

O-27

Effect of sodium selenite on the reactive oxygen species production and total antioxidant capacity during *in vitro* maturation of mouse preantral follicles

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Introduction: The aim of the present study was to evaluate the effect of different concentrations of sodium selenite (SS) on ROS and total antioxidant capacity (TAC) levels during *in vitro* maturation of mouse preantral follicles.

Materials and Methods: Preantral follicles (120-150 μ m) were isolated from ovaries of immature mice and cultured for 96 hours in TCM supplemented with different concentrations of SS (0, 5, 10 ng/ml). After homogenizing the pooled follicles, the amount of ROS was determined within the cultures of follicles by the dichlorodihydro-fluorescein diacetate fluorescent assay and TAC was determined by the ferric reducing antioxidant power assay.

Results: ROS levels declined in follicles cultured with 10 ng/ml SS than the media without SS (107.42 ± 6.69 vs. 262.30 ± 15.24). The 10 ng SS supplementation also increased the level of TAC than their controls (148.30 ± 19.66 vs 50.13 ± 2.73) ($p < 0.001$).

Conclusion: Culture of preantral follicles in the presence of 10 ng/ml SS increased follicular TAC levels and decreased ROS levels thereby it could improve the development rate of follicles *in vitro*.

Key words: Total antioxidant capacity, Reactive Oxygen Species, Ovarian follicle, Selenium.

O-28

Comparison of chromatin integrity and fertilization ability between epididymal and ejaculated spermatozoa

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Introduction: Precutaneous epididymal sperm aspiration is a simplified technique for retrieval of

spermatozoa in men with obstructive azoospermia. Recent studies showed that epididymis is not only a lumen for sperm transport, but also is the site for sperm maturation and storage. With respect to the importance of epididymal sperm maturation, this study was conducted to compare sperm chromatin integrity and also ICSI outcomes between retrieved spermatozoa from epididymal aspirate and ejaculated semen.

Materials and Methods: 113 samples containing epididymal aspirate of 57 obstructive azoospermic men and 56 ejaculated semen of normozoospermic men of couples submitted for ICSI program at Avicenna Infertility Clinic (AIC) were included in this study. Each sample was divided in two aliquots for the evaluation of chromatin integrity and swim-up processing used for ICSI. Chromatin integrity was evaluated using cytochemical staining methods including chromomycin A3 (CMA3) to evaluate protamine deficiency, aniline blue (AB) to assay abnormal persistence of nuclear histones and toluidine blue (TB) to check DNA susceptibility for denaturation. Correlations of sperm chromatin integrity results and ICSI outcomes were assessed between two groups.

Results: Significant differences were found between results of sperm chromatin integrity in azoospermic men and normozoospermic men using three cytochemical staining methods. In obstructive azoospermic men, the percentage of sperm stained with AB, CMA3 and TB were 35.4 ± 16.2 , 41.5 ± 13.4 and 52.6 ± 16.3 , respectively, as compared to normozoospermic men with 27.4 ± 12.5 , 30 ± 12.5 and 36 ± 11.9 ($p < 0.05$). There was also significant increase in fertilization rate of oocytes fertilized by ejaculated spermatozoa ($74.04 \pm 23\%$) compared with sperm epididymal spermatozoa ($60.6 \pm 27.2\%$) ($p < 0.05$).

Conclusion: Sperm chromatin integrity is essential for protection of sperm from *in vivo* and *in vitro* damaging factors. Most of fertilizing ability and chromatin integrity of spermatozoa is acquired during transit through epididymis. Our results showed higher level of sperm with abnormal chromatin and lower fertilizing ability in epididymal aspirate compared to ejaculated sperm that may further confirm the important role of epididymis in sperm maturation.

Key words: Male infertility, Chromatin integrity, Spermatozoa.

O-29

Primed *in situ* labeling (PRINS) technique as a useful tool for measuring sperm chromosomal aneuploidy in normal and subfertile individuals

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Introduction: Infertility is caused by a male factor in approximately 50% of cases. As expected, infertile men with a constitutional chromosomal abnormality have an increased frequency of chromosomally unbalanced spermatozoa and offspring. Various frequencies of sperm aneuploidy is reported by different techniques in sperms of subfertile patients compared to normal individuals, however, there is no report of such a study using newly emerged technique of primed *in situ* labeling.

Materials and Methods: To study the frequency of aneuploidy in three groups of subfertile patients for 2 autosomes and two sex chromosomes and to compare the results for sex chromosomes with well accepted fluorescence *in situ* hybridization technique. Semen sample were obtained from healthy infertile couples. A semen profile was then performed and classified according to WHO criteria into four groups (normal, oligospermia, asthenospermia, and oligoasthenospermia). Primed *in situ* labeling (PRINS) analysis was performed using DNA probes specific for chromosomes 18, 21, X and Y as well as fluorescence *in situ* hybridization for chromosomes X and Y. Aneuploidy and disomy frequencies were assessed from a total of 88000 sperms from 44 men: 10 in each of the categories and 14 for normal.

Results: The mean frequencies of disomy for the patients with normal sperm count, oligospermia, asthenospermia, and oligoasthenospermia were 0.286, 0.4, 0.42 and 0.6%, respectively, for chromosome 18 and 0.334, 0.435, 0.45 and 0.67%, respectively, for chromosome 21. For the sex chromosomes, the mean frequencies of disomy for normal, oligospermia, asthenospermia, and oligoasthenospermia were 0.373%, 0.452%, 0.447% and 0.655%, respectively. Results obtained for aneuploidy rates in sex chromosomes well correspond with the findings with FISH technique.

Conclusion: These results demonstrate that men with oligoasthenospermia have an elevated risk for chromosomal abnormalities, particularly sex chromosomal abnormalities. PRINS technique was found to be as reliable as FISH method while faster and less expensive.

Key words: Chromosomal aneuploid, PRINS, Oligoasthenospermia.

O-30

Methylation pattern in promoter region of MTHFR is modified in testicular tissue of males with non obstructive infertility

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Introduction: Methylene-tetrahydro-folate (MTHFR) plays important roles in DNA synthesis, folate metabolism and remethylation reactions. Low folate coupled with MTHFR expression has the potential to be linked with male infertility since it plays an essential role in spermatogenesis due to exponentially higher activity in adult testis than other organs. However methylation of promoter regions of different gens has been correlated to lack of expression and pathogenicity. MTHFR expression has been correlated to male infertility with oligo azoospermia. However the mechanism is not elucidated yet.

Materials and Methods: This case-control study included 32 Iranian azoospermic patients without obstruction and 5 infertile men due to obstructive mechanism. Testis tissue samples were obtained during testis biopsy. Methylation status was evaluated by methylation-specific PCR on a CpG island overlapping promoter region of MTHFR.

Results: The frequency of CpG methylation in promoter regions of nonobstructive infertile men was 53.12% while no methylation was detected in obstructive infertile specimen.

Conclusion: Our Results indicate that epigenetic aberrations of methylation status in CpG islands are correlated to male infertility. This is the first research on MTHFR 5' flanking regions aberrant methylation and it's role in infertility. Further studies to link this metylation pattern with MTHFR expression are essential to establish pathogenesis of changed methylation patterns in these patients.

Key words: Methylation, PCR, Infertility.

O-31

Relationship between sperm DNA damage with sperm parameters in Iranian subfertile men

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Introduction: Sperm DNA carries one-half of the genomic material to offspring. Thus, normal sperm genetic material is required for fertilization, embryo and fetal development and postnatal well-being of child. Abnormal DNA can lead to derangements in any of these processes. The abnormality or defect in the genomic material may take the form of condensation or nuclear maturity defects, DNA breaks or DNA integrity defects and sperm chromosomal aneuploidy. The aim of this study is to compare the extent of DNA damage in sperms of three groups of subfertile patients with normal individuals.

Materials and Methods: Semen samples were obtained from healthy subfertile couples. Semen profiles were then performed and classified according to WHO criteria into four groups (Normal, Oligospermia, Asthenospermia and Oligoasthenospermia). The modified alkaline single-cell gel electrophoresis (comet) assay was used to assess the extent of DNA damage in semen samples. The slides were viewed using a Nikon E800 fluorescence microscope, equipped with an excitation filter of 515-560 nm and a barrier filter of 590 nm. For each individual, one thousand sperm cells were counted and classified into five groups (Comet 0 - Comet 4) based on their tail moment and to calculate total DNA damages.

Results: Results obtained show high background DNA damage from normospermic individuals (~30%) however a relatively linear trend of DNA damage was observed for oligospermia, asthenospermia and oligoasthenospermia. The highest value of DNA damage was observed for oligoasthenospermia samples, which was nearly 70%. These findings showed a significant correlation with semen quality.

Conclusion: Our data clearly show that DNA damage is significantly more in the sperms of subfertile patients than in normal individuals. It also shows an important relationship between semen parameter and DNA fragmentation. Comet assay, as an extremely sensitive means of monitoring DNA strand breakage in human spermatozoa, can be used to classify subfertile patients.

Key words: Sperm parameters, DNA integrity, Semen.

O-32

Relationship between reproductive hormones and oxidative stress with sperm DNA integrity

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Introduction: Sperm DNA integrity is critical for male fertility and its damage contributes to poorer embryo development, etc. Reproductive hormones are vital to spermatogenesis and maintenance of male reproductive function, and likely play an important role in human sperm DNA integrity, but this relationship is not well understood. Therefore, aim of this study was to examine these relationships.

Materials and Methods: In this study, blood and semen samples were collected from men undergoing evaluation for infertility in Avicenna Infertility Clinic (AIC). According to the semen analysis results, the men were divided into two groups: a male factor infertility group (group 1) (n=81) and a non-male factor group (group 2) (n=52). Serum LH, FSH and testosterone were measured by chemiluminescence assay; in addition serum DHEA and estradiol were measured by RIA. Sperm DNA damage was examined by toluidine blue (TB) staining method. Amount of sperm nuclear protamine was indirectly examined by chromomycin A3 (CM A3) staining method. Total antioxidant capacity (TAC/oxidative stress index) was measurement by spectrophotometric assay. Data were collected and analyzed by SPSS 13 software.

Results: FSH, LH, TB and CMA3 were significantly higher in group 1 as compared to group 2. Testosterone, DHEA, estradiol and TAC did not show significant difference between the two groups. In preliminary bivariate analyses TB were positively associated with LH, FSH and CM A3, but inversely associated with count and motility. However, Multivariate linear regression for variables shows sole significant relationship between TB and CM A3.

Conclusion: Our results demonstrated that though oxidative stress and reproductive hormones may be the causes of sperm DNA damage but reduction in the amount of sperm nuclear protamine, as key reason, can lead to sperm DNA damage. However, additional studies are needed to investigate whether there are relationships between sperm DNA integrity with reproductive hormones and oxidative stress.

Key words: Sperm DNA damage, Reproductive hormones, Oxidative stress.

O-33

Effect of Olanzapine on the concentration of testosterone, FSH, LH hormones and histological testis changes in rat

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Introduction: Olanzapine is a selective serotonin re-uptake inhibitor. This is important in the treatment of obsessive compulsive disorder, bulimia, panic and depression.

