B- Poster Presentation

1-Gynaecology

P-1
Comparing the prevalence of ongoing pregnancy in couples with male factor and female factor subfertility after IUI

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Introduction: Intrauterine insemination (IUI) is a common treatment in sub fertile couples, which is offered in case of subfertility due to male factor, cervical factor, and unexplained subfertility. A reliable prediction of a successful ongoing pregnancy cannot be given for a specific case.

Materials and Methods: In a retrospective descriptive cohort study 1000 patient with simple random sampling from July 2001 to July 2005 in Shahid Beheshti Hospital Fertility and Infertility Research Center entered the study and the prevalence of ongoing pregnancy in subfertile couples with male factor and female factor after IUI compared. This prevalence compared with chi-square test.

Results: According to chi-square test, the p-value was 0.14, so the prevalence of ongoing pregnancy in two groups doesn’t have statistically significant difference.

Conclusion: Male and female factors contribute in the IUI outcome, but in the prediction of ongoing pregnancy after IUI, combination of factors are important and one factor doesn’t directly influence the outcome of IUI.

Key words: Intrauterine Insemination, Male factor, Infertility, Female factor.

P-2
Evaluation of the prognostic value of chlamydia thrachomatis antibody testing (CAT) and HSG and laparoscopy in predicting tubal factor infertility

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Introduction: Laparoscopy is considered the gold standard for the evaluation of tubal disease, but it is an invasive and costly procedure. CAT is a simple, inexpensive, and non-invasive method. HSG is suffering from positive and negative results. The aim of this study was the comparison of these three methods in predicting of tubal factor.

Materials and Methods: Anti chlamydia thrachomatis IgG were determined in 144 infertility patients’ sera by means of ELISA methods. Laparoscopy and HSG were carried out in all patients. The positive CAT results were compared with HSG and laparoscopy with respect of their predictive value of tubal factor infertility. The results were analyzed using SPSS software. For determination of cut off point Roc curve was applied.

Results: In 16 (11.1%) out of the 144 studied patients the CAT was positive. The statistical analysis of results revealed that the sensitivity of CAT in determining tubal factory infertility was 54.1%, the specificity was 97.5% and positive likelihood and predictive value was 21 and 0.47 respectively. The same results in HSG was 62.5%, 91.6%, 7.5 and 0.4 respectively.

Conclusion: The results indicated, not only CAT is a simple and inexpensive but also it is more likely to be abnormal in patients with tubal factor infertility comparing with HSG. It is recommended that CAT should become an integral part of fertility work-up.

Key Words: CAT, HSG, Infertility, Laparoscopy

P-3
The relationship between diameter and number of follicles and endometrial thickness and pregnancy success after intrauterine insemination (IUI)

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Introduction: Induction ovulation and intrauterine insemination is one of the therapeutic approaches for male infertility. Timing of intrauterine insemination based on the number and diameter of follicles and endometrial thickness is essential for
maximize pregnancy rate and minimize complications such as hyperstimulation syndrome. Therefore this study is done for evaluation of relationship between pregnancy rate and number and diameter of follicles and endometrial thickness after induction ovulation with clomiphene citrate and IUI.

Materials and Methods: In this study among patients referring to Mashhad Infertility Center, 100 Patient were randomly assigned to case (50 pregnant women) or control (50 non pregnant women) group in 2001. The number and diameter of follicles and endometrial thickness were evaluated and compared by transvaginal ultrasound in these 2 groups in the day of injection of Human Chorionic Gonadotropine. Results of study were analyzed by chi–square, T-test, ANOVA and multiple regressions.

Results: This study was revealed that there is significant differences between pregnancy rate and follicles diameter in two groups (P=0.38, X^2=5.8).

Also in two groups there is significant differences between pregnancy rate and follicles number (p-value=0.01, R=0.29). There is significant differences between pregnancy rate and endometrial thickness in two groups (p-value=0.033, R=0.29).

Conclusion: In this study pregnancy rate was correlated with number and diameter of follicles and endometrial thickness after induction of ovulation with clomiphene citrate and IUI.

Key words: Pregnancy rate, Diameter of follicle, Number of follicle, Endometrial thickness line, Induction of ovulation, Clomiphene citrate, Intrauterine insemination.

P-4
Bilateral pleural effusion as the main presentation of ovarian hyperstimulation syndrome

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Introduction: To report a case of ovarian hyperstimulation syndrome with bilateral pleural effusion as the main presenting clinical signs. A 31-year-old woman known to have bilateral polycystic ovaries underwent IVF.

Materials and Methods: A patient with severe ovarian hyperstimulation with bilateral pleuresis was evaluated. Pleurocentesis was done for the patient and patient was better.

Results: A total of 2000 mL of pleural fluid was drained. Complete resolution of symptoms occurred after 9 days.

Conclusion: This case described is unusual in that the patient presented with significant pleural effusions on day 7 after HCG injection and continued to be symptomatic. This is much earlier than any previously described case report of pleural effusion associated with ovarian hyperstimulation syndrome.

Key words: Pleurocentesis, Pleural effusion, OHSS.

P-5
Pregnancy outcome with intracytoplasmic sperm injection method in a woman with prosthetic heart valves, a case report

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Introduction: There is an increased risk of thromboembolism, anticoagulant related hemorrhage, fetal wastage and congestive cardiac failure in pregnant women with mechanical heart valves. In order to have a good outcome, the care of such patients must necessarily be multidisciplinary and in a well–equipped centre with adequate support services. One such patient who had mechanical mitral and aortic valves replacement in 2000 and was on warfarin anticoagulant therapy, were presented with a first trimester pregnancy by ICSI method in 2006. She was in stable homodynamic state and went through pregnancy without event. Delivery was done by caesarian section at 37 weeks gestation age.

Conclusion: With considering use of warfarin during pregnancy, use of stimulation protocol during ICSI and delivering of a normal neonate, could be interested.

Key words: Pregnancy, Anticoagulant, Prosthetic heart valve, Intracytoplasmic sperm injection.
Assessment of fetus well being in ART mothers: color doppler or BPS?

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Introduction: This study was conducted to evaluate the role of color Doppler ultrasonography in evaluation of fetal distress.
Materials and Methods: Dopller ultrasonography and BPS were used to evaluate the fetal distress in late pregnancies near delivery and comparison was made by APGAR scores after born in 100 patients.
Results: Color doppler ultrasonography is more reliable than BPS in the evaluation of fetal in ART patients near the delivery.
Conclusion: Color doppler ultrasonography is a reliable method for evaluation of fetus.
Key words: Color doppler, BPS, Fetal distress.

2-Embryology

P-8
Effects of physical parameters of semen on IVF technique in spinal cord injured men

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Introduction: One of the most important causes of infertility in men is spinal cord injury (SCI). In Iran after the war the incidence of these kinds of infertile men raised. Reduced fertility in men with SCI results from inability to ejaculate and poor semen quality. IVF – ICSI technique is one of the most effective methods for treatment of these patients. This study compares the influence of some semen parameters of healthy and SCI men on the rate of successfulness of ICSI method in both groups.
Materials and Methods: In total 71 male SCI and 44 healthy men (unexplained infertile couples) treated with ICSI methods between 1376–1380 in Kowsar Assisted Reproductive Center. Routine semen analysis was performed to evaluate semen’s parameters including: volume, PH, viscosity and liquifiction in both groups.
Results: The results show that these parameters of semen don’t have any influence on the rate of fertilization on both groups (p-value<0.05) except viscosity (p-value= 0.013).
Conclusion: It seems that the best choice of assisted reproduction treatment for couples with spinal cord injured men is IVF–ICSI technique. Of course several parameters can influence infertility in these couples, so it needs more researches in this field.
Key words: SCI, Semen parameter, ICSI.

P-9
Differentiation between the effect of protamine deficiency and failed oocyte activation on fertilization post ICSI
Abstracts of 14th Congress of Iranian Society for Reproductive Medicine

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Introduction: Sperm premature chromosomal condensation (PCC) and failed oocyte activation are considered to result in failed fertilization post intracytoplasmic sperm injection (ICSI). Recent studies also suggested that sperm protamine deficiency may induce PCC. The aim of this study was to assess the effect of failed oocyte activation and protamine deficiency on failed fertilization post ICSI and to indicate whether these factors result in fertilization failure, dependently or independently of each other?

Materials and Methods: This study consisted of 56 (first group) and 86 (second group) patients undergoing ICSI. After ICSI, the remaining processed samples were used for evaluation of protamine deficiency (chromomycin A3 staining) and sperm morphology (papanicolaou staining). 16-18 hr post ICSI, oocytes were assessed for presence or absence of pronuclei in the both groups. In the second group the failed fertilized oocytes were chemically activated by ionomycin. Failed fertilized oocytes and chemically activated failed fertilized oocytes were fixed and stained (Gimsa staining) for chromatin analysis.