Materials and Methods: 50 Wistar male adult rats, used in this study, were divided into 5 groups of ten. They included control, sham and experimental groups. The control group had no drug. The sham group received 0.2 ml of distilled water as a solvent. The experimental groups received 5, 10, 15 (mg/kg) drug daily for 21 days intraperitoneally. After 21st day, blood samples were taken from the animal hearts to assay the serum concentration of LH, FSH and testosterone hormones, the testis were taken out and sliced for tissue preparation.

Results: The results were evaluated through ANOVA, Tukey, Duncan and *t*-test. The result showed that serum concentration of LH, FSH and spermatogenesis chain in experimental group did not show significant difference as compared with control group, but olanzapine at high dose decreased serum concentration of testosterone,

Conclusion: Approximately, olanzapine caused the reduction of the testes function for the testosterone secretion through the reduction of sensitivity of LH receptors in the leydig cells. In addition, through the increase of prolactin, melatonin and serotonin secretion, olanzapine probably caused the inhibition of enzymes of steroid synthesis, which led to the decrease in testosterone synthesis. The results showed that after 21 days, olanzapine didn't have any significant effect on the spermatogenetic chain and compaction of sertoli and leydig cells.

Key words: Olanzapine, Testosterone, Testis, Rat.

O-34

Effects of gonadotropin-releasing hormone agonist on apoptosis of rat endometrial cells

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Introduction: Gonadotropin-releasing hormone (GnRH) and its receptors have been found to be expressed in uterus and blastocyst and to modulate endometrial cell proliferation, growth and early embryonic development. Apoptosis is a physiological process that kills unwanted cells and is implicated in both normal development and disease. Recent evidence suggests that apoptosis helps to maintain cellular homeostasis in menstrual cycle during the late secretory and menstrual phase. However, the precise procedure of endometrial cell apoptosis has not yet been defined. In the present study, we determined the incidence of apoptosis in uterine endometrial cells of the rats treated with a GnRH agonist (GnRH_a, buserelin acetate).

Materials and Methods: Female Wistar rats were divided into two groups (n=6): 1- experimental group injected intraperitoneally with 200 µg/kg of the GnRH agonist buserelin and 2- Control group injected *i.p* with physiological serum (0/9%) for 4 days. Then, the rats were killed 24 hours after last injection. The uterus was obtained and collected immediately and fixed in 10% formalin for 24 hours. Tissue apoptosis was evaluated by TUNEL POD kit. TUNEL POD positive cells were counted with brown colored nucleus by 2 observers in the lab.

Results: Exposure to the GnRH_a significantly increased the incidence of apoptosis in endometrial cells from 1.13 to 1.47% in the presence of buserelin (expressed as a percentage of apoptotic cells, $p \pm 0.1$ in control group to 15.66 % \pm SEM and unpaired *t*-test was applied for data analysis, which were presented as means.

Conclusion: These data suggest that GnRH agonist increases apoptotic cell death and seems to have a direct effect on the uterine endometrial cells.

This finding can provide a basis for future studies on the endometrial mechanism and embryonic development regulation by GnRH.

Key words: GnRH agonist, Apoptosis, Endometrial cells, Rat.

O-35

Thyroglobulin is not expressed in murine reproductive organs

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Introduction: In pregnant women with anti-thyroglobulin antibodies, prevalence of abortion is 2-4 folds higher as compared to normal controls. Direct effect of such harmful autoantibodies on female reproductive organs may serves a role in pregnancy loss. To address this hypothesis, the expression of thyroglobulin gene has been evaluated in endometrium of cycling mice in this study.

Materials and Methods: Stages of estrous cycle were determined by examining vaginal cytology of Balb/c mice. At each phase, the mice were killed and endometrium was carefully peeled away from the underlying tissues. Thyroglobulin-specific transcript expression was investigated by two sets of primers using RT-PCR. In addition, poly clonal anti-thyroglobulin antibody was produced and expression of thyroglobulin was evaluated by immunohistochemistry in the reproductive tissues of female mice.

Results: The results showed that thyroglobulin mRNA is not expressed in endometrium at the estrous stages of cycling mice. Immunohistochemistry analysis confirmed the results that thyroglobulin or its cross reactive-antigens are not expressed at the protein level in female reproductive organs including uterus, fallopian tubes or ovary.

Conclusion: Our results showed for the first time that thyroglobulin is not expressed in reproductive organs of female mice. It is plausible that anti-thyroglobulin antibody could interact with newly-generated antigens during placentation and pregnancy.

Key words: Anti-thyroglobulin antibody, Recurrent abortion, Uterus, Endometrium, Estrous cycle.

O-36

Evaluation of thyroglobulin expression in pregnancy-related organs of pregnant mice

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Introduction: In pregnant women, with anti-thyroglobulin antibody, prevalence of abortion is 2-4 fold higher compared to normal controls. Although thyroid dysfunction may be the case in these settings, direct effect of such harmful autoantibodies on female reproductive organs may serve a role in pregnancy loss. To address this hypothesis, in this study, expression of thyroglobulin gene and protein in pregnancy-related organs of pregnant Balb/c mice have been evaluated.

Materials and Methods: After mating, the first day of pregnancy was determined by observing vaginal plug and microscopic observation of sperm. At gestation days 2, 12 and 18, pregnant mice were killed and placenta decidua and ovary were removed. Expression of thyroglobulin-specific transcript was investigated in these tissues by semi-quantitative RT-PCR using GAPDH as internal loading control. In addition, polyclonal anti-thyroglobulin antibody was produced and expression of thyroglobulin protein in aforementioned tissues was evaluated by immunohistochemistry.

Results: The results showed that thyroglobulin mRNA is not expressed in placenta decidua or ovary in any stages of pregnancy. Immunohistochemistry analysis confirmed the results in that thyroglobulin or its cross reactive-antigens are not expressed at the protein level in these organs.

Conclusion: Our results showed for the first time that thyroglobulin is not expressed in pregnancy-related organs of pregnant Balb/c mice and it seems that anti-thyroglobulin antibodies have no direct detrimental effect on such organs in women with thyroid autoimmunity suffering from recurrent abortion.

Key words: Anti-thyroglobulin antibody, Recurrent abortion, Placenta, Decidua, Ovary, Mice.

O-37

Effect of hepatocyte growth factor on *in vitro* mouse oocyte maturation

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Introduction: Growth factors are known to regulate ovarian function. The objective of this study was to investigate the effects of exogenous of hepatocyte growth factor (HGF) on mouse oocyte maturation and subsequent preimplantation development *in vitro*.

Materials and Methods: Cumulus-oocyte complexes (COCs) were obtained from female NMRI mice 46-48 hours after administration of an *i.p.* injection of 5 IU PMSG. COCs were released from large antral follicles and culture for 18 hours in humidified atmosphere with 5% CO₂ at 37 °C in TCM199 supplemented with 0, 10, 20, 50 and 100ng/ml HGF. After *in vitro* maturation (IVM), metaphase II (MII) oocytes were co-incubated with sperms for 4 hours in T6 medium. For all groups, 2PN embryos were cultured in the same medium and cleaved embryo was assessed after 48 hours.

Results: HGF increased the proportion of *in vitro* growing (IVG) oocytes reached metaphase II in all experimental groups (80, 89, 81 and 78%) as compared with control (73%). The highest cleavage rate, recorded in the 20 ng/ ml HGF treatment group (71%), was significantly higher ($p<0.05$) than the 10 ng/ ml (56%), 50 ng/ ml (48%) and 100 ng/ ml HGF (43%) containing treatment groups but no significant difference was found as compared to control (63%).

Conclusion: Exogenous HGF during IVM improved the nuclear maturation and embryo development.

Key words: Hepatocyte growth factor, Mouse, Oocyte maturation.

O-38

Effect of artificial oocyte activation using Ionomycin on ICSI outcome

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Introduction: To evaluate efficiency of ionomycin on fertilization and cleavage rates, embryo development, and pregnancy rate after ICSI.

Materials and Methods: Semen samples were collected from 87 couples with male factor etiology referring to Fertility and Infertility Center for ICSI treatment. After oocyte collection; the oocytes were randomly divided into two groups: control and artificial oocyte activation (AOA). The injected oocytes in the control group were cultured in G1. The remaining oocytes were chemically activated by exposure to 10 μ M ionomycin for 10 minutes. Around 16-18 hours after ICSI, fertilization was assessed by presence of pronuclei. The percentage of cleavage and high quality embryo were calculated 48 and 72 hours after ICSI. Clinical pregnancy was also determined based on ultrasound observation of fetal heart beat.

Results: There are significant differences in the means of fertilization, cleavage rates 72 hours after ICSI between artificial oocyte activation (AOA) and control groups ($p < 0.001$). In patients who had no fertilization in the control group and all the embryos for transfer were derived from AOA group, two pregnancies were recorded. In the patients who had poor fertilization rate (1-33%) in the control group (14.30%), there was a significant increase in mean fertilization rate (58.31%) due to AOA.

Conclusion: It can be concluded that in cases artificial oocyte activation may improve fertilization, cleavage rates and embryo quality, which in turn affects the implantation and pregnancy rate.

Key words: Ionomycin, Failed fertilization, Oocyte activation, ICSI.

O-39

GSTM1 genetic polymorphism and glutathione S-transferase activity in Iranian infertile men

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Introduction: Mu-GST class of glutathione S-transferase is present on human sperm surface and plays an important role against oxidative stress. Therefore, any defects in the enzyme activity may be associated with male infertility by GSTM1 null

genotype without enzyme activity. Thus, GSTM1 polymorphism in association with enzyme activity and spermogram parameters were studied.

Materials and Methods: This case-control study involved 95 men with oligoasthenoteratozoospermia and 26 controls with normozoospermia. Semen analyses were carried out according to WHO guidelines. DNA was extracted from blood by salting out procedures. Polymorphisms at GSTM1 gene determined by multiplex PCR. Glutathione S-transferase enzyme activity was measured by spectrophotometric method at 340 nm.

Results: Sperm concentration, morphology and motility were significantly lower in the oligoasthenoteratospermic men compared with individuals on the control group ($p < 0.001$). Frequencies of GSTM1 null genotype in case and control groups were 52.1% and 53.8%, respectively. There were no statistically significant differences in spermogram parameters and enzyme activity in GSTM1 null and positive genotypes in the two groups. There were no statistically significant differences at mean \pm SD GST activity in oligoasthenoteratospermia and normospermic groups, 7.43 ± 2.84 and 7.07 ± 1.68 nmol/min/ 1×10^6 sperms, respectively.

Conclusion: Total GST activity and spermogram parameters are not affected by deficient GST activity in GSTM1 null genotype. Compensation of activities of other sperm surface GST isozymes, like GSTP1, may justify the cause.

Key words: Genetic polymorphism, Glutathione S-transferase, GSTM1 polymorphism, Male infertility, Sperm.

O-40

The effects of co-culture with embryonic fibroblasts on *in vitro* maturation of sheep oocytes

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Introduction: In this study, the effect of mouse embryonic fibroblast (MEF) on *in vitro* maturation of sheep oocytes was evaluated.

Materials and Methods: Ovaries were collected within 10 minutes after slaughtering the animals, and kept in a sealed container containing physiological saline (0.9% NaCl with 100 μ g/ml Streptomycin and 100 IU/ml Penicillin) and

transported to the laboratory at 35-37 °C. Ovaries were rinsed one time in 70% ethanol and three times in 0.9% NaCl. Cumulus-oocyte complexes (COCs) were harvested from ovaries by aspiration technique and the total number and the number of each grade of oocytes were counted, respectively. Only oocytes with a homogeneous dark cytoplasm and two or more layers of cumulus cells were allocated to the following treatments: (A) TCM199 + 10% (v/v) FBS + 0.5 µg/ml FSH + 5.0 µg/ml LH + 1.0 µg/ml Estradiol + 100 IU potassium penicillin-G + 100 µg/ml streptomycin sulfate (control medium), (B) treatment A + MEF. The COCs were cultured under a humidified 5% CO₂ atmosphere at 39 °C for 27 hours. Then, the oocytes were placed in a 1% sodium citrate solution for 10 minutes at room temperature, followed by pipetting to remove the cumulus cells. Denuded oocytes were fixed in acetic acid: methanol: chloroform (3:6:2, v/v/v) for 3 minutes, fixed in acetic acid: ethanol (1:3, v/v) for 48-72 hours and stained with aceto-orcein (1% orcein in 45% acetic acid). Then oocytes were examined using phase-contrast microscopy and determined to be at one of the following stages: GV; GVBD; MI/AI/TI; MII; degenerated or unclassified. Metaphase-II (MII) was regarded as the nuclear maturation of oocytes.

Results: Finally the maturation rate of MII oocytes cultured in co-culture of MEF was higher than oocytes cultured in control ($p < 0.05$).

Conclusion: In conclusion, co-culture of mouse EFCs enhanced nuclear and cytoplasmic maturation of oocytes.

Key words: *IVM, Co-culture, Sheep.*

O-41

Survey of the effects of letrozole on human endometrial stromal cells *in vitro*

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Introduction: The study of gynecologic and infertility drugs effects on endometrial stromal cells is important for determining their side effects. Stromal cells, among the other endometrial cells, are important. These cells have essential roles in the physiologic normal condition (implantation). Letrozole is a drug used to induce ovulation. Its effects on endometrial stromal cells are unknown. The aim of this study was to survey

effects of letrozole on human endometrial stromal cells *in vitro*.

Materials and Methods: Human endometrial biopsies were obtained from 8 normally cycling premenopausal women, (25-40 years), who had received no hormonal treatment, without polyp, cancer and hyperplasia. Endometrial biopsies were washed, minced into small pieces and digested by 2 mg/ml collagenase type I. The suspension was filtrated and layered on Ficol's solution. The stromal cells were harvested and stained by immunohistochemical methods and vital staining. Stromal cells were divided into 4 control and test groups (0.1, 1, 10 µM letrozole) and cultured with DMEMF12. Morphological assessments were performed after every 3 days. At the end of this study, stromal cells were harvested, counted and stained by vital staining and immunohistochemical methods. Photos were analyzed and the cultures were graded by two histologists. Data were analyzed by Friedman paired sample test and Tukey test.

Results: Our results demonstrated that letrozole (0.1, 1 and 10 µM) had significant inhibitory effects on the number and morphology of endometrial stromal cells *in vitro*. Morphological differences between (0.1 and 1 µM), (0.1 and 10 µM), (1 and 10 µM) were significant.

Conclusion: Letrozole (0.1, 1 and 10 µM) had significant inhibitory effects on number and morphology of stromal cells *in vitro*.

Key words: *Endometrial stromal cells, Letrozole, In vitro.*

O-42

Toxicological effects of amitriptyline on sex hormone level of male rats

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Introduction: The antidepressants are among the drugs, which cause toxic effects on much of organ system especially male reproductive system. About 15% of these drugs have adverse effects on hormonal levels and target organs like testes that secrete hormones and produce male germ cells during spermatogenesis. Studies showed that the effects of antidepressant on sexual dysfunction are more than 60%. Effects of drugs on sexual dysfunction and spermatogenesis appear to be due to changes in hormones level such as testosterone, LH, FSH, prolactin and estrogen. The aim of this study was to evaluate the toxicological effects of

amitriptyline on sex hormone and the sexual dysfunction results of this toxicity.

Materials and Methods: In this study 60 mature male Sprague Dawley rats were used and standard laboratory conditions were done during experiment. The rats were divided into four groups, 3 groups were treated with 5, 10 and 25 mg/kg of amitriptyline for 30 days intra-peritoneally and the untreated group was said to be control. After 30 days of treatment, the animals were sacrificed and the blood was collected and centrifuged for hormonal assay.

Results: The results of the study showed that the amitriptyline doses have different effects on hormonal levels. The higher dose (25 mg/kg) decreased the testosterone and prolactin levels but increased the FSH levels. Amitriptyline changes the hormonal levels and disrupts the testosterone and estrogen ratio also.

Conclusion: It can be concluded that the toxic effects of the amitriptyline caused the disruption of sex hormone and can lead to sexual dysfunction and infertility.

Key words: Amitriptyline, Antidepressants drugs, Reproductive system, Sex hormone.

O-43

Effect of different levels and sources of zinc supplementation on quantitative and qualitative semen attributes and serum testosterone level in crossbred cattle

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Introduction: The aim of this study was to evaluate the effect of different levels and sources of zinc supplementation on quantitative and qualitative semen attributes and serum testosterone level in crossbred cattle.

Materials and Methods: An experiment was conducted on 16 crossbred bulls (about 2 years of age, 70 Kg average body weight), divided into groups I, II, III and IV to study the effect of different levels of Zn supplementation from inorganic and organic sources on semen quality. The animals in the first 3 groups were supplemented with 0, 35 and 70 ppm Zn as ZnSO₄, respectively and the group IV animals were supplemented with 35 ppm Zn as Zn propionate. The Zn supplementation was carried out for 6 months, so that 3 sperm cycles of spermatogenesis had passed and the collected semen reflected the complete effect of Zn

supplementation. Six ejaculates from each bull were collected and evaluated for semen quantitative (ejaculate volume, sperm concentration and sperm number per ejaculate) and qualitative characteristics (semen pH, mass motility, individual motility, sperm livability percent and abnormal sperm percentage, percent intact acrosome, GOT and GPT). Testosterone level in the blood serum of crossbred bulls was also estimated.

Results: There were statistically significant differences among the bulls of different groups after 6 months of zinc supplementation. Live sperms (%) and motility (%) were significantly higher in Zn-supplemented groups as compared to the control group ($p < 0.01$). The results of BCMPT and HOSST revealed a significant improvement in sperm functional ability in all the groups supplemented with Zn as compared to the control group.

Conclusion: It may be concluded that Zn supplementation either in the inorganic or organic form in the diet of crossbred bulls improved the qualitative and quantitative attributes of semen; however, the number of sperms per ejaculate, mass motility and semen fertility test like bovine cervical mucus penetration was significantly higher in bulls given Zn in an organic form (Zn propionate) as compared to an inorganic form (ZnSO₄).

Key words: Zinc, Semen, Testosterone.

3- Urology

O-44

Protective effects of ginsenoside against Busulfan-induced testicular damage in mice

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Introduction: Antifertility effects of busulfan were evaluated by many scientists. The role of estrogens in the male mammalian reproductive tract is still a matter of debates even though there are many evidences suggesting that estrogens are playing a role along the genital tract. Administration of supplementary estrogen such as phytoestrogen to rodents, even at very low doses can have protective effects on testicular damage induced by busulfan.

Materials and Methods: In the present study, 50 balb-c mice were studied. The mice were divided

into 5 groups. In the 1st group, mice received a single dose of 20 mg/kg busulfan intraperitoneally, dissolved in DMSO. 2nd group mice received only DMSO. In the 3rd group after busulfan administration, the mice received 500 mg/kg ginseng, orally, everyday for 40 days. In 4th group, two week after receiving ginseng, the mice received busulfan and feeding with ginseng continued for 40 days. 5th group (control) received the food only. The mice in all groups were sacrificed 40 days after busulfan administration for the testes collection. After tissue processing, germinal epithelium in all groups were evaluated and compared with control group.

Results: We observed that busulfan is capable of affecting male reproductive parameters, such as; 20 mg/kg busulfan had a few destructive effects as compared to other doses used. Administration of ginsenoside before and simultaneously with injection of busulfan decreased its destructive effects on testis and semen parameters.

Conclusion: We concluded that ginsenoside, as a phytoestrogene, has protective effect against busulfan-induced testicular damage.

Key words: Ginsenoside, Busulfan, Testicular damage.

O-45

DAZ and PRM2 transcripts in semen: Non-invasive molecular markers

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Introduction: To date evaluation of non-obstructive azoospermia (NOA) is carried out using the conventional histopathological method. Analyzing the expression pattern of testis-specific genes, as a molecular marker to predict the presence of spermatogenesis in NOA patients, will lead to a drastic change in therapeutic approaches. In this study, we compared the molecular and histopathologic methods for evaluating the status of spermatogenesis.

Materials and Methods: 203 NOA men referring to Avicenna Infertility Clinic were included in this study. Biopsied testicular tissue was prepared for histologic examination. The hormonal profile including LH, FSH and testosterone was analyzed. RT-PCR was carried out using sequence specific primers for testis-specific genes including: DAZ, AKAP4, CSNK2a2, PRM1, PRM2 and β -actin as the house keeping genes.

Results: Only β -actin positive mRNA was chosen for further study (110 samples). Molecular results for DAZ and PRM2 genes had significant correlation with the pathologic results. However, AKAP4, CSNK2a2 and PRM1 genes did not show significant association with the histopathologic results. Positive samples correlated significantly with normal hormone levels.

Conclusion: It is documented that focal spermatogenesis is present in the testis of NOA men. Therefore, an accurate and specific diagnostic method is needed for screening spermatogenesis status in testis. For the first time, we applied the non-invasive molecular method on semen sample to determine the presence of spermatogenesis in NOA. It was shown that PRM2 is a potential marker, which indicates the presence of spermatid and spermatozoa in semen. DAZ is expressed from spermatogonia to the late phases of spermatogenesis. Expression of DAZ as a germ cell specific internal control along with PRM2 can be used as a diagnostic kit. In cases of complete absence of spermatogenesis, this molecular method can help NOA patients prevent the invasive testis biopsy operation. Interestingly, seven patients who had germ cell aplasia as results of histopathology method had positive molecular results. These patients had high chances of retrieving sperm following multiple TESE or mTESE.

Key words: Male infertility, Non-obstructive azoospermia, DAZ.

O-46

A description of various stages of spermatogenesis cycle and its use in analysis of the cycle of the seminiferous epithelium and germ cell

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Introduction: Recognizing of various stages of spermatogenesis used for identification of the effect of cytotoxic and environmental factors on male reproductive function. As well as for the rapid and comprehensive diagnosis and characterization of sperm cell defects attribute to infertility.