Results: Percentage of fertilization in the first and second groups of patients was 60.20% and 59.94%, respectively. In the second group, percentage of fertilization rise to 83.72% following chemical activation. A significant negative correlation was observed between percentages of CMA3 positivity with fertilization rate in both groups of patients. A significant negative correlation was observed between percentage of PCC and fertilization rate in the first group while a significant positive correlation was observed between percentage of PCC and CMA3 positivity in the second group. By sub grouping the patients into low and high CMA3 positivity in each group, the results reveal that fertilization rate, percentage of intact and PCC sperm were significantly different in the two subgroups in both groups of patients.

Conclusion: The results of this study reveal that after failed oocyte activation, possibly due to sperm factors, protamine deficiency may induce failed fertilization by inducing PCC. However, mouse sperm lacking P2 protamine, have been shown to activate oocyte post ICSI, further emphasizing these two factors may function independently of each other in failed fertilization.

Key words: Failed oocyte activation, Protamine deficiency, ICSI, PCC, Ionomycin.

P-10
The intensity of the uterine glands glycoconjugates reaction to different lectins in implantation period after treatment with different doses of PMSG in mature rat

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Introduction: The aim of this project was to study the effects of different doses of Pregnant Mare's Serum Gonadotropin (PMSG) on uterine glands glycoconjugates in implantation period.

Materials and Methods: In total 40 pregnant rats were divided to 4 experimental (8, 16, 24 and 40 I.U PMSG) and control group. In experimental groups, 48 hours after the PMSG injection each animal received an intraperitoneal injection of 10 I.U Human Chorionic Gonadotropin (HCG). Control rats injected with distilled water intraperitoneally in diestrus or proestrus and 10 I.U. HCG in estrus phase. After HCG injection, experimental and control rats mated with proven fertile male rats. The observation of vaginal plug was considered as 0.5 day of pregnancy. Rats were killed at 5.5 day of pregnancy and their uteruses were removed. After routine histological preparations, the intensity of the reactions to WGA, DBA, PNA, ConA, SBA and UEA lectins were measured. The data showed that HCG reduced some glycoconjugates of uterus especially uterine gland glycoconjugates. Uterine gland secretions are important for blastocyst receptivity and growth. Therefore it seems that PMSG can reduce the rate of implantation through reduction in these glycoconjugates.

Results: In uterine glands, the less and the most effect on alteration of glycoconjugates were seen in 24 and 40 I.U. PMSG respectively.

Conclusion: The data showed that PMSG reduced some glycoconjugates of uterus especially uterine gland glycoconjugates. Uterine gland secretions are important for blastocyst receptivity and growth. Therefore it seems that PMSG can reduce the rate of implantation through reduction in these glycoconjugates.
**Key words:** Glycoconjugate, PMSG, Lectin, Uterine gland.

**P-11**
The effects of electromagnetic field (EMF) on development of ovary in rat, a light microscopic study

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**Introduction:** With the increase in modern technology, many industrial and household appliances, which we take for granted to be safe, expose the public to magnetic fields. Various studies using rodents as experimental models have attempted to elucidate the reproductive toxic effects of exposure to weak magnetic fields and the results have been found to be rather contradictory. During the last decade genicular systems have been extensively studied and their vital importance for normal function is generally accepted and established their role in their regulation for spermatogenesis and ovogenesis. The aim of this study was to evaluate the effects of electromagnetic field (EMF) on in-vitro rat postnatal ovary development.

**Materials and Methods:** A total of 40 male and 40 female Wistar rats (about 15 week-old) procured from animal house were used for the study. The equipment was based on Helmholtez coil which works following Fleming's right hand rule. The experimental pups were exposed to EMF till five weeks of postnatal age.

**Results:** Our result showed heterochromatism and condensation of oocyte cell nucleus. Depopulation of follicles was seen. The empty spaces between the granulose and theca cells appeared.

**Conclusion:** The results suggest that EMF exposure causes profound changes in the ovary on long term exposure it could result in irreversible damage which may lead to sub fertility. It is suggested that long term exposure should be avoided.

**Key words:** EMF, Sub fertility, Oocyte.

**P-12**
The study of developmental capacity of vitrified mouse blastocyst in different Straw after transfer

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**Introduction:** Vitrification is the commonly used methods for long-term storage of pre-implantation mammalian embryos. It has an essential part of assisted reproductive technologies. The Re-expansion rate, pregnancy and birth rate of vitrified blastocysts using Cps were compared with Ops and Conventional Straw.

**Materials and Methods:** Female NMRI mice were injected with Gonadotrophins to superovulate. Then the mice were killed by cervical dislocation and the mouse abdomen was dissected. The uterine horns were existed and blastocysts were collected in PBS and randomly allocated to four groups of; vitrification in Cps, in Conventional Straw, in Ops and untreated Controls. The vitrification solution was EFS 40%. After storage for 1 month in liquid nitrogen, the blastocysts were thawed in 0.5 M sucrose for in vitro culture in M16 medium. After 6 hr of culture, the number of expanded blastocysts were recorded and made ready for transfer to uterus of mouse pseudopregnant.

**Results:** The re-expansion rate of the Cps (72.1%) group was significantly higher (p-value<0.05) than Ops (52.55%) and C (38.6%) groups. The pregnancy (70%) and birth rate (45%) of blastocysts in Cps were similar to those of fresh blastocysts (80% and 45.5%). The pregnancy (10%) and birth rate (5.1%) in Conventional group were lower than Ops (20% and 7.5%), but were not significantly different.

**Conclusion:** Mouse blastocysts vitrified using Cps had a better result compare with Ops and Conventional Straw. The value of Cps for vitrification of blastocysts may also merit investigation.

**Key words:** Vitrification, Blastocyst, EFS, Pulled Straw.

**P-13**
Mycoplasma Hominis attaches to human spermatozoa

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Abstracts of 14th Congress of Iranian Society for Reproductive Medicine

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Introduction: Mycoplasma Hominis causes urogenital diseases in men and women and is presumed to be sexually transmitted. We wanted to investigate whether spermatozoa could serve as vectors for M. Hominis in order to cause upper genital diseases in women.

Materials and Methods: By the use of normal light microscopy, the attachment of M. Hominis to spermatozoa was studied. Semen was incubated in vitro with M. Hominis. Purified, motile spermatozoa were examined for attachment of M. Hominis. Semen samples were retrieved from 30 healthy donors with a normal sperm count (>20 x 10^6 spermatozoa/ml). The semen samples were kept at room temperature, in darkness and for no longer than 3 hr before use, the spermatozoa were purified by a ‘swim-up’ procedure. Mycoplasma Hominis was cultured in 10 ml of PPLO medium and incubated at 37°C. After 48 hr growth, the medium changed color from red to orange, which indicated an exponential growth phase.

Results: Mycoplasma Hominis was shown to adhere to the head, midpiece and tail of the spermatozoa. The spermatozoa became immotile when many M. Hominis were attached. However, the motile spermatozoa were demonstrated to carry M. Hominis and in this case the mycoplasmas were seen to attach mostly to the midpiece. Occasionally, M. Hominis was seen at the head but not at the tail. A record of the number of spermatozoa with mycoplasma attached as a function of times. The curve reached a plateau after 2 hr, where only 30% of the sperm had at least one cell or a micro colony of M. Hominis bound.

Conclusion: Mycoplasma Hominis can bind to human spermatozoa and thus could be carried by motile sperm. This ability may be important in the process of causing female genital diseases and infertility.

Key words: Adhesion, Inhibition, Mycoplasma Hominis, Spermatozoa, Microscopy.

P-14
Effect of organic extract of syzygium aromaticum on the structure of reproductive system in male mouse

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Introduction: Over consumption of medicinal plants can cause serious side effects in most cases. One of the plants which are used in traditional medicine is syzygium aromaticum. Some researches showed that ethanolic extract of this plant significantly increased sexual behavior in male mouse. Therefore the purpose of this study was to evaluate the histological structure of different parts of reproductive organs in male mouse.

Materials and Methods: In total 40 adult BALB/c mice were randomly divided into 3 experiment and 1control groups. In experimental groups, extract with doses 250,500 and 1000 mg/kg were given orally for 48 days. In control group, the same volume of water was used. After termination of experiments, reproductive organs including testes, epididymis and seminal vesicle were removed after sacrificing the animals by deep anesthesia and stained by HandE.

Results: Histological and morphological evaluation revealed that in experimental groups the numbers of sperm in seminiferus tubules were decreased. The number of sertoli cells also decreased but no changes in leydig cell number was observed. The height of epithelium in epididyme was reduced but there was no change in the structure of seminal vesicle.

Conclusion: In conclusion, syzgium aromaticum can cause some side effects on reproductive Organs in male mouse.

Key words: Syzgium, Reproduction.

P-15
Effects of L-carnitine and acetyl-L-carnitine with pentoxifylline on the quality and motility on mice testicular sperm

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Introduction: The introduction of the intracytoplasmic sperm injection method (ICSI) enabled the treatment of obstructive and nonobstructive azoospermia as a result of
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P-16
Study of testicular germinal epithelium in adult mice treated with tyotepa and GnRH antagonist

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Introduction: Infertility problem in 20-30% of cases is due to male factors, in which spermatogenesis disorder has a prime role. One of the known causes of spermatogenesis disorder is chemotherapy in patients with cancer. The side effect of chemotherapy may last from ten years up to the end of the life. Since anti cancer drugs are mainly affect dividing cells, the aim of the present study is to investigate the spermatogenic effect of simultaneous treatment with anti cancer drug (tyotepa) and GnRH antagonist (cetrorelix) as a suppressor of spermatogonial proliferation.