Materials and Methods: Spermatogenesis represents the process by which precursors termed spermatogonia undergo a complex series of divisions to give rise to spermatozoa. This process takes place within the seminiferous epithelium, which is a complex structure composed of germ

cells and radially oriented supporting cells called Sertoli cells.

Results: In rodents and some primate species, germ cell development occurs in orderly and recognizable cell associations (or stages) along the seminiferous tubule, such that a single stage can be seen within a tubule cross-section. However, in humans and some other primates, the stages are arranged in an intertwining helical pattern such that a single tubule cross-section may have up to six representative identified stages. Such an arrangement makes the systematic stage-based counting of germ cell populations.

Conclusion: The stages of spermatogenesis are determined on the basis of specific cell association and key morphological criteria. The early spermatids have the most easily recognizable morphological features. The developmental state of the acrosome and nuclear shape and chromatin condensation of step 1- 12 spermatids are the most commonly used hallmarks of specific stages. In addition, the formation of flagella, the appearance of particular types of meiotic spermatocytes or spermatogonia, and the possible organization of the spermatids into the bundles can be used as criteria.

Key words: Stages, Spermatogenetic cycle, Infertility.

O-47

Protective effects of ginsenoside against Busulfan-induced testicular damage in mice

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Introduction: Antifertility effects of busulfan were well known. The role of estrogens in the male mammalian reproductive tract is still a matter of debates even though there is a growing body of evidence suggesting that estrogens are playing a role along the genital tract. Administration of supplementary estrogen such as phytoestrogen to rodents, even at very low doses can have protective effects on testicular damage induced by busulfan.

Materials and Methods: In the present study, 50 balb-c mice were divided into 5 groups. In first group, mice received a single dose of 20 mg/kg busulfan intraperitoneally, dissolved in DMSO. In the 2nd group, the mice received only DMSO. In the 3rd group after busulfan administration, the mice received 500 mg/kg ginseng, orally, everyday for 40 days. In 4th group, two week after receiving ginseng, the mice received busulfan and

feeding with ginseng continued for 40 days. 5th group was considered as control group and received only food. The mice in all groups were sacrificed 40 days after busulfan administration for testes collection. After tissue processing, germinal epithelium in all groups were evaluated and compared with control group.

Results: We observed that busulfan is capable of affecting male reproductive parameters, that 20 mg busulfan kg⁻¹ body weight has a few destructive effects of other doses use to cure. Administration of ginsenoside before and simultaneously with busulfan injection decreased destructive effects of busulfan in testis tissue and semen parameters.

Conclusion: We concluded that ginsenoside is a phytoestrogen having protective effects against busulfan-induced testicular damage.

Key words: Ginsenoside, Testicular damage, Busulfan.

O-48

Effect of growth hormone on testicular dysfunction induced by Methotrexate (MTX) in rats

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Introduction: Methotrexate (MTX) is a chemotherapeutic agent causing defective oogenesis and spermatogenesis. This study was planned to see the role of human growth hormone (GH) on testis recovery after treatment with methotrexate.

Materials and Methods: The forty male Wistar rats were selected and randomly divided into four groups (n=10); control (vehicle), GH group (0.3 mg/kg GH for 28 day, IP), MTX Group (MTX 1 mg/kg /week for four week, IP) and GH/MTX group (0.3 mg/kg GH for 28 day plus 1 mg/kg/week MTX for four week, IP)). During day 14 and 28, five rats from each group were sacrificed and the testes were removed for sperm collection from epididymis and then prepared for analysis.

Results: MTX causes significant increase in interstitial tissue and capsular thickness and decrease of testicular and body weight (P<0.05). It also causes significant decline in seminiferous

tubule diameter and epithelium thickness ($p < 0.05$). There were no obvious changes seen in morphometrical parameters between MTX/GH and control groups. In MTX group, sperm parameters decreased significantly ($p < 0.05$). Administration of GH plus methotrexate reduced its effects on sperm parameters and testosterone concentration.

Conclusion: These results suggested that GH had a protective effect on approximately all destructive effects caused by MTX in rat testes and improved sperm parameters.

Key words: GH, MTX, Spermatogenesis, Testis, Rat.

O-49

Effect of the female hormone 'Estradiol' and FSH on regeneration of spermatogenesis after chemotherapy

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Introduction: Estrogens have been shown to be indispensable for the male reproductive system. We attempted to restore spermatogenesis by estradiol and FSH treatment after chemotherapy.

Materials and Methods: Busulfan is a chemotherapy drug that induced sterility, azoospermia and testicular atrophy. So 20 day male C57Bl/6 mice were randomly divided into four groups of five animals and treated with 30 mg/Kg busulfan. After 5 weeks, the animals had daily injections (10 days) of 7.5 IU FSH (FSH group), and 12.5 mg/Kg estradiol benzoate (EB group), FSH and EB given together (FSH+EB group) and the control group. Then the animals were killed by cervical dislocation and blood samples were taken by cardiac puncture. One testis was fixed and processed for histology and the other remove for DNA flow cytometry to count haploid cells. Expression of c-kit and cyclin B1 genes was analyzed after hormonal treatment with RT-PCR. All analyses were performed with the SPSS 13.

Results: FSH decreased number of spermatogonia and serum level of testosterone. EB, given alone, induced stimulatory effects on spermatogenesis, serum testosterone and number of spermatogonia. EB given with FSH not only overcame inhibitions, but multiplied FSH stimulatory effects on spermatogenesis. Expression of c-kit and CyclinB1 genes increased in E and FSH+E group and decreased in FSH only treated group in compare with control group.

Conclusion: These findings suggest that FSH can only exert its direct inhibitory action on Sertoli cells and regulated its genes. EB regulates spermatogonial stem cells via FSH. An alternative hypothesis to explain a synergistic effect of FSH and EB on regeneration of spermatogenesis would be the interaction of both hormones with receptor \hat{I}^2 in Sertoli cells and in spermatogenic cells.

Key words: Chemotherapy, Estradiol, Spermatogenesis.

O-50

Ketotifen (mast cell blocker) improves sperm motility in asthenospermic infertile men

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Introduction: Male factor is the only cause of infertility in 20% infertile couples and a contributing factor in as many as 30-40% of cases.

An equally important parameter in the semen analysis is sperm motility. In general, poor sperm motility suggests testicular dysfunction that may be due to many causes. The positive effect of mast cell blockers on ejaculate quality and pregnancy rate is possible. Ketotifen is suggested to improve sperm motility and morphology in male patients. Ketotifen is an antiallergic drug having stabilizing effect on the mast cells and inhibiting the SRS-A (slow releasing substance of anaphylaxis) as well as phosphodiesterase with increased cAMP and may have a direct inhibitory effect on eosinophils by reducing the ROS (reactive oxygen species) production from eosinophils. This study was designed to evaluate the efficacy of ketotifen on sperm motility of asthenospermic infertile men.

Materials and Methods: In an open, uncontrolled study we enrolled 40 infertile men having only abnormal sperm motility in their semen analysis (motility 10-35% in 34 cases and motility 0% in 6 cases). They had no clinical varicocele and female factor infertility. After a primary semen analysis, ketotifen was administered 1 mg BiD for 2 months. Second semen analysis was done after 8 weeks treatment and sperm motility was examined.

Results: Mean age was 32.8 ± 5.1 years. Primary infertility was noticed in 70% and secondary in 30% of cases. The mean motility before treatment was $16.7 (\pm 11.75)$ and after treatment was 21.36 ± 12.2 with $p = 0.001$ that is statistically Significant especially in primary infertility ($p = 0.003$). Increased percentage of motility from 5-35 to 52%

of cases was observed. In necrospermic cases, increased motility was observed in 33% cases. Pregnancy occurred during treatment in 12.5% cases.

Conclusion: Ketotifen, a mast cell blocker and inhibitor of eosinophils, can improve sperm motility in male infertile patient that can be due to increased cAMP and reduced production of ROS.

Key words: Ketotifen, Sperm motility, Infertility.

O-51

Comparison of C677T polymorphism of the methylenetetrahydrofolate reductase (MTHFR) gene in oligo-asthenoteratozoospermic (OAT) and normozoospermic Iranian men

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Introduction: Folate is necessary for DNA synthesis, which is important for the development of spermatozoa and methylation procedure. Folate deficiency occurs frequently and is known as a risk factor for various diseases, including infertility. Methylenetetrahydrofolate reductase (MTHFR) is one of the key enzymes of folate metabolism and DNA synthesis pathway and catalyzes the homocysteine remethylation to methionine. In the MTHFR gene, a common polymorphism, resulting from a cytosine to thymine substitution (C677T), may be present. A previous report suggested that a single-nucleotide polymorphism (SNP) of MTHFR could be a risk factor for infertility and recurrent abortion. In this study, we analyzed the association of MTHFR gene polymorphism with male infertility.

Materials and Methods: semen analysis was done for 266 men with oligoasthenoteratozoospermia (OAT) and 77 normozoospermic men who attended Avicenna Infertility Clinic (AIC). Genomic DNA was extracted from peripheral blood leukocytes. The SNP analysis was performed by PCR-restriction fragment length polymorphism (RFLP) method using Hinf-I restriction enzyme. The results of two groups were compared using chi-square test.

Results: In OAT group, 677C/C genotype was found in 153, 677T/T in 17, 677C/T in 96 men; in

normozoospermic group, 677C/C genotype was found in 33, 677T/T in 8, 677C/T in 36 men. Statistical analysis of normozoospermic and OAT men show no difference between them in C677T polymorphism of MTHFR gene.

Conclusion: It seems that the C677T polymorphism is not a risk factor for male factor subfertility and probably relates between MTHFR gene and male infertility, depending on ethnic. In our study, there was no significant difference in the frequency of the CT heterozygote and the C and T homozygotes and the effects of the SNP of MTHFR gene and the gene(s) other than the MTHFR in the DNA methylation pathway should be evaluated in Iranian men.

Key words: MTHFR gene, C677T polymorphism, Oligoasthenoteratozoospermia, Normozoospermia.

O-52

The effect of unilateral testicular blunt trauma on sperm parameter of contralateral testis of Wistar rat

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Introduction: This study was designed to evaluate whether or not there is an effect of unilateral blunt testicular trauma on sperm parameter of contralateral testis and the protective effect of zinc on possible damage.

Materials and Methods: Thirty prepubertal male wistar rats were divided into three equal groups. Group 1 (control) underwent a sham operation of the left testis under general anesthesia. Rats in group II and group III, blunt testicular trauma groups, were subjected to left blunt testicular trauma to rupture the tunica albuginea. Just after this, animals in group III were given a daily oral dose of 30 mg/kg zinc sulfate intraperitoneally and this treatment was continued for 40 days at a dose of 500 ppm. In all the groups, the right epididymis was removed and sperms were examined by inverted microscope. Sperm categorized to three groups on the basis of their motility: progressive sluggish and immotile. Sperm count was done by counting 10 chambers of makler chamber in which sperms were counted.

Results: Sperms with progress motility was 58.4±8.2 in group I, 18.6± 3 in group II, and 22.8±4.5 in group III. Statistical analysis showed that groups II and III have significant lower sperm

motility in comparisons with group I ($p < 0.05$). There was no significant difference between group II and III ($p = 0.1$). Statistical analysis showed that the sperm count in group II and III decreased as compared to group I. ($p < 0.05$). The difference between group II and III was significant ($p < 0.05$).