Materials and Methods: In the present study 30 adult male Souri mice aging 6-8 weeks were used. The mice were divided into 3 groups; control, tyotepa and tyotepa+cetrorelix. Teyotepa were injected intraperitoneally for 5 days as 2.5 mg/kg. In the group that the effects of tyotepa were supposed to be prevented by using cetrorelix, cetrorelix injection was started one week before tyotepa treatment and continued for 3 weeks after tyotepa injection. Since spermatogenesis cycle is 35 days in mice, mice in experimental groups, as well as in control group, were sacrificed 35 days after tyotepa injection and testicular specimen were fixed in Bouein's fixative and paraffin embedded sections were stained with HandE and studied with light microscope.

Results: Microscopy revealed that in tyotepa injected mice, in comparison to control mice, most of the seminiferous tubules had lost spermatogenic cells from 50 to 100% and none of the seminiferous tubules had normal morphology. Administration of GnRH antagonist decreased spermatogenic cell loss down to 20 to 40% and some seminiferous tubules appeared normal.

Conclusion: The result of the present study indicates that administration of GnRH antagonist in mice greatly inhibits spermatogenic cell destruction by anticancer drug.

Key words: Sperm motility, Proteamin, L-carnitine, acetyl-L-carnitine, Pentoxifylline.

P-17
Sibling embryo blastocyst development rate is a good predictive factor for in vitro fertilization (IVF) of day 3 embryo transfer pregnancy rate

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hypospermatogenesis. The testicular sperm are mostly immotile immediately after biopsy. The aim of this study was to assay comparative effects of L-carnitine and acetyl-L-carnitine with pentoxifylline on sperm parameters on mice testicular sperm in vitro.

Materials and Methods: Testes of 30 mice were removed, testicular tissue samples obtained by open biopsy were placed into a Falcon tube containing 2 ml of medium (Hams F10). The tissue was washed several times with Hams F10 and then centrifuged at 2000 rpm 10 min in order to separate the red cells. Then tissues were put in 3 ml of Hams F10 and were minced by gentle crushing between two needles and agitated for 60 seconds on a vortex to separate the different cell types. Supernatant was centrifuged for 10 min at 500 rpm to separate the other cells again the supernatant was centrifuged with 2000 rpm for 10 min. The pellets were divided into 4 groups. In control group sperms were treated in Hams’ F10. In experimental groups, testicular sperms were treated with Hams F10 plus L-Carnitine, acetyl-L-carnitine and pentoxifylline (1.8 mM). The motility was assessed after 0, 30, 90 and180 min of incubation (25°C). At the same times, for DNA assay, smears were prepared and stained with acridine orange, aniline blue and chromomycin A3.

Results: The mean volume of sperm motility was decreased after incubated in L-carnitine, acetyl-L-carnitine and pentoxifylline significantly. When compared between other groups, showed that L-carnitine and acetyl-L-carnitine increase motility and DNA quality in testicular sperm in selected time, while pentoxifylline only increased sperm motility.

Conclusion: It has been proved that L-carnitine and acetyl-L-carnitine are highly concentrated in the epididimis and play crucial role in sperm metabolism and maturity. We demonstrate they can increase motility and DNA quality in testicular sperm in selected time, while pentoxifylline only increased sperm motility.

Key words: Sperm motility, Proteamin, L-carnitine, acetyl-L-carnitine, Pentoxifylline.

P-17
Sibling embryo blastocyst development rate is a good predictive factor for in vitro fertilization (IVF) of day 3 embryo transfer pregnancy rate

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**Introduction:** The purpose of this study was to evaluate pregnancy rate of IVF cycles in which sibling embryos developed to blastocyst.

**Materials and Methods:** This retrospective study was done in Mashhad Montaserieh Infertility Center from October 2003 to June 2005. In 182 IVF cycles which had more than 4 extra embryos [X¯=6(4-18)] day 3 extra embryos were cultured in G2 (vitrolife) media to achieve blastocyst stage. IVF pregnancy success was documented by observing gestational sac and fetal heart in the 6th week of gestation in ultrasonography.

**Results:** Couples were divided into three groups according to extra embryo development to blastocyst stage. Group A; in 73 couples, none of extra embryos developed to blastocyst, the pregnancy rate (PR) was 10.9% (8/73). Group B; in 61 couples, less than 50% of extra embryos developed to blastocyst, the pregnancy rate was 26.2% (16/61). Group C; in 48 couples, more than 50% of extra embryos developed to blastocyst, pregnancy rate was 47.9% (23/48).

In statistical analysis, there was no significant difference between three groups in aspect of females' age X¯=29 (18-38), number of oocytes retrieved X¯=11.8 (7-28) and oocytes fertilization rate X¯= 62% (40-100). Pregnancy rate in group C (47.9%) was more than group A and B (10.9% and 26.2% respectively) (p-value<0.001).

**Conclusion:** Couples, whose extra embryos develop to blastocyst stage, have more chance to achieve pregnancy however if these embryos don't develop to blastocyst stage and IVF procedure does not achieve pregnancy, lower chance of fertility in the next cycles of IVF must be predicted.

**Key words:** Blastocyst development, Pregnancy rate, IVF.

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**P-18**

**Effect of growth hormone on recovery of testicular damage induced by methotrexate in rat**

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**Introduction:** This study was conducted to evaluate the role of human growth hormone (HGrH) on testicular function recovery induced by methotrexate (MTX) in rat.

**Materials and Methods:** In total 24 male Wistar rats were randomly selected and divided into control (n=6) and experimental (n=18) groups. The experimental groups split into three groups of six. Each received 0.3 mg/kg HGrH daily (IP), 1 mg/kg MTX weekly (IP) and 0.3 mg/kg HGrH daily (IP) plus 1 mg/kg MTX weekly (IP) for 28 days, respectively; however, the control group just received vehicle (IP). In the day 28, rats were killed and sperm removed from cauda epididymis and analyzed for sperm motility, concentration and viability.

Testis tissues were also removed and prepared for histological evaluation.

**Results:** This study was confirmed methotrexate had destructive effects on testis germinal cells. There was a significant decrease in sperm count, viability and motility in MTX group when compared with control group (p-value<0.05). HGrH had recovery effects on testis histology and improve sperm parameters (p-value<0.05) as compared with MTX group.

**Conclusion:** These results suggested that administration of HGrH improved testicular function damaged by MTX.

**Keywords:** Growth hormone, Methotr exate, Spermatogenesis, Testis, Rat.
Materials and Methods: Forty adult NMRI female mice were ovariectomized and after two weeks, they were randomly divided into five groups according to the experimental design. Control group; the mice without any injection. Sham group; the mice, which were injected daily 0.1 ml of solvent oil through intra peritoneal (IP) injection for five days. Estrogen treated ovariectomized mice; which received daily dosage of 0.5 ml/mouse of hormone through IP injection for five days. Progesterone treated ovariectomized mice; which received daily dosage of 0.2 ml/mouse of progesterone hormone through IP injection for five days. Estrogen and progesterone treated mice, which received estrogen injection on the first day of treatment (0.5 ml/mouse) and four progesterone injections from the second day to the fifth day of treatment (0.2 ml/mouse). The mice were sacrificed in every day (n=3) up to five days after treatment by cervical dislocation and the tissues were obtained from the middle 1/3 part of their uterine horns immediately and processed for morphological (HandE) staining and morphometrical studies.

Results: On the second day of treatment the diameter of glands was observed to be the highest in the progesterone treated group (53.75±6.32) and the number of glands (76.25±17.37) and thickness of endometrium (39.58±3.37) were observed to be the highest in the estrogen treated group (p-value=0.01).

Conclusion: Progesterone had affected on the gland whereas estrogen caused increase in height of endometrium.

Key words: Endometrium, Morphometry, Ovariectomy, Progesterone, Estrogen.

P-20
Evaluation of semen analysis and results of IVF and ICSI cycles in polyzoospermia

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Introduction: WHO suggested that men with sperm concentration of >250 million/ml are classified as polyzoospermia. The aim of this study was to evaluate the semen parameters in polyzoospermic ejaculates.

Materials and Methods: A total of 94 semen samples from polyzoospermic men were evaluated using WHO criteria.

Results: The mean of sperm parameters were within normal range as classified by WHO. The mean of sperm concentration (million/ml) was 312.54±75.6. The mean of fast and slow progressive motility were 15.56±15.05 and 39.67±15.45 respectively.

Conclusion: Patients with polyzoospermia have normal semen parameters.

Key words: Polyzoospermia, Semen analysis, Infertility.

P-21
Study of the impact of arachnotoxin on acrosome reaction in human sperm

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Introduction: The aim of this study was to determine and compare the effects of arachnotoxin as avenom extracted from the Chilean spider latrodectus mactans with that of progesterone which is known to induce the acrosome reaction through a transient increase of intracellular calcium and PH in capacitated human spermatozoa. It was observed that the venom induced a tonic contraction of smooth muscle in vas deferens of the rat. This effect was probably due to action of Na+/Ca+ exchanger.