Conclusion: These results suggested that unilateral blunt testis trauma has a negative effect on sperm count and progressive motility of sperm. Zinc has a protective effect on sperm count but has not any protective effect on motility of sperm. Statistical analysis showed that the sperm count in group II and III decreased as compared to group I. The difference between group II and III was not significant.

Key words: Sperm, Rat, Zinc.

O-53

Sexual and hormonal function of patients with non-obstructive azoospermia with the chief complaint of infertility

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Introduction: Over the past few years, increased research has been done for aetiology and genetic basis of azoospermia as well as the availability of surgical sperm retrieval methods and intracytoplasmic sperm injection (ICSI) for the treatment of the resulting infertility. But the quality of general life and the loss of sexual function have been evaluated. Sexual function has various aspects such as penile erection, seminal ejaculation, libido and frequency of sexual intercourse that may be involved alone or in combination in any patient. In this study, we evaluated sexual function of non obstructive azoospermic patients with chief complaint of infertility besides clinical and hormonal presentation of these patients.

Materials and Methods: Between October 2004 and November 2006, a total of 279 patients with infertility due to non-obstructive azoospermia were referred to Avesina Infertility clinic, Tehran, Iran. Before any diagnostic and therapeutic efforts, sexual function of these patients was evaluated by the questionnaire enriched with libido, penile erection, seminal ejaculation, interval until ejaculation, orgasm and frequency of sexual

intercourse. Physical examination was carried out to determine androgen deficiency signs, semen samples were analyzed according to the current WHO laboratory manual. Hormonal analysis included serum luteinizing hormone (LH), follicle stimulation hormone (FSH) and prolactin (PRL) Concentrations were measured by immunoradiometric (LRMA). Serum testosterone was measured by radioimmunoassay (RIA). Conventional testicular biopsy was performed on both testes by standard procedure under local anesthesia.

Results: 279 non-obstructive azoospermic patients were studied. In terms of sexual desire, 90% were normal while 10% had slightly decreased levels of sexual desire. Regarding erectile function, 80% were normal with the ability to engage in normal intercourse. Only 20% had decreased erection upon vaginal insertion. With regards to ejaculation, 75% had a normal semen volume whilst 25% had a decreased semen volume. The interval was until ejaculation was normal in 42.5% and very premature or very late in 10%. Orgasm was normal in 80%, slightly decreased in 15% and significantly decreased in 5%. 54.8% of patients had small testicles. 125 (44.8%), 139 (49.8%) and 15 (5.3%) of patients were normogonadotropic, hypergonadotropic and hypogonadotropic, respectively. Mean values of FSH, LH, and testosterone and PRL were 24.5 ± 25.4 IU/L, 9 ± 7.2 IU/L, 6.1 ± 4.4 ng /ml and 284 ± 224 . 42 (15%) of patients had hypospermatogenesis with mature sperms in testis biopsy. Histological appearance showed testicular atrophy in 21.8%, maturation arrest in 22.2%, sertoli cell syndrome in 40.8% and hyperplasia of leydig cells in 11.8%.

Conclusion: Sexual dysfunction is common in non-obstructive azoospermia that affects following infertility treatment. In azoospermia sexual dysfunction is not taken attention due to dominance of infertility in these patients. Special attention to these problems will improve quality of life and effectiveness of infertility treatment.

Key words: Sexual function, Azoospermia, Male infertility, Erectile dysfunction, Ejaculation problem.

O-54

Quantification of protamines 1, 2 and transition protein 2 transcript contents in human spermatozoa and their relation with sperm morphology

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Introduction: Several studies have shown that more than 5000 mRNAs exist in human ejaculated spermatozoa. Protamine transcripts are composed mostly of mRNA content of mature Sperm. Protamines, the main nuclear proteins of human sperm, have important role in normal morphology and function of mature Sperm. Considering the structural role of protamine in normal morphology of sperm head and abundant presence of their transcripts in mature sperm, this case-control study was designed to quantify and compares the level of TNP2, PRM1 and PRM2 transcripts in mature spermatozoa of normozoospermic and teratozoospermic men.

Materials and Methods: Semen sample of 50 normozoospermic and 104 teratozoospermic men, attending Avicenna Infertility Clinic, were analysed according to WHO guideline. Each semen sample was divided into two aliquots used for sperm chromatin staining assay (CMA3, AB staining methods) and RNA content RNA was isolated from spermatozoa and then reverse-transcribed into cDNA. Using real-time RT-PCR, the contents of TNP2, PRM1 and PRM2 transcripts of sperm were assessed in two groups.

Results: PRM1, PRM2 and TNP2 transcript was quantified in normozoospermic (PRM1: $7/49 \times 10^9 \pm 5/17 \times 10^{10}$, PRM2: $2/70 \times 10^7 \pm 1/90 \times 10^8$ and TNP2: $4/84 \times 10^6 \pm 3/42 \times 10^7$) and teratozoospermic men (PRM1: $2/20 \times 10^9 \pm 2/21 \times 10^{10}$, PRM2: $9/21 \times 10^{-1} \pm 7/92 \times 10$ TNP2: $1/75 \times 10^{10} \pm 1/33 \times 10^8$). There was significant positive correlation between level of TNP2 transcripts and sperms head defects ($r=0.354$, $p=0.012$). Significant negative correlation was found between ratio of PRM1/PRM2 transcripts and sperm tail defects ($r=-0.846$, $p=0.008$) in normozoospermic men as compared to teratozoospermic men.

Conclusion: Significant correlation between TNP2, PRM1 and PRM2 transcripts and sperm morphology indicates that abnormal morphology of sperm may be the result of defective replacement of histones by TNP1 and TNP2 and subsequently PRM1 and PRM2 for normal chromatin packaging and normal morphology. Our result also reveal the potential applications of mRNA contents of mature sperm as a diagnostic

tools in molecular evaluation of human sperm functions.

Key words: Protamon, Sperm, Human.

O-55

GSTM1 genetic polymorphism and glutathione S-transferase activity in Iranian infertile men

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Introduction: Glutathione S-transferase (GST) is a family of enzymes present on the surface of human sperm and plays an important role in protection from oxidative damages. Therefore, any defects in the enzymes activity such as GSTM1 null genotype without enzyme activity may be associated with male infertility. With respect to the importance of Mu-GST class in male fertility, the correlation of GSTM1 gene polymorphisms and GST enzyme activity and sperm parameters were evaluated in infertile oligoasthenoteratozoospermic men.

Materials and Methods: This case-control study was performed using 95 semen samples of oligoasthenoteratozoospermic men and 26 semen samples as controls from normozoospermic men. Semen analysis was carried out according to WHO guidelines. DNA was extracted from peripheral blood through salting out procedure. GSTM1 gene polymorphisms were determined by multiplex PCR. Finally, GST enzyme activity was measured by spectrophotometric method using CDNB as GST Substrate.

Results: Sperm concentration, morphology and motility were significantly lower in the oligoasthenoteratozoospermic men compared with individuals on the control group ($p<0.001$). Frequencies of GSTM1 null genotype in oligoasthenoteratozoospermic and normospermic groups were 52.1% and 53.8%, respectively. There were no statistically significant differences in spermogram parameters and enzyme activity in two groups of GSTM1 null and positive genotypes. There were no statistically significant differences in GST activity between oligoasthenoteratozoospermic and normospermic groups, 7.43 ± 2.84 and 7.07 ± 1.68 nmol/min/ 1×10^6 sperms, respectively.

Conclusion: Total GST activity and spermogram

parameters are not affected by deficient GST activity in GSTM1 null genotype. The activity of other GST isoenzymes in seminal fluid or sperm surface like GSTP1 may compensate the absence of enzyme activity in GSTM1 null genotype.

Key words: Genetic polymorphism, Glutathione S-transferase, GSTM1, SNP, Male infertility, Sperm.

O-56 **Effect of seminal plasma selenium concentration on semen parameters**

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Introduction: Selenium is an essential trace nutrient for humans and animals. It is required for normal testicular development and spermatogenesis. In the present experiment, correlations between seminal plasma glutathione peroxidase enzyme activity (as selenium status) and semen parameters were evaluated in 200 males.

Materials and Methods: Semen analysis was performed according to WHO guidelines. A total of 200 males were subdivided into 5 groups as normospermic, oligospermic, asthenozoospermic, azospermic and varicocele groups according to their spermograms. Plasma seminal glutathione peroxidase enzyme activity was determined by Kit (Randox, Germany).

Results: The results showed that glutathione peroxidase enzyme activity was higher in normospermic than oligospermic, asthenozoospermic, azospermic and varicocele groups. Meanwhile, there were inverse significant correlations between glutathione peroxidase enzyme activity and plasma seminal fructose concentration, white blood cell, tail defects of sperm, coiled tail sperms and short tail sperms. On the other hand, the present data showed that there are positive correlations between vitality, sperm count, motility and normal morphology.

Conclusion: The present study indicated that measurement of glutathione peroxidase enzyme activity as selenium status could be a good marker for evaluating male infertility.

Key words: Glutathione peroxidase, Enzyme activity, Selenium, Semen, Male infertility.

O-57 **The evaluation of ejaculated spermatozoa chromatin condensation and DNA integrity in couples with recurrent pregnancy loss**

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Introduction: Sperm DNA damage, such as DNA fragmentation, abnormal chromatin packaging, and protamine deficiency has been demonstrated to be a cause for implantation failure. It was shown that sperm nuclear maturation has a relationship with chromatin condensation. Therefore, the aim of this study was to evaluate sperm chromatin integrity in men with recurrent pregnancy loss in their partners.

Materials and Methods: Seventy men were categorized into two different groups. 35 men with history of recurrent pregnancy loss in their wives and 30 fertile men who had normal spermatogram were considered as control group. Aniline and toluidine blue stainings were applied in two groups. The slides were analyzed by light and fluorescent microscopy and to determine the percentage of mature or immature sperms, 200 spermatozoa were counted in each slide.

Results: The results showed that the rates of AB-reacted sperms were significantly higher in cases than normal group (46% vs. 30.29%) ($p < 0.000$). In addition, with regards to TB staining, there was a significant difference between two groups (63% vs. 30%) ($p < 0.00$).

Conclusion: The results showed that the recurrent pregnancy loss samples contain a higher proportion of sperm cells with abnormal DNA and immature chromatin than those from fertile men.

Key words: Chromatin packaging, Aniline blue, Immature.

O-58 **Evaluation of correlation between Body Mass Index (BMI) and quality and quantity of sperms in infertile men referred to Fatemeh Hospital, Hamedan Iran (2007-2008)**

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Introduction: Infertility is defined as inability of getting pregnant after 1 year of frequent unprotected intercourse. Infertility is one of social problems that can threaten stability of the family and for the couples who want to have babies but are unable, it is ruinous. Therefore, regarding the significance of the issue, this research was carried out on 350 infertile men in Hamedan in 1386-87, for the purpose of studying the correlation of BMI and body fat percentage with the quality and quantity of the sperms of the infertile men who referred to infertility center.

Materials and Methods: 350 infertile men who referred to Fatemieh hospital of Hamedan were the participants of this study. Just those cases were studied, whose infertility was confirmed by different examinations. After becoming sure about the absence of disorders or defects, the demographic properties and information related to anthropometric indices (weight, height and body fat percentage) were collected. For statistical analysis, SPSS 11.5 software was used. For the correlation determination between quantitative properties, the correlation test of Pierson was used. For the comparison of quantitative properties like sperms in different levels of BMI or fat percentage, the variance analysis or *t*-test was used.

Results: Mean age and BMI were respectively 32.6 years and 25.2 kg/m² in the participants of this study. With respect to BMI assessment, 12% of participants were underweight (BMI<20), 36.3% had normal weight (BMI= 20-24.9), 40.6% were overweight (BMI=25-29.9) and 11.1% were obese (BMI>30). Therefore, the majority of participants were either overweight or obese (51.7%). BMI, number, motility, mean volume of sperms, percentage of normal sperm morphology and sperms count in infertile men. Mean fat percentage of participants was 17.63%. People, who had a normal fat percentage, had the highest number of sperms (90/74x10) and people who had less than normal fat percentage had the least sperm number (10x68.88). There was no statistically significant relationship between fat percentage and number of sperms, motility of sperms, and percentage of sperm morphology and sperm density in infertile men.

Conclusion: Although, There was no statistically significant relationship between indices, but

considering the relationship between fat percentage and number of sperms in the participants of this study, it is necessary to urge men to have physical activities and appropriate nutrition, as effective factors of men's fertility, to balance the fat percentage of their body.

Key words: Infertility, Body Mass Index, Sperms.

4- Midwifery

O-59

Women's decision making process in relation to choose the delivery by cesarean

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Introduction: Cesarean is considered as a way to reduce infant and mother mortality rate. But nowadays, it has been changed to a general difficulty. So, in Iran, cesarean rate is higher than its rate in WHO. The aim of this study was women's decision making process in relation to choose to deliver by cesarean that they didn't have medical necessity for cesarean.

Materials and Methods: Twenty six pregnant women in third trimester were selected based on a guide and theoretical sample method. The participants were referred to many medical education centers related to Iran University of Medical Sciences and many private offices of gynecologists in Tehran, Iran. The data were collected by semi structured interview. All data were audio taped and transcribed. Collection and analysis of data was performed simultaneously. Data were analyzed by continuous comparison method.

Results: The main categories were "fear due to not having knowledge", "being painless, and physical and spiritual peace" and "unpleasant experience of others and their encouragement", "being worried of complications", "inappropriate communication of health care staff", and "the feeling of loneliness and death", "infant's health".

Conclusion: It is needed to use the methods for pain relief and promotion of self-esteem. For a good selection, women should be helped. It is important that vaginal delivery will promote.

Key words: Cesarean, Viewpoint of women, Decision making process.

O-60

The effect of massage aromatherapy with lavender oil on active phase pain intensity and satisfaction of labor nullipara women

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Introduction: One of the most severe pains that women experience during their life is delivery pain. Nowadays, medicinal interventions are more efficient than non medicinal ones for reduction of labor pain but are expensive and have harmful effects. Aromatherapy is one of the non-pharmacological methods for pain relief and Lavendula is a prevalent essence that contains linalyl acetate. Lavendula is used in labor as an analgesic substance. The study objective is the effect of massage aromatherapy with lavender oil on active phase pain intensity and satisfaction of labor nullipara women.

Materials and Methods: This research is a randomized clinical trial on 90 pregnant women in 38-42 weeks, referred for vaginal delivery and admitted to Mahdih Hospital, Tehran in 2008. Ninety women were divided to three groups: 1st group took only massage, 2nd group took massage with almond oil and third group took massage aromatherapy with lavender oil. Each group received 20 minutes of back effleurage massage in three dilatations. Pain intensity and satisfaction of labor were evaluated before and immediately after intervention by VAS scale. Then data were analyzed by Paired-t, X² and ANOVA tests.

Results: Mean patient age was 23.75 and 75.5% of them were housewives. After calculating differences of pain intensity, the results indicated in all groups pain intensity before and after intervention has been significantly different. But results of massage aromatherapy by Lavendula significantly decreased active phase pain intensity ($p=0.002$) and has increased patients satisfaction from delivery ($p=0.014$).

Conclusion: The results of massage effectiveness particularly massage aromatherapy by lavender oil indicated that use of massage aromatherapy can decrease active phase pain intensity and increase satisfaction in patients. Also happy reminiscent of

labor after massage aromatherapy avoids elective cesarean through fear of pain during vaginal delivery, longer vaginal delivery and more charges in therapeutic system.

Key words: Aromatherapy, Delivery pain, Nullipara.

O-61

Why withdrawal? A qualitative study on the determinants of choosing "coitus interruptus" as a contraceptive method

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Introduction: Coitus interruptus as contraception, may lead to unintended pregnancies, unpleasant sexual experience, decreased libido and orgasms, and increased affective disorders. This study was conducted to explore the determinants of withdrawal choice of women in the reproductive ages in Damghan, Iran.

Materials and Methods: This was a qualitative study with a purposeful sampling, which used focus group discussions method (FGD) on 36 women who had chosen "Coitus Interruptus" as their contraception. The participants were divided into two subgroups: Using withdrawal as a child spacing method, and using it after the desired number of children. All of the four FGDs were tape recorded, verbatim transcribed, and classified for analysis.

Results: Most of the participants believed that "the couples desire", "Masculine choice of contraception", "low failure rate" and "lack of complications" is the major causes of withdrawal choice. Perceived complications of the effective methods were the most frequent barriers for choosing them, such as the "high failure rate" and "abnormal uterine bleeding" in the case of IUD use and "depression" and "weight gain" in the case of OCPs.

Conclusion: It seems that some of the perceived complications of the effective methods should be modified and the couples need to know more facts about the withdrawal method consequences. Also, there is a special need for encouraging men to participate in our family planning programs.

Key words: Withdrawal, Contraceptive method, Qualitative study.

O-62

Correlation of domestic violence during pregnancy and outcomes of delivery

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Introduction: Correlation of domestic violence and results of delivery is studied in this paper.

Materials and Methods: The study population included 320 women without a history of psychological and physical disorders, delivered at hospital of Shirvan in North Khorasan, Iran. For the sake of accuracy in data collection, structured questionnaire forms were completed by interview method.

Results: It was found that the rates of psychological, physical, social, economical and sexual violence were 45.5, 24.3, 12.8, 21 and 16.1%, respectively. A relatively high rate of abortion was also observed in the history of women who were subjected to domestic violence. There were significant correlations between domestic violence and preterm delivery, vaginal bleeding, low birth weight and emergency cesarean section.

Conclusion: Findings of the study indicate that domestic violence might increase complications of pregnancy and outcomes of delivery. As these harmful effects may lead to long term consequences in the family and society, it is necessary to consider the matter in health care and educational programs.

Key words: Delivery, Ppregnancy, Physical disorders.

O-63

Massage therapy effects on endometriosis complications in patients who refer to the Isfahan Infertility Center in 2007

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Introduction: According to the importance of quality of life in women as effective people in society and family, this work was done to study endometriosis complication effects on the women's quality of life. The purpose of this study was to systematically assess the effectiveness of an innovative, site specific, manual soft tissue therapy in decreasing endometriosis pain contains

dysmenorrhea, dyspareunia and increasing fertility in women with endometriosis.

Materials and Methods: A total of 23 patients with endometriosis confirmed via laparoscopy or laparotomy and also indicating all entrance criterias who had been referred to Isfahan infertility center, received a series of site specific massage (20 hours). The primary outcome measures were post test vs. pre test scores on two pain scales (VAS dysmenorrhea, dyspareunia and dysmenorrhea PRI (pain rating index). Post tests were filled by patients after intervention, once immediately after the first period and once 6 weeks after the first period. (Each patient acted as her own control).

Results: The paired dysmenorrhea VAS post test vs. pre test scores were significant at both (immediately and 6 weeks after intervention). ($p < 0.001$). The paired PRI post test vs. pre test scores were significant at both (immediately and 6 weeks after intervention) ($p < 0.001$) and also paired PRI post test immediately vs. post test scores 6 weeks after intervention were significant ($p < 0.01$). The paired dyspareunia VAS post test vs. pre test scores were significant at both (immediately and 6 weeks after intervention) ($p < 0.001$). 7 patients out of 23 got pregnant during study without any extra treatment.

Discussion: In our study, massage was evaluated in reducing dyspareunia, dysmenorrhea and increasing the rate of pregnancy after IVF in women with abdomino-pelvic adhesion. The paired post-test vs. pretest scores were significant ($p < 0.002$) and the rate of pregnancy was more in women who received massage before embryo transfer. The data trend across the previous and present studies increasingly supports the hypothesis that this distinctive, noninvasive, nonsurgical protocol of manual soft-tissue therapy (with little risk, adverse side effects, or complications) seems to be an effective means of reducing complications in women with endometriosis.

Key words: Endometriosis, Complications, Abdominopelvic adhesion.

O-64

The Study of relationship between sexual satisfaction and common contraceptive methods used by the couples referring to health centers of Isfahan in 2008

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Introduction: Sexual relationship is the base of mental health and robust regeneration. A body in a fit form and a restful spirit makes the sexual relationship a natural procession. Family planning methods is one of the problems, which dispute sexual relationship. As previous researches, in many ways contraception and contraceptive behaviors are related to the sexuality and sexual health. This study is performed to determine the relationship between sexual satisfaction scores in men and women with respect to the contraceptive methods.

Materials and Methods: This research is a descriptive-correlation study. The samples include 280 people (140 couples) who apply common contraceptive methods like withdrawal, tubectomy, oral contraceptive pills, condom, vasectomy, IUD and Injective contraceptive methods. They used services of health centers and were selected informally. The data were collected by female sexual function index (FSFI) questionnaire and Drs Abdo (2004) sexual satisfaction questionnaire in men. Content validity, test retest and - cronbachs test used in order to determine the validity and reliability. The data were analyzed with SPSS and descriptive and inferential (ANOVA) statistics.

Results: Findings of this study indicated that there is a significant relation between men's sexual satisfaction scores with contraceptive methods ($p=0.001$) However, there was no significant relation between sexual satisfaction scores in women with contraceptive methods.

Discussion: Overall, the study shows that training of family planning consultants in health centers is necessary. The factors of couples's sexual relationships, which should be considered in consultation, are men's sexual satisfaction.

Key words: Sexual function, Sexual satisfaction, Contraceptive methods.

O-65

Comparing the effect of using different sedative methods on the complications of episiotomy in primiparous women

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Introduction: Episiotomy is performed to enhance vaginal delivery. In Iran, episiotomy is carried out

in over 80% of primiparous and multiparous. Local injection of lidocaine is used usually for providing pain relief for episiotomy that has certain side effects. TENS is one of the non-pharmacological means of pain relief that several theories support using it including the gate control theory of pain and release of endogenous opioids. The purpose of this study was to determine and compare the effect of using TENS versus lidocaine on complication of episiotomy.