Materials and Methods: ATX was extracted by squeezing the venom glands. After semen liquefaction (approximately 30 minutes) motile spermatozoa were harvested by swim–up and calcium and PH were also measured.

Results: The basal level of calcium was increased by ATX. Addition of ATX to spermatozoa pretreated with progesterone had a little effect on calcium suggesting that progestrone was more efficient in increasing calcium. ATX caused intracellular acidification, whereas progesterone caused dose-dependent alkalinization as was expected.

Conclusion: ATX caused an initial transient increase of calcium followed by a sustained elevation. Progesterone caused a rapid increase in calcium in spermatozoa by acting on a cell – surface nongenomic binding site. The acrosome reaction initiated by progesterone in human sperm is dependent on intracellular alkalinization. ATX reduced PH in spermatozoa, suggesting that this compound can directly inhibit the Na+/H+ exchanger. It was found that intracellular alkalinization via a Na+/H+ exchange mechanism leads to the initiation of human sperm motility.
The results indicated that ATX increases calcium and decreases PH in human sperm.

Key words: Arachnotoxin, Human sperm, Intracellular calcium.

P-22
The effects of Hinosan on fertility in the male Balb/C Mice

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Introduction: Hinosan is an organophosphate fungicide that inhibits acetylcholinesterase activity, which could be resulted in damages of reproductive organs. This compound has been used extensively in the agriculture, for blast pest control. Therefore, in the present study, we investigated the effect of Hinosan on spermatogenesis in mice.

Materials and Methods: For this study, the male mice were divided into three groups. In the experimental group, mice were injected with Hinosan consecutive doses (20mg/kg i.p, five consecutive days per week for one month), sham (corn oil injection) and control (no injection). Animals were scarificed 35 days after the latest Hinosan injection. Therefore, the mice testis sections were made and morphologic aspects of testis and spermatogenesis processes were assessed. Data were analyzed using of one-way ANOWA. P-value<0.05 was considered Significant.

Results: The Hinosan showed a significant decrease in number of germ cells, spermatocyt, spermatids, Leydig cells, blood vessels and also diameter of seminiferous on testes of the mice decreased.

Conclusion: These results suggested that Hinosan is effective on spermatogenesis and seminiferous tubule structure also can exert decrease of germinal cells. Hinosan can induce infertility in mice.

Key words: Organ phosphorus, Hinosan, Testis tissue, Leydig cells, spermatozoid.

P-23
The effect of Diazinon on the levels of sex hormones in rats

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Introduction: Diazinon (DZN) is an organophosphate synthetic insecticide, widely used in agriculture and pest control in the environment the exposure to this pesticide could be resulted in damages of the living tissues. The present study was done to investigate the effects of Diazinon on the levels of sex hormones in the rats.

Materials and Methods: For this experiment, the female rats divided into three groupsof control (no injection), sham (corn oil injection) and DZN group (5, 10 mg/kg i.p, single dose, one day). Animals were killed 30 days (proestrus) after the injection. Blood samples were collected and estrogen, progesterone, LH and FSH levels by radioimmunoassay were assayed. Data were analyzed using of one-way ANOVA. Significance was set at p-value<0.05.

Results: The levels of estrogen and progesterone did not observe significant decreased. Also there were not significant decreased in LH and FSH levels compared with control group.

Conclusion: According to the results, it could be suggested that the single dose DZN cannot exert a significant effects on female mice. On the other hand, hormonal variations following long term DZN administration may be responsible for changes in infertility pattern in mice.

Key words: Diazinon, DZN, Estrogen, Progesterone, LH, FSH.

P-24
The long term effects of methoxsalen on ovary in the mice

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Introduction: Methoxsalen is a photoactive drug. Methoxsalen UV-A therapy is used for the treatment of cutaneous disorders (e.g. psoriasis, vitiligo). This drug inhibits the synthesis of DNA,
suppresses cell division and destroys of epidermal cells. However, this study evaluated the effect of methoxsalen on ovary structure and fertility in the mice.

**Materials and Methods:** For this study, fifty immature female mice were divided to three groups: control, sham and experiment. Sham was injected of corn oil. The methoxsalen group mice were injected with consecutive doses (30mg/kg ip, five consecutive days per week for one month). Animals were scarified 2 days after the latest methoxsalen injection. Therefore, the mice ovary sections were made and morphologic aspects of ovary and oogenesis processes were assessed.

**Results:** Our observations indicated that in this animal, methoxsalen significantly decreased the numbers of corpus luteal, Graafian follicle, and primordial follicle compared to control group. Also diameter of corpus luteal, granulosa layer, oocyte and graaf follicle decreased.

**Conclusion:** Our results showed that the long term exposure of methoxsalen is effective on oogenesis and can induce infertility in mice.

**Key words:** Methoxsalen, Psoriasis, Granulose, Oocyte.

**P-25**

Effect of Trigonella foenum-gracum seed extract on concentration of testosterone and spermatogenesis in rat

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**Introduction:** Overpopulation is a global problem with grave implication for the future. Nowadays, large amount of plants with anti-pregnant and regulatory reproduction system potential have been found in order to minimize the problem. In the present study the effect of trigonella foenum-gracum extract on pituitary-gonad axis, that is the effect on the concentration of FSH, LH, testosterone and spermatogenesis was studied in order to assess the functioning of it in testis and in infertility in males.

**Materials and Methods:** Fifty rats were divided into five groups including control, sham and experimental groups. Each of the rats in experimental group was treated orally with 50, 100 and 150 mg dose of trigonella forename-grace extract for 14 days. The sham group received distilled water and the rats without administered trigonella forename-grace extract or distilled water were considered as control group. After 14 days, the blood from each rat was taken and concentration of FSH, LH and testosterone was measured. Furthermore, the sample tissue of testis and epididymis from each rate were collected and histological study was carried out to achieve maximum information concerning the change of the testis and epididymis tissue between experimental and control groups. The results obtained from this study were statistically analyzed using Anova and Tukey test.

**Results:** The result of the study indicated that the concentration of LH and testosterone in experimental groups relatively reduced in comparison with control group (p-value ≤0/05).

**Conclusion:** According to several reports and our findings trigonella seed extract contains saprogenic and diosgenin, which are precursor of progesterone and have anti gonadotropine and anti-androgeni character. Hence, they have the capability to reduce the concentration of testosterone and LH hormones.

**Key words:** Trigonella Foenum, LH , FSH , Testosterone, Spermatogenesis, Rat.

**P-26**

Cytogenetic and molecular evidences in two Iranian sisters with Swyer syndrome

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**Introduction:** XY female gonadal dysgenesis is characterized by a lack of testicular development, atrophic fallopian tubes, streak gonads, a rudimentary uterus, underdeveloped breasts and a female phenotype. XY female gonadal dysgenesis is a genetically heterogeneous disorder with autosomal, X and Y-linked forms. The Y-linked form is caused by mutations/deletions of the SRY gene. Sex reversal doesn't necessarily have to take place because of mutations or deletions in the SRY gene. In fact, only about 15% of all cases of gonadal dysgenesis occur because of mutations in SRY. In addition to these physical characteristics, many XY females are susceptible to a variety of diseases because of their sex reversal. Since the gonads in these females still exist, though as streaks of skin, the gonads could possibly form tumors that could later evolve to be cancerous. The
formation of tumors in the gonads is referred to as gonadoblastoma.

**Materials and Methods:** Two patients with 46XY karyotype and a female phenotype were diagnosed because of primary amenorrhea. One of them referred to our hospital because of her sterility.

**Results:** The chromosome analysis showed that she is a XY female individual. Also her other sterile sister was examined. She was affected with the same condition too. In each subject, cytogenetic analysis indicated a 46 XY karyotype without mosaicism. The second sister has a gonadal tumor in her medical history.

**Conclusion:** The result of molecular study of Yq for mutations or deletions in the SRY gene showed that there was not any deletion or mutation in the SRY gene of their Y chromosomes. Our data provide additional evidence for genetic heterogeneity in the etiology of 46XY gonadal dysgenesis.

**Key words:** Gonadoblastoma, XY female syndrome, Cytogenetics, Swyer syndrome, Gonadal dysgenesis, Pseudohermaphroditism.

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**P-27**

**Evaluation of testis tissue in second generation after interaperitoneal sperm injection in female rats**

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**Introduction:** With sperm formation during puberty, their antigen can exert as unknown cell against immune system. So on vasectomy procedure, antigens are exposure to immune system and due to antibody antisperm. This study was done to determine the effect of antibody antisperm could by vasectomy on testis tissue of second generation rats.

**Materials and Methods:** This experimental and laboratory study was performed on 24 adult rats (250-300 gr.). Sperm of male rats were interaperitoneally injected to female rats during four stages with one week interval. Then under coupling condition male testis tissues of male children (second generation) were studied. After making tissue sections, number of seminiferous tubules, germinal cells and lydig cells were measured. Data were analyzed by SPSS and man-Whitney.