Materials and Methods: This study was a single blind randomized clinical trial and conducted from August 18 to September 20 in the labor delivery ward of Tamin-e-Ejtemae Hospital at Khoramabad. We studied 80 primiparous women that were assigned randomly to two groups. A 1% lidocaine without adrenalin (5 ml) was injected in the line of episiotomy incision for all cases. For 40 of them (TENS group), skin electrodes were attached to two acupoints (Hegu and Shenmen), TENS was started during crowning of neonate's head and discontinued right after episiorrhaphy. In lidocaine group (N=40) 1% plain lidocaine (10 ml) at the beginning of episiorrhaphy was injected, and then the intensity of pain were assessed during certain periods by a visual analog scale. Perineum edema was assessed after episiorrhaphy by REEDA scale. Data were analyzed by descriptive and inferencing statistical methods with SPSS.

Results: Pain intensity at immediately after episiotomy and before episiorrhaphy showed no significant difference between two groups ($p>0.05$). Pain intensity at immediately after episiorrhaphy, 1, 6 and 12 hour after episiorrhaphy were significantly lower in TENS group ($p<0.05$). The mean pain intensities on VAS at during episiorrhaphy was significantly superior in TENS group ($p<0.05$). Perineal edema of patient were significantly lower in TENS group ($p=0.000$).

Conclusion: TENS can be used as an effective, non invasive and drug free way relief of episiotomy pain during repair and postpartum period.

Key words: Episiotomy, Complications of episiotomy lidocaine, Transcutaneous Electrical nerve stimulation (TENS).

O-66

The comparison between effect of multiple dose vaginal misoprostol and single dose vaginal misoprostol along with oxytocin in the induction of abortion in the second trimester of pregnancy

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Introduction: The necessity of pregnancy termination in second trimester of pregnancy due to different causes is the common issues facing of the obstetricians. The methods of pregnancy termination are different in this trimester. Misoprostol, a prostaglandin E1 analogue, is a safe, inexpensive, and effective drug in inducing abortion. The aim of this clinical trail is compared with vaginal misoprostol followed by oxytocin infusion with misoprostol alone in inducing abortion. To investigate safer, more effective and cost benefit method leading to abortion in short time.

Materials and Methods: 125 cases of second trimester pregnancy, candidate for pregnancy termination, were enrolled in a clinical trail hospitalized in Mo'tazedy and Emam Reza Hospital of Kermanshah. Randomly, 65 cases applied 600 µg vaginal misoprostol followed by infusion of concentrated oxytocin 6 hours later (group A); and 60 cases underwent initial dose of 600 µg vaginal misoprostol and 400 µg each 6 hours up to four doses (group B). Then efficacy for inducing, maternal complication, and expenditure were compared in two groups. Statistical comparison of result was done by *chi*-square and *t*-test in two groups.

Results: This study indicated that 96.7% cases of group A and 90.7% of group B experienced successful fetus expulsion within 30 hours. Consume time from induction to delivery noted to be 12.27±5.97 hours in group A and 12.9±6.03 hours in group B; showing no meaningful statistical difference in maternal side effect were minimal among the two groups. None of the cases needed hysterectomy. Drug expense was noted to be greater in group A with meaningful statistical difference.

Conclusion: Utilization of the combination of misoprostol and oxytocin is to be as effective and safe as misoprostol alone; meanwhile both are comparable regarding their delivery induced time. Recruiting high doses of misoprostol for second trimester is considered to be safe and effective side effect with initial dose of 600 µg followed by 400 µg every 6 hours doesn't seem to be considerable.

Key words: Abortion, Oxytocin, Misoprostol.

O-67

Effects of midwives' emotional support on clinical delivery trend

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Introduction: Pregnancy and delivery are important events in women's life and can have long term effects on the women. Some studies suggested providing a program for the emotional needs of women at this time would be the most effective strategy. A quasi-experimental study was conducted.

Materials and Methods: Sample included 94 pregnant women with true labor pain. The women were randomly assigned into two groups: an intervention group (47) and a control group (47; routine care). The data gathering tools was composed of checklists open question concerning the pregnant women expectation of delivery answered through an interview. K^2 , *t*-test, descriptive and inferential statistical analysis were used for data analysis by SPSS software.

Results: The finding of the research show emotional needs of women during delivery affects delivery time as well as second stage of delivery (a significant difference) minimum duration of active phase in interventional group was 120 minutes and in control group was 200 minutes and the maximum duration of second phase in interventional group was 45 minutes and in control group was 90 minutes. With regards to considering pregnant women expectation, supportive behaviors were the most important factors among almost all persons in both groups that were confirmed with statistical test too.

Conclusion: The findings of this research show that women through delivery need emotional supports. Also supportive behaviors during delivery can significantly reduce delivery time.

Key words: Delivery, Supportive behaviors, Emotional.

O-68

Effects of plantar reflexology on the pain intensity and stress of pregnant women

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Introduction: One of the most important reasons of women's refusal for delivery is fear of labor pain. This matter and the incorrect believes about the process of delivery forced them insist to have cesarian section. So, now-adays the use of painless

methods has been recommended. One of the pain reduction methods is using plantar reflexology, which is a simple, dangerless and cheap method for mother and fetus.

Materials and Methods: This empirical study was performed on 60 pregnant women who were randomly selected and expected to have delivery in Yazd Shohada Hospital in 2006. 60 pregnant women were investigated in 2 groups of case and control. For the case group, a set of special methods of massage and pressure were used, which is often performed by fingers on the plantar about 30 minute by educated therapist. The standard of patient reply to the pain intensity (PBI) had been used for pain measurement and the standard of (VASA) had been used for stress measurement.

Results: Through delivery, the amount of pain and stress increase and *t*-test showed that the pain intensity in the case group was significantly lower in three phases of delivery and the stress in both groups had meaningful difference in latent phase.

Conclusion: Use of plantar reflexology is suggested as a pain and stress reduction during delivery.

Key words: *Stress, Delivery, Pain.*

O-69

A survey of the correlations between "Barrier contraceptive methods" and "Length of cohabitation" with the risk of Pre-eclampsia: A case-control design

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Introduction: Pre-eclampsia is a major cause of maternal morbidity and mortality, IUGR, preterm birth, According to "Immune maladaptation hypothesis"- a probable theory of this disease-, using barrier method contraceptives or short period of unprotected cohabitations, may be risk factors of it. This study was aimed to determine the possible correlations between these factors and pre-eclampsia.

Materials and Methods: This was a case-control study, done on 300 women who were admitted in the delivery ward of the "Social Security" Hospital in Shahr-e-kord, Iran. They were matched for age categories and interviewed for completing the questionnaires. Data analysis was done by SPSS

14, using descriptive and analytic statistical methods.

Results: Most of the participants, both in the case and control group, were primi gravida and only 20% had a history of one or more abortions. A significant positive correlation was seen between the total length of cohabitation (marital duration) and the risk of pre-eclampsia ($p < 0.001$), and this correlation remained even after controlling "parity", as a confounding factor. There was no correlation between using barrier contraceptives and pre-eclampsia.

Conclusion: The results have challenged the "Immune maladaptation hypothesis" in some aspects and it seems that there may be another explanation for the role of "long cohabitation" as a risk factor in pre-eclampsia, which requires further researches.

Key words: *Pre-eclampsia, Barrier methods, Cohabitation.*

O-70

Iranian women's menarche stories from different age groups (University students, faculties and retired Women)

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Introduction: Menarche, the onset of the first menses, is a significant milestone in a woman's life and reproductive cycle. For the female adolescence, it is a sharply defined, sudden and distinct biological event. The goal of this study was to hear and record menarche stories of women from different age groups and family backgrounds, and thereby to explore salient themes that emerge in their menarche experiences.

Materials and Methods: This is a qualitative study to focus group discussion. The goal of this study was rather, to attempt to reveal salient differences between women's menarche experiences, in 3 age groups. A focus group study that examines how women have experienced menarche at the personal level and in relation to the education, cultural, religious and societal environment from different places of Iran. 30 women participated in focus group discussions about their menarche experiences. These women were recruited at 3 age groups and different cities of their grown up time and family background (University students, University faulty members and university retired women). The women attended one of 9 focus group discussions that

ranged from 50 minutes to 2 hours. An effort was made to comprise the groups of women from a wide age range and different cities of grown up duration time in order to allow family and environment background diversity in the groups to highlight similarities and differences between different areas of country.

Results: The analysis of women's menarche stories revealed that women remembered their first menstruation very clearly and vividly. Very few women mentioned a ritual or celebration at the time of their menarche. Findings are discussed in terms of similarities and differences in menarche stories of women from different family backgrounds, family education, ages and environments. Suggestions for future research are provided.

Conclusion: In the women's menarche stories, it became clear that concerning the feelings experienced at the time of menarche, the importance of a mother's reactions to their daughter's first menstruation, the difficulties of how to cope with this event, the problems associated with managing menstrual products, making sense of formal education related to menstruation.

Key words: Menarche experiences, Qualitative study, Menstruation.

O-71

Evaluation of opinion of hospital staff in comparison with high school teachers about surrogacy among Isfahan women in 2008

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Introduction: Infertility is one of the most couples' difficulties worldwide. The latest method for infertility treatment is surrogacy, which has been expanded in Iran lately. As this method is not accepted as well the others by public, researcher decided to evaluate opinion of hospital staff in comparison with high school teachers about surrogacy.

Materials and Methods: This is a descriptive analytic study, which has been done on 200 women in spring 2008. Cases were divided in 2 groups: Group 1, 100 women of hospital staff and group 2, 100 women who were teachers in high school. All cases filled out a questionnaire about their opinion and their information about

surrogacy. Data were analyzed by SPSS 10 Software.

Results: 69% of group 1 and 46% of group 2 were familiar with surrogacy. 24% of group 1 and 20% of group 2 were agreed to inform others if they use this method for having baby. 70% in both groups didn't know if the Islam accepts this method or not. 33% in group 1 and 41% in group 2 believed that adoption is better than surrogacy. Majority of both groups agree for psychiatric consult for infertile couples. Around half of both groups believed that advertising is necessary for this method. 17% of group 1 and 19% of group 2 believed that mother who donates her uterus has right of being baby's mother.

Conclusion: There was no community consensus about the use of surrogacy as an extension of IVF treatment in a study in Australia. A study in Israel showed that surrogacy is acceptable according to Islam and Judaism religions. In this study, there was significant difference between awareness of 2 groups. There was no significant difference between 2 groups about Islamic view point about surrogacy. So, information about this procedure by mass media seems to be necessary.

Key words: Hospital staff, Surrogacy procedure, Judaism religions.

O-72

The comparison of hemoglobin and mean corpuscular volume in gestational diabetes mellitus women and non-GDM women

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Introduction: Screening methods of GDM diagnosis is controversy. The survey of relationship between GDM and the risk factors helps to find the best methods of screening. This study was performed to determine whether the prevalence of gestational diabetes mellitus (GDM) is influenced by higher hemoglobin (Hb) level and mean corpuscular volume (MCV) before 14 weeks' gestation.

Materials and Methods: In a retrospective case-control study, 33 pregnant women with GDM in case group (diagnosed according to the Carpenter and Costan criteria) were compared with 33 pregnant women in control group without GDM after 24-28 weeks' gestation matched for parity, age (± 1) and family history of diabetes, with respect to maternal demographics, Hb and MCV

level before 14 weeks' gestation. The data were analyzed by descriptive and analytic statistics such as *Chi* square, Fisher exact, two sample Kolmogrov Smirnov, *t*-test and Pearson correlation coefficients.

Results: There was no significant difference between two groups in demographic factors. The amount of Hb before 14 weeks' gestation was 13/23±0/078 g/dl in case group and 12.23±0/70 g/dl in control group and there was significant difference in two groups ($p<0.001$). Also MCV level before 14 weeks' gestation was 86.92+ 4.51 fl in case group and 85/56+5/84 fl in control group and there was no significant difference in two groups ($p=0.294$).

Conclusion: The GDM women had higher Hb level than the control group before 14 weeks' gestation. It suggested that a high maternal Hb in first trimester is a risk factor for GDM and it can be used for screening and diagnosing of GDM. Also, the rationale of routine iron supplementation in pregnant women with high level of Hb needs to be reexamined.

Key words: Hemoglobin (Hb), Mean corpuscular volume (MCV), Gestational diabetes.

O-73

Iranian women's reproduction-related cancers situation based on 3 registration systems

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Introduction: For its global burden of disease, cancer will be an important and increasing factor in coming decades. It is expected that with more new cancer cases diagnosed, the global statistics may increase from 10000000 people in 2000 to 15000000 people in 2020. Approximately 60% of these new cases will occur in developing countries. Cancer is the second prevalent cause of morbidity and mortality in developed countries and the third cause of death in developing countries. In all kinds of cancers, women's reproduction, in relation to cancers, is very important.

Materials and Methods: There are 3 registry systems for death, diseases and cancer in Ministry of Health. This paper is secondary study on the data and published reports related to women's reproductive organ cancers based on these systems.

Results: Cancer is the third cause of mortality and morbidity in Iran. Yearly, about 30000 Iranians die with cancer. On the other hand, with increasing life expectancy and seniority in Iranian population, it is expected that cancer incidence rate will rise dramatically. The latest cancer registry report based on data of 1383 shows that from 47217 of all registered cases of cancer, 4557 are breast and 735 are ovarian cancers. Death registry system report in 29 provinces shows from 25607 deaths in 1383, women's reproduction-related cancers are: 751 cases, breast cancers; 18 cases, cervical cancers; 129 ovarian cancers; 146 cancers of other uterine parts.

Conclusion: Formulating national plans to prevent and control cancer is a health demand in every community and in our country. Meanwhile, the activity of disease, death and cancer registration is the basic part of cancer control plan because the resulting data in different fields such as etiologic studies, health planning to prevent the disease at primary and secondary levels and lookout therapies are very useful. Such important information sources are not only necessary for epidemiologic studies of the illness, but also for planning and forecasting the events, measuring the accuracy of the studies, and the effects of medical interventions.

Key words: Women, Cancer, Reproductive health, Disease and Death Registry Systems.

O-74

Evaluation of educational program based on health belief model towards choosing the delivery type

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Introduction: The high rates of cesarean in many countries results in anxiety and researchers have resulted that one of the major reason of such problem is maternal request. The health belief model is one of the powerful models used in health education programs. The objective of this study is to evaluate educational program based on health belief model toward choosing delivery type in the pregnant mothers.

Materials and Methods: This study was a semi-experimental survey conducted in case-control method in health treatment centers and Shahrood Gynecologist Clinics. Sampling size included 64

nullipar in each group that was selected easily. The experimental group was educated based on health questionnaire. The data of this research was gathered in two stages; before and after education. Data were analyzed using SPSS software.

Results: The results of this study indicated that there was no significant difference between two groups in demographic characteristics, infertility history, disease history, perceived susceptibility, benefits and, barriers. Comparing experimental and control group indicated that after education, there were significant differences between perceived susceptibility ($p < 0.001$), severity ($p < 0.001$), barriers ($p = 0.004$), and practice (choice of delivery type) ($p < 0.001$).

Conclusion: Findings of this study showed that education through health belief model was effective in the tendency of normal delivery in pregnant mothers.

Key words: Evaluation, Educational program, Health Belief model, Delivery type, Pregnant.

4-Ethics

O-75

Regulating infertility treatment: Law or mortality-To what extent?

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Introduction: Infertility is an illness with various causes. These causes have given rise to different kinds of infertility. Many of those kinds are curable now. In this respect, recent developments in science and technology, in particular in biotechnology, have provided us with astonishing capabilities. However, it seems that all parties involved in treating infertility agree with regulating the treatment, in one form or another, as any therapeutic use of technology has been regulated by various kinds of ought(s) and ought-not(s). In the past, at least since the time of Hippocrates (the great Greek physician), based on moral recommendations and oaths, medical activities have been subjected to regulation, i.e. to moral regulation. Accordingly, medical ethics has always been one of the most attractive branches of knowledge. In addition, biotechnology development has amounted to the formation of bio-ethics. Bio-ethics is about regulating the use of

belief model during two 40 minutes educational sessions. Sampling method was interview by a biotechnology, therapeutic or otherwise. Regulation of treatment has gradually found a legal form. Therefore, different kinds of rules and regulations, relating to therapeutic, and of course non-therapeutic (diagnostic and research), activities of physicians have emerged. These laws and regulations, and also relevant institutions and procedures, have expanded in a way that have, in turn, laid the ground for the emergence of medical law; an important and complicated subject in the legal world. In parallel with the growth of biotechnology and its use in treatment (and non-treatment) activities, Biotechnological law (Bio-Law) has also taken shape. None the less, a significant question may arise that which method of regulating infertility treatment is preferable, legal or moral? Notwithstanding the answer to the afore-said question, what may be the limit of the regulation? In this paper, first, we shall deal with characteristic features of the two mentioned methods. Secondly, advantages and disadvantages of them will be briefly explored. Thirdly, relationship of religious rulings with the two methods and also the status of these rulings need to be briefly explained. Fourthly, it shall be attempted to argue for one of the legal and moral regulatory methods, though it is worth mentioning that preferring one does not imply eliminating the other. Contemporary world is a world of taking a holistic, integrative and network approach to human affairs; a world in which human dignity, liberty and individual responsibility are as important as public and collective interests and goods.

Key words: Regulation, Infertility treatment, Moral, Legal, Biotechnology, Religious rulings.

O-76

Infertility treatment: A professional teamwork

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Following an old ancient belief in different societies and cultures, having children has been a female duty. Accordingly, physicians considered infertility treatment as a mere gynecological problem. The various infertility treatment techniques were also originally directed and

designed towards women's complication. Long after the ART techniques were developed for treatment of women's infertility, they were made useful to cover men's problems too. Dissemination and development of laboratory techniques along with the innovation of the sperm intracytoplasmic injection (ICSI) method, has since 1993 resulted in enabling the spermatozoa, which were not able to fertilize spontaneously, to be used for fertilization. Since 1995, it was made possible to retrieve spermatozoa from epididymis and also from testis biopsy material for use in ICSI and in this way infertility treatment in azoospermic men with abstractive or non-abstractive etiology was materialized. It was thus necessary for a close cooperation between gynecologists, embryologists and andrologists. With specialization of infertility treatment and the necessity of involvement of after basic and clinical specialties, like endocrinology, genetics, immunology, biochemistry, infectious diseases, internal medicine, psychiatry, prenatalology and neonatology, higher rater of success in treatment of multifactorial infertility complications have been achieved. The necessity of inter disciplinary cooperation among different specialties in ART treatment of infertility is further emphasized by the need in precise control of ovulation, prevention of hyper stimulation, treatment of immunologic factor variations in management of recurrent spontaneous abortion and ART failure, recognition of the role of STI and after infections in fertilization and fertility, analysis of effect of psycho-social consequences of infertility in different cultural backgrounds. Indeed, successful diagnosis and treatment of infertility seem impossible if these elements are disregarded it has now been revealed that this professional team work action is not provided unless by a comprehensive management. The most logical way is entire concurrent treatment in the form of presentation a package of infertility treatment to infertile couples by the professional specialists.

Key Words: *Infertility treatment, ART, Comprehensive management, Professional teamwork.*

O-77

Infertility treatment: Group commitment, accountability and management

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Presently, it should be accepted that infertility treatments need a team work and interaction between different specialties. Group accountability lays the ground for increasing the rate of conception and success among the treating group. Group work requires comprehensive management which makes optimum use of all specialties available. Since in the Iranian Constitution, treating accountability has been just defined for the treating physician, it seems necessary to include team work accountability in modern multifactor treatment.

According to Islamic jurisprudence, as well as Iranian Law, the physician is responsible to all he does or orders to do. The responsibility comes from a commitment namely called commitment to conclude. Based on the preceding religious and law discussions, physician is one whose prescriptions create healing and health preservation, however, the procedure may cause injury or damage to the patient. So, the physician – patient relation indicates somehow a convention which considers conventional responsibility and hiring. Certainly, with regard to the quick development of medical science and significance contribution of modern technologies, we could not:

- expect the physician to know by himself about all the treating knowledge
- expect the physician to take all the responsibility to treat the patient

The paper discusses these two above – mentioned restrictions and emphasizes the definition and acceptance of team work accountability in accordance with insight of medical community.

On the other hand, in any medical team work, management is a logic basis to treat the patient. The kind of management and its description is considered in the infertility medical group.

Key words: *Responsibility, Team Working, Infertility treatment.*

O-78

A critical examination of embryo donation to infertile spouses: Act 2003

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Nowadays, genetic material donation has become an integral part of the infertility management. In Islamic Republic of Iran, the Act of Embryo Donation to Infertile Spouses was passed by parliament in 2003. A year later, the regulation

concerning Embryo Donation to Infertile Couples was ratified by Government Ministers. As the initial step, it is known as a valuable measure in the manner that legalizes the embryo donation in the country. Because of the use of ambiguous words and broad terms including the procedures of embryo donation and to identify factors predicting interest in donation with recipient spouses, however, different interpretations from the above legislation have been seen. An examination of the Act also shows that no attention has been paid to alternative treatments such as gamete donation, merits and the essential elements of donations contract including as an intention to create legal relations, consideration, capacity to contract of the parties and genuineness of consent by the parties to the terms of the contract. The Act also disregards forms of kinship, donation confidentiality, inheritance, relativity, annulment of marriage and

divorce consequences on donation procedure. Since most of the methods, which are currently carried out in fertility centers, may ignore the various social side effects and this fact that the laws perfection or imperfection will be manifested exclusively in their practice, it is necessary to provide a critical examination of the above law. It seems that the negligence of proper lawmaking in this area creates a broad gap between present legal system and social facts/realities and also raises some difficulties in relationships of legal and natural persons. This paper also pays special attention to Article 3 of Embryo Donation Act, which comprises the responsibilities of a recipient couple regardless to their rights, inheritance and authority.

Key words: *Embryo Donation, Law, Bylaw, Shortcomings, Regulation.*