**Results:** Mean of germinal cells in normal samples and second generation was 9.5 and 8.2, respectively that was statistically significant. The mean number of germinal cells was 7.63 in normal group and 6.55 in second generation rats that were statistically significant. Seminiferous tubules in second generation (mean=307) was significantly higher than normal group (mean=1.62).

**Conclusion:** Antibody antisperm produced by vasectomy in body of female rat can cause changes such as the increase of seminiferous tubules, decrease of germinal cells and lydig cells in their children. These changes may cause disorder in fertility of second generation rats. Therefore it is suggested to be careful in blood transfusion of vasectomized patients to female patient who receive blood transfusion.

**Key words:** Antibody antisperm, Testis tissue, Second generation, Rat.

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**P-28**

**The Comparison of DNA fragmentation and sperm parameters after processing by density gradient and Swim-up methods**

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**Introduction:** Assisted reproductive techniques (ART) have been applied extensively to alleviate the problem of infertility. Processing of semen is an integral part of all these treatments. Swim-up and density gradient techniques are the most common methods have been used to select motile spermatozoa prior to assisted fertilization. The aim of this study was to determine the efficiency of the PureSperm, All grad and Swim-up preparation techniques to recovered spermatozoa with high degree of motility, normal morphology and low level of DNA fragmentation.

**Materials and Methods:** A total of 35 semen samples were included in the study. Semen samples were collected and one part of the semen spread on a slide, the remainder was prepared using the Swim-up, PureSperm or All grad techniques. The recovered spermatozoa were evaluated for concentration, motility, and normal
morbidity. Comet assay was carried out to assay DNA fragmentation in all samples.

**Results:** There were no significant differences in sperm parameters between PureSperm and All grad gradients, but both of them behaved significantly better than Swim-up. When prepared using the Swim-up technique, the spermatozoa recovered showed significantly higher level of DNA fragmentation in compare to gradients, but there were not any significant differences between PureSperm and All grad gradients.

**Conclusion:** The results of this study demonstrated several benefits of gradients method using PureSperm or All grade in separation of normal and motile spermatozoa with health DNA in compare to Swim-up method.

**Key words:** Sperm, Gradients, Sperm separation, Swim-up, Comet assay.

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**P-29**

**Induction of endoderm lineages from mouse embryonic stem cells**

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**Introduction:** The aim of this study was producing endoderm lineages from embryonic stem (ES) cells.

**Materials and Methods:** Mouse ES cells which produced previously in Anatomical Science Group of Ahwaz University was used. For inducing Embryoid bodies, undifferentiated ES cells transferred to low attachment culture dishes. After dividing Embryoid bodies into two experimental and control groups, they cultured in gelatin coated flasks for one week. Activin A (100ng/ml) was added to culture medium of experimental group. Gene expression of ectoderm (nestin), mesoderm (Brachyury) and endoderm (TAT, Pax4 and GATA4) was estimated by RT-PCR method. The cells of experimental and control groups was stained by PAS and Ditizone respectively.

**Results:** The results from RT-PCR method showed that all embryonic gene lineages were expressed in ES cell. In addition the expression of endoderm genes increased. This issue was established by PAS staining method for liver and Ditizone for pancreas tissues.

**Conclusion:** It can be suggested that Activin A induces endoderm in ES cells. According to the more increased number of Ditizone stained cells of experimental group, it can be said that using this concentration of Activin A induces more differentiation of pancreatic cells from ES cells.

**Key words:** ES cells, Endoderm, Embryoid bodies, PAS, Ditizone.

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**P-30**

**Culture of the rat mesenchymal stem cells: using peripheral blood-derived plasma as a culture medium supplement**

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**Introduction:** In current protocol for isolation and expansion of mesenchymal stem cells (MSCs), the use of fetal calf serum (FCS) as a medium supplement is inevitable. FCS is immunogenic for human and may transfer infection in the case of transplantation. In the search for appropriate substitute for FCS, in present study, the effect of plasma prepared from peripheral blood on the growth of MSCs has been examined.

**Materials and Methods:** Bone marrow cells from rat’s long bones were cultivated in medium containing either FCS or plasma prepared from rat’s peripheral blood for three successive subcultures. In each stages of culture, colonogenic ability, population doubling, viability and the rate of cell proliferation in two groups were respectively evaluated by colony forming assay, cell count, MTT assay and drawing of growth curve. All experiments were replicated 10 times and the average values for each group were statistically compared. Furthermore, passaged-3 cells from each group were examined in terms of bone and adipogenic differentiation.

**Results:** The cells cultured in plasma group appeared morphologically fibroblastic, while those from FCS group were heterogeneous in which some non fibroblastic clear cells was observed in their culture. The culture of plasma groups produced more colon compared to those from FCS groups but the colons from FCS groups appeared larger than of those from the plasma groups. In general, the cells from FCS groups were significantly better than of those from plasma groups in terms of total population doubling number and MTT test but these differences were
not significant in passage 3. Moreover, growth curve drawn for each group indicated that the proliferation of the cells from plasma group is somewhat slower than of those from FCS groups. The cells from both groups were readily differentiated into osteoblastic and adipogenic cells lineages.

Conclusion: Taken together, plasma as a substitute for FCS could support MSCs proliferation and maintains their viability in vitro, although these effects were somewhat less than of FCS effects, but, instead, it could be considered as a safe substitute to FCS.

Key words: Mesenchymal stem cells, Plasma, Cell proliferation, Fetal bovine serum, Differentiation.

P-31
Study of molecular diagnosis of Y-chromosomal microdeletions in azoospermic and severe oligozoospermic men in Iranian population

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Introduction: Genes on the long arm of Y-chromosome (Yq), particularly within interval 6, are believed to play a critical role in human spermatogenesis. It has shown that microdeletions of Yq may account for a significant proportion of men with infertility in different populations. Y-chromosome microdeletions are known as the second frequent genetic cause of spermatogenetic failure in infertile men after Klinefelter syndrome.

Materials and Methods: Over last 5 years total of 700 infertile individuals have been referred to our center for Yq microdeletions analysis. The objective of this study was to determine the proportion of men with idiopathic azoospermia or severe oligozoospermia, who carry microdeletions in Y-q. EDTA blood was taken and DNA extracted according to standard protocol. PCR were performed using different STSs multiplex reaction designed for covering three regions of Y-chromosome known as AZFa, AZFb, and AZFc.

Results: In total 4.7% azoospermic and oligozoospermic failed to amplify one or more STS. Interestingly 26 out of 33 patients had microdeletions in AZFc region that is 78.7% of all microdeletions found. These data suggest a 4.7% prevalence of Yq microdeletions in men with idiopathic azoospermia or severe oligozoospermia.

Conclusion: The physical locations of these microdeletions provide further support for the concept that a gene(s) on Y-q interval 6 plays an important role in spermatogenesis.

Key words: Azoospermia, Genetic testing, Microdeletion, Oligozoospermia, Spermatogenesis, Y-chromosome.

P-32
Development of an in vitro culture system capable of supporting human spermatogonia stem cell colonization

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Introduction: Since different conditions, can lead to a block of differentiation step and finally lead to maturation arrest, so isolation, proliferation and in vitro colonization of spermatogonia stem cell will allow powerful new approaches in biological basis for male reproduction and for treating selected causes of male infertility.

Materials and Methods: Biopsy of testis was obtained from patients with arrest in one of process of spermatogenesis. The samples minced mechanically into small pieces and after enzyme digestion were transported into incubator (32°C) to separate the cells from seminiferus tubules. Mixed population of the cells was placed on lectin-coated dishes. After two days, Sertoli cells formed a confluent layer and spermatogonial cells were proliferated on top of them. Assay of the spermatogonial-cell-derived colonies was commenced after 7 days of co-culture and carried out every 3 days after the appearance of colonies during culture by an inverted microscope.

Results: The cell population obtained from the seminiferus tubules of human testes contained mostly two different cell types with different sizes and morphology. The first type was 7.5-8 μm in diameter and had an irregular outline with a granular appearance. Larger than the first one, the
second type had a diameter of 14–16μm, a spherical outline and two or three eccentrically placed nucleoli. The first type proliferated and created a monolayer of cells, whereas the other types created a colony after proliferation.

**Conclusion:** In this research, was found that Sertoli cells could influence human spermatogonial proliferation in vitro.

**Key words:** Stem cell, Spermatogenesis, Male infertility.

**P-33**

Genetic counseling in carriers of reciprocal chromosomal translocations involving two autosomes

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**Introduction:** One of the main genetic causes involve in the pathogenesis of recurrent abortion is parental chromosomal abnormalities. The central concept in genetic counseling with such families is to estimate the probability of recurrence of unfavorable pregnancy outcomes. The main questions that consultants usually ask are: why this happened? What is the risk to be done again?

**Materials and Methods:** Our cases were two families with repeated miscarriage. The pedigrees were drawn, the chromosomes of couples were studied and estimation for recurrent risk was done. We tried to answer those two main questions and clear the results for them.

**Results:** Parental chromosome abnormalities were founded after karyotyping with GTG technique at 450 band resolution, revealing 46 chromosomes with balanced translocation of autosomes in one of the partner in both families. Recurrent risk was estimated at 1/6 for their future pregnancies in each family. Couples in which one partner is the carrier of such balanced translocation have increased risks of infertility, recurrent abortion, and delivery of chromosomally abnormal offspring.

**Conclusion:** Genetic counseling of such couples therefore presents a unique challenge and should be considered in dealing with such families.

**Key words:** Reciprocal translocation, Repeated miscarriages, Genetic counseling, Abortion, Family planning.

**Study of relationship between antisperm antibody and risk factors for its formation in infertile men**

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**Introduction:** Many studies demonstrated that antisperm antibody (ASA) can interfere with fertilization. ASA can be detected in the serum or semen through numerous test. In this study, the percentage of ASA-IgG was determined by the direct mixed antiglobulin reaction (MAR) test in men from infertile couples in Khorramabad city. Furthermore, the risk factors for ASA were evaluated to see if there was any correlation with the presence of ASA.

**Materials and Methods:** In total 200 men were tested for ASA as a part of an infertility evaluation. Patients were grouped according to percentage of ASA of <10% or ≥10% risk factors for ASA (varicocele, hernia, and genitourinary infections) were calculated for each group. Statistical analysis was performed using Fisher’s exact test.

**Results:** Prior varicocele was significantly associated with ASA by direct MAR (p-value<0.001). Prior hernia were not associated with ASA by direct MAR (p-value=0.52). Prior genitourinary infections were significantly associated with ASA by direct MAR (p-value<0.001).

**Conclusion:** These finding suggest that manipulation of cord structures including the Vas were not associated with formation of ASA; however, varicocele and prior genitourinary infections are significant risk factors for the development of ASA.

**Key words:** Antisperm antibody, Infertility, Mixed antiglobulin reaction.

**P-35**

Cigarette smoking and erectile dysfunction

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**Introduction:** Erectile dysfunction (ED) is a common public health problem affecting millions of men worldwide. It has a strong negative effect on interpersonal relationships and quality of life
Materials and Methods: This is a review article that reviewed 14 full and abstract studies about the current issues about the effect of smoking on erectile dysfunction published between 1996-2007.

Results: This review shows that the risk of (ED) is influenced by smoking. Therefore, the education for in order to be aware and informed of the effect of tobacco on erectile dysfunction seems necessary.

Conclusion: Smoking increased 50% risk of (ED) for men in their 30s and 40s. Review of studies show that heavy smoking (30 cigarettes or more/day) was significantly associated with (ED). Study suggests that the prevalence of (ED) increases with the number of years of smoking. Although passive exposure to cigarette smoke at home or at work increases the incidence of (ED). Mechanism of (ED) in smokers include abnormal low penile blood pressure, excessive venous outflow in the penis that can reduce the time of an erection maintained, impaired the valve mechanism that traps blood in the penis, increased nicotine levels in the bloodstream, rapid contraction in the penile tissue result of nicotine stimulation in the brain. Smoking of cigarette induces infertility in men by decrease sperm production, decrease testosterone, 19% reduction in sperm concentration, increase abnormality in sperm motility and morphology, and reduction in sperm count and density.

Key words: Erectile dysfunction, Cigarette smoking.

P-36
Effects of sperm parameters on success rate of intrauterine sperm injection technique (ICSI) in spinal cord injured men

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Introduction: One of the most important causes of infertility in men is spinal cord injury (SCI) because of poor semen quality and inability in ejaculation. This study was about the effect of sperm parameters on the ICSI technique in spinal cord injured men.

Materials and Methods: In total 71 SCI men and 44 healthy men (unexplained infertile couples) treated with ICSI technique. Routine semen analysis was performed for both groups and then effect of each sperm parameter on rate of pregnancy in both groups was evaluated.

Results: Our results showed that most of the sperm parameters don't have any influence on the rate of pregnancy in both groups except motility, count2 and morphology of sperm.

Conclusion: We concluded that IVF-ICSI method is one of the best choices for pregnancy in infertile couples with male factor (SCI).

Key words: Sperm parameter, SCI, ICSI, Infertility.

P-37
Assessing of hypogonadism and free testosterone levels among sulfur mustard induced asthma in Iranian veterans: a case control study

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Introduction: Disorder of testosterone (T) biosynthesis and decline of serum level had reported in systemic inflammatory rheumatoid arthritis disease and with less frequency in chronic obstructive pulmonary disease and a few other pulmonary diseases. However, no known study has performed about sulfur mustard (SM) induced asthma in Iranian veterans. The aim of study was to assess status of hypogonadism and free serum T levels in SM induced asthma and to compare with healthy subjects.

Materials and Methods: Protocol of study based on random selection of target population among SM induced diseases by self-report questionnaire, male, physician-diagnosed asthma, and positive history of SM exposure. Healthy subjects enrolled according to age sex-matched as a control.

Results: Thirty-three chemical victims had mean age 53.39±6.69 SD years. Mean serum free T level was 15.98±10.52 SD which was in 30.6% of them below the lower normal range. Moreover, mean serum values of Follicle stimulating hormone (FSH), Latinizing hormone (LH), and Dehidroepianderstone (DHEA) were 11.70±9.45 SD, 10.40±7.65 SD, and 1.32±0.70 SD respectively. Mean free T level of 39 healthy subjects were 23.45±8.31 SD. The independent samples T test was performed between SM induced asthma and normal groups. Highly significant differences were founded between free serum T levels among SM induced asthma and normal subjects (p-value<0.001).

Conclusion: The highly significant frequency of hypogonadism observed in SM induced asthma group. It may be due to stress of chemical war, influence of glucocorticoid usage, and toxic effect.
of SM on spermatogenesis. Further studies will suggest carrying out in future years.

Key words: Testosterone, Hypogonadism, Asthma, Glucocorticoid, sulfur mustard gas, Steroid sex hormone, Pulmonary disease.

P-38
Effect of ice massage on Hoku point for labor pain

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Introduction: One of the most important causes of anxiety in mother and families is labor pain and methods of its relief that have many effects on labor management, patient satisfaction and labor outcome. In the world, pharmacological and non-pharmacological methods are used to relief labor pain. Acupressure is one of the relief pain methods that can be used for labor pain but research on this subject is few. The purpose of this research was to determine the effect of ice massage on Hoku point for labor pain.

Materials and Methods: Participants of this clinical trial study were 60 pregnant women that have inclusive criterions. Participants were randomly divided to two groups of thirty, each. (Control=touch of Hoku point, Case=ice massage of Hoku point). This procedure did for thirty minutes. Labor pain of subjects was measured by visual analog scale before and after the procedure.

Results: There are no statistically significant differences between the groups in gestational age, parity and age. Results showed that ice massage of Hoku point reduced the pain significantly.

Conclusion: Acupressure is a noninvasive, simple and cheap method of relief pain and our study confirms its effect on reducing the labor pain. This method is useable in delivery rooms.

Key words: Labor pain, Ice massage, Hoku point.

P-39
Domestic violence against women during pregnancy

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Introduction: Every year 5 million women were abused by their partner. To determine the prevalence of domestic violence (DV) against women during pregnancy we performed this investigation in women in Yazd.

Materials and Methods: This cross sectional study was done in pregnant women in Yazd. We used domestic violence questionnaire including demographic information and verbal and physical and sexual abuse. Partner addiction and drug abuser was asked. Data analysis were performed with descriptive and X² tests.

Results: The results showed that %12.7 of husband jobless and 3.3% were drug abuser. Physical abuse was reported in 5-5.5% of the cases during the pregnancy. Fikree in USA (2006) reported that 44% of women reported lifetime marital physical abuse, 23% during the index pregnancy. Among the 132 women who were ever physically abused, all reported verbal abuse and 36% sexual coercion.

Key words: Domestic violence, Abuse.

P-40
Adolescent pregnancy

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Introduction: Pregnancy in adolescence has been and continues to be a problem in public health. Adolescent pregnancies are considered high risk with many obstetric complications and poor obstetric results. Adolescent parenting presents challenges to mothers and their children. Young mothers are often unprepared for the task of parenting and have relatively high rates of depression. Children of adolescent parents have in increased risk of being maltreated and experiencing behavioral and developmental problems. Studies show that adolescent primigravidas tended to have later awareness of their pregnancy, later first prenatal visits, fewer total prenatal visits, and less parental support. Adolescent also had higher rates of unintended pregnancy, prenatal morbidity, and more often the victims of physical abuse by male partners. Potentially inadequate weight gain and short duration of breast feeding were significantly more common in adolescents. In general, adolescent mothers were found to become pregnant largely due to misunderstandings about reproduction and birth control. Themes related to advantages of teen
pregnancy included enhancing connection, positive changes/benefits, and practical consideration. Themes related to disadvantages included lack of preparedness, changes/interference, and others’ perception. To decrease the complications, adolescent pregnancies must be followed up as high risk pregnancies, especially in developing countries where socioeconomic factors are more pronounced.

**Conclusion:** Studies suggest that adolescent mothers should continue to receive developmentally appropriate services. Education about contraception is needed as well as education aimed at promoting self-esteem, interpersonal skills, and age-appropriate development of adolescent parents and children.

**Key words:** Pregnancy, Adolescent.

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**P-41**

**Evaluation of effects of frequent ultrasonography and outcome of low-risk pregnant women**

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**Introduction:** The safety of ultrasonography in pregnancy is well documented. Ultrasound examination can diagnose in approximately 50% of major anomalies but the effect of routine sonography on perinatal outcome in low-risk pregnancies has not been established.

**Materials and Methods:** This study was done on 380 pregnant women who had their delivery in some of Tehran's Hospitals. The data was cumulated by a questionnaire that had been completed by the investigator. Statistical analyzing was done by SPSS.

**Results:** The analysis of data showed that there was no significant differences between range of sonography (>3, <3) and birth weight, head diameter, chest diameter and high APGAR in infant. This data showed that in women with >3 sonography, range of cesarean was increased.

**Conclusion:** The findings of this research showed that increase of range of sonography was not associated with improvements outcome of pregnancy.

**Key words:** Ultrasonography, Pregnancy outcome.

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**P-42**

**Diagnostic power of quantitative HCG of cervicovaginal washing fluid for the diagnosis of premature rupture of membranes.**

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**Introduction:** Premature rupture of membranes (PROM) is defined as rupture of membranes before the onset of labor at any time during the gestational period. It occurs in 2-25% of pregnant women. Traditionally, the diagnosis of PROM has relied on a combination of factors, including the patient's history, identification of gross pooling of amniotic fluid in vagina, ferning pattern after microscopic examinations, and the nitrazine test. Unfortunately, these simple tests are fraught with both false positive and false negative results caused by various factors that can result in an equivocal or delayed diagnosis. The absence of a non-invasive 'gold standard' for the diagnosis of PROM has led to the search for the alternative biochemical markers. This research has been conducted to comparison the diagnostic power of qualitative and quantitative βHCG of cervicovaginal washing fluid for the diagnosis of PROMs in Vli-e-Asr Hospital, Zanjan, Iran in 2006.

**Materials and Methods:** This diagnostic experimental study was undertaken with cervicovaginal samples collected from singleton pregnancies between 14-41 weeks of gestation. Totally 86 pregnant women were enrolled in this study. Subjects were divided in two groups: confirmed PROM [amniotic fluid pooling (+), nitrazine paper test (+) and fern test (+) =43] and the control group [amniotic fluid pooling (-), nitrazine paper test (-) and fern test (-) =43]. Washing were then collected from the posterior vaginal fornix with the use of 5 ml of sterile saline irrigation and aspiration techniques. We measured HCG levels with ELISA test.

**Results:** The median HCG levels were 250.60 (MIU/ML) and 6.2 (MIU/ML) in PROM and control group respectively. From the receiving operating characteristic curve 22 (MIU/ML) was set as a cut off value. Sensitivity, specificity, positive predictive value, negative predictive value, and accuracy were 95.3, 97.7, 97.6, 95.5 and 96%, respectively.
Abstracts of 14th Congress of Iranian Society for Reproductive Medicine

Conclusion: Quantitative HCG of cervicovaginal washing-fluid was accurate tests for the diagnosis of PROMs in our study.
Key words: Premature rupture of membranes, Cervicovaginal, HCG, Diagnosis power, ELISA.

P-43
Infertility, its risk factors and prevention.
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Introduction: Studies suggest that about 10% of women between the age of 15 to 44 years or about 6.2 million women have impaired fertility and this may be as high as 7.7 million in 2025. About 50–70% of these cases can be changed with change of lifestyle. With the respect of high prevalent of infertility in the society, study of risk factors and prevention of them provide suitable information to the young to help them for solution of this self public problem. Many of risk factors for both male and female infertility are the same.

P-44
Non obstetric surgery during pregnancy
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Introduction: Care of the obstetric patient undergoing nonobstetric surgery can be challenging. Approximately 1 in 500 pregnancies is complicated by a nonobstetric surgical condition. The need for anesthesia and surgery during pregnancy occurs in 1.5% to 2% of all pregnancies. The anatomic and physiologic changes of pregnancy complicate a woman’s response to elective or emergency surgical intervention. Alterations related to perioperative positioning, fluid volume replacement, effects of medicinal and anesthetic agents, and maternal/fetal assessment are discussed. Emotional and ethical/legal concerns are considered. Nonobstetric surgical emergencies may be difficult to recognize in pregnant patients whose normal physiologic state is altered by pregnancy. The diagnosis of any medical condition requiring surgical intervention in pregnancy often raises question about the safety of both surgery and anesthesia in these patients. This controversy was primarily attributed to the lay press speculations that surgery and anesthesia in pregnancy could pose hazards to the mother and fetus. Despite recent advances in anesthetic, perinatal, and perioperative care, surgical intervention during pregnancy may still result in fetal loss either spontaneous abortion (especially in the first trimester) or premature labor (especially in the third trimester). Additionally, there is an increased risk of low birth weight infants (<2500gm), and growth- restricted babies with surgical intervention during pregnancy. Therefore, whenever possible, surgery should be deferred until after parturition in the gravid patient is occasionally necessary. Despite these concerns, the safety of nonobstetric surgery and anesthesia in pregnancy has been well established, and many pregnant woman are safely anesthetized everyday without ill effects for the mother or fetus.
Key words: Non obstetric Surgery, Pregnancy.

P-45
Study on sexual satisfaction of women referring to Infertility Center in Sari
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Introduction: Enhancing women health requires paying attention to their healthy requests and meeting their needs. Sexual need is one of the basic needs of human being. Sexual satisfaction has a considerable effect on psychiatric health and marital relationship. Sexual satisfaction is affected by intrapersonal characteristics, psychiatric and emotional relationship of couples, physical and environmental agents. Infertility induces psychiatric problems to women which lasts sexual dissatisfaction and decrease in sexual contacts. Sexual disappointment can worsen crisis and produces a lot of temporary annoyance and depression. This study was carried out to determine sexual satisfaction of women referring to Infertility Center in Sari city.
Materials and Methods: This descriptive study was done on 23 infertile women referring to Infertility Center in Sari city via simple random sampling. Information was gathered through a questionnaire. Descriptive statistics was used to analyse the data.
**Results:** In total 60.87% of respondents had satisfactory and enjoyable sexual contacts with their spouses. Overall, 39.1% of women described sexual contacts as pleasant feelings. Majority of women (69.75%) stated no failure about sexual issues. While 30.43% of respondents stated they do sexual contacts just to make happy the spouses. Finally, 30.4% of women said that sometimes sexual contacts were pleasing.

**Conclusion:** Members of health team have an important role to guide and educate proper solutions toward satisfactory sexual relationship.  

**Key words:** Sexual satisfaction, Infertility.

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**P-46**

**Study on viewpoints of infertile women referring to Infertility Center in Sari city to adopt a child**

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**Introduction:** Reproduction is one of the most important functions of family. At first most of couples try to reproduce by themselves. In spite of increasing health and medical achievements, many people suffer from infertility due to several failures. Infertile men and women don't have the feeling of good fortune and they feel the loss even more in their lifetime. Marital life reaches crisis point due to infertility. One of trustful ways for existence of family in such couples is to adopt a child. It means to accept a child and to grant him all legal benefits. Most of Iranian families accept a child doubtfully because of some socio-cultural, emotional and legal difficulties and also fear about the child's future. This study was carried out to determine the viewpoints of infertile women about adoption a child.

**Materials and Methods:** This descriptive study was conducted on 16 infertile women referring to infertility center in Sari city. The gathering tool of information was a questionnaire designed in two sections of demographic characteristics and viewpoints of women to adopt a child. Descriptive statistics was used to analysis the data.

**Results:** In total 36.8% of infertile women were in the age group of 25-29 years old. 68.4% of women had common lives with their spouses after 5 years. Majority of women (47.3%) had a background of infertility more than two years ago. In 52.6% of infertile couples the problem of infertility was related to women. Infertility had affected marital relationship of 21% of women. 47.3% of women and 26.3% of spouses were agreed about adoption a child. Majority of infertile women (31.5%) who were hopeful to treatment, were disagreed on adoption. 36.8% of women stated some reasons to agree on adoption a child like to meet emotional and psychiatric needs of couples and to protect integrity of family.

**Conclusion:** Assessing the viewpoints and problems of infertile couples is important in planning programs and making policies on reproduction health.

**Key words:** Infertile women, Infertility, Adoption.

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**P-47**

**The survey of maternal satisfaction about labor and delivery supports in teaching hospitals of Tehran**

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**Introduction:** Child birth is one of the most stressful situations in a woman’s life. To gratify a woman for delivery she should be supported in different aspects: emotional, somatic and intellectual. This study was conducted to identify if mothers know the importance of being supported to a satisfying level in different somatic, emotional, and informational aspects during labor and delivery.

**Materials and Methods:** In this descriptive study 400 post partum mother selected randomly and were interviewed with questionnaire in 10 teaching hospitals in Tehran University. Data were processed in SPSS and tested with chi square and Fischer exact test.

**Results:** Results showed that most of mothers knew the importance of somatic, informational, and emotional supports (in decreasing order of frequency). They had received inadequate emotional supports. But most of them were satisfied with (in decreasing order) informational, emotional and somatic supports. Satisfaction with supports had not meaningful association with the importance of supports in mothers but had correlation with reception of the supports (p-value<0.05).

**Conclusion:** Being satisfied with supports despite their inadequacy may be due to the fact that
mothers did the time of interview just before discharge. No correlation between demographic variables and the value of importance in different supports shows that these are basic needs and all should be provided equally.

**Key words:** Somatic, Emotional, and informational supports, Labor, Delivery.

**P-48**

**Systematic counseling and efficiency of contraception methods**

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**Introduction:** Population increase and its consequences like environment pollution, decrease of natural resources and increase in consumption is one of the greatest problems in our community, so it is essential to promote contraception services to reach community welfare and high levels of health for all. It is obvious that high quality contraception services can increase positive attitude, knowledge and practice of users promote our community health position. So contraception counseling is an important part of our health care services. For this reason we decided to compare two ways of counseling (systematic vs. ordinary) to choose more appropriate methods of contraception counseling. The aims of this study were 1/comparing discontinuation rate of contraception methods in a year between cases received systematic counseling and those who received ordinary one, 2/ comparing the causes of discontinuation of contraceptive methods in two groups.

**Materials and Methods:** This was a clinical trial research that 155 cases selected randomly between 335 women who wanted to choose a contraceptive method then systematic counseling were done for them whereas 181 cases had routine counseling session. In two groups three methods were used (Ocp, Iud, Dmpra). In case group, women before choosing their method were counseled in a regular way which all the rules of counseling were considered. They were observed for a year. Discontinuation rate and its causes were calculated in two groups.

**Results:** Statistical analysis of data showed that discontinuation rate (p-value<0.01) and its causes (p-value<0.01) were different in two groups. Systematic counseling causes decrease in discontinuation rate of contraceptive methods.

**Key words:** Systematic counseling, Contraceptive methods.

**P-49**

**Evaluation of infertile couple’s quality of life in Infertility Medical Centers of Tehran Medical Sciences University**

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**Introduction:** Infertility is a phenomenon that effect on different dimensions of quality of life in couples. This survey was done to determine the quality of life in infertile couples who came to infertility centers of Medical Sciences University of Tehran.

**Materials and Methods:** This study was cross-sectional and sample size included 60 infertile couples in each case and control group. Sample size was selected with random method. Tool was WHOQOL questionnaire that was validated in a pilot study. Data collection was done by educated personels. The data was analyzed by SPSS software. The statistical methods used in this study were chi-square, paired T-Test and independent T-Test and Wilcoxon test.

**Results:** The results of this study indicated that mean score’s quality of life in 4 dimensions (physical, psychological, social, sexual) of infertile couples were 12.41. The score in infertile men was 12 but in infertile women it was 11. Quality of life score in social dimension was good in 12.5%, moderate in 71.7% and poor in 15.8%. Psychological dimension was poor in 36.7% of infertile women and in 13.3% of men.

**Conclusion:** The score of quality of life in infertile couples was low. Quality of life in infertile women was lower than men. This survey can be applied for more attention to women especially infertile women in health planning.

**Key words:** Infertility, Quality of life, Infertile couple.

**P-50**

**Multiple marker screening: Triple test**

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**Introduction:** The Triple test is a blood test and non invasive procedure. For the best results, this test should be taken between the beginning of the 15th week (13 weeks from conception) and end of the 17th week (15 weeks from conception). The blood taken from the mother is tested for the levels of three (hence 'triple test') specific proteins; AFP, HCG and UE3. Details of these are described on the presentation. The levels of these markers combined with the mother's age and the ethnicity of the parents can indicate the probability of the fetus having certain genetic disorders.

**Conclusion:** The Triple test screening process has been refined to include testing for Down syndrome (Trisomy 21), Neural Tube Defects (Spina Bifida).

**Key words:** Congenital anomaly, Triple test.

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**P-51**

**Incidence and risk factors of preterm birth among nurses and midwives of Tehran’s Universities of Medical Sciences.**

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**Introduction:** Preterm birth is a major public health problem and prematurity is a common cause of neonatal mortality. Due to lack of biological knowledge concerning the mechanism of labor, variable hypothesis include: demographic factors, obstetric history, life-style and occupational factors are considered as predisposing factors of preterm birth. Our purpose of this study was to evaluate the incidence and risk factors of preterm birth among nurses and midwives.

**Materials and Methods:** We conducted a cross-sectional study of 518 employed nurses and midwives in the hospitals of Tehran’s universities of medical sciences. They experienced their last pregnancy at 2001-2006. Risk factors have been evaluated through physical activity, obstetric history and complication during last pregnancy. Physical activity was evaluated through three distinct dimensions: work activity (employment and non employment related physical activity) sports activity and leisure activity. The relation between these factors and preterm birth was analyzed with the use of Pearson $x^2$, T test and Manwitny U tests by SPSS software.

**Results:** Exposure with obstetric risk factors include previous preterm labour (p-value=0.000), LBW (p-value=0.000), hypertension (p-value=0.000) and complication during pregnancy include placenta previa, placental abruption, hypertension, were significantly higher in preterm group than term group (p-value<0.05). Physical activity include work and leisure activity didn’t show significantly correlation with preterm birth (p-value>0.05). House holding relation factors include: house helper, adequate rest (day and night), emotion of fatigue, number of house member, children <2y and 5y, doesn’t show significantly correlation with preterm birth (p-value>0.05).

**Conclusion:** According to the finding of this research, physical activity are not associated with preterm labour but obstetric history and complication during pregnancy are associated with preterm labour. Further investigation suggested.

**Key words:** Risk factor, Physical activity, Preterm birth.

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**P-52**

**Diagnosis and treatment of premenstrual dysphoric disorder**

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**Introduction:** Premenstrual dysphoric disorder or PMDD is a condition associated with severe emotional and physical problems. The symptoms occur regularly in the second half of the cycle and end when menstruation begins or shortly thereafter. According to a report by the Committee on Gynecologic Practice of the American College of Obstetricians and Gynecologists up to 80% of women of reproductive age have physical changes with menstruation; 20 to 40% of them have PMS, while 2 to 10% report have severe disruption of their daily activities. Since the important role of women in the family and society preformed a systematic review of PMS and PMDD to achieve new line of treatment.

**Results:** Currently, there is no consensus on the cause of PMDD. Biological, psychological, environmental and social factors all seem to play role in the symptoms. One theory states that women who experience PMDD may have abnormal reactions to normal hormone changes that occur with each menstrual cycle. This may include the fluctuation of estrogen and progesterone levels that normally occur. The goals of treatment in patients with PMDD are (1) symptom reduction and (2) improvement in social and occupational functioning, leading to an enhanced quality of life. Available treatment options are summarized in: lifestyle change;
nutritional supplements, non pharmacological treatments, and hormonal therapies.

Conclusion: Since 1990, many treatments have been used for premenstrual symptoms, for premenstrual syndrome (PMS), and most recently for premenstrual dysphoric disorder (PMDD). Women with PMDD find that it has a very disruptive effect on their lives.

Key words: Premenstrual Dysphoric Disorder, Diagnosis, Treatment.

P-53
Comparing the efficacy of two therapeutic methods: “zygote intrafallopian transfer after pronuclear scoring” and “uterine embryo transfer” in male factor infertility

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Introduction: Techniques such as GIFT and ZIFT use the tubal microenvironment as the initial point of germ cell contact after transfer. None of the studies used a systematic approach for selection of zygotes for ZIFT. Scott et al have suggested PN scoring of zygote at 16–18 hr after insemination or ICSI based on the size of pronuclei and distance between them, number and polarization of nucleolus precursor bodies (NPB) at the one-cell stage. This study was performed for determination of pregnancy and implantation rate in ZIFT by selection of high quality zygote according to Scott PN morphology and comparison with uterine embryo transfer (UET) results.

Materials and Methods: This prospective randomized clinical trial was done in Yazd, Iran in 2004. The study included 85 couples with male factor infertility and at least one patent tube, undergoing ICSI (30 in case group and 55 in control group). In case group PN morphology evaluation was performed, 24 hr after oocyte retrieval (OR) and at least 3 zygote preferably with Z1and/or Z2 pattern transferred into the one patent tube by laparoscopy. Otherwise, zygote selection was performed from Z3 and Z4 pattern. In control group 72 hr after OR, at least 3 embryos with the best quality were transferred in the uterine cavity.

Results: In ZIFT and UET, chemical PR per transferred was 23.4% and 23.6% (p-value=0.975). Clinical PR per transferred was 16.7% and 18.2% (p-value=0.136) and implantation rate (IR) was 5.6% and 6.2% (p-value=0.819). Chemical and clinical PR and IR in ZIFT was similar to UET.

Conclusion: Our study showed by zygote selection according to PN morphology and transferring into the fallopian tube, clinical pregnancy and implantation rate were not improved compared with UET. Considering advanced technology in in-vitro embryo culture, similar results of ZIFT and UET, risks and complications associated with anesthesia and laparoscopy, ZIFT procedure is not recommended .

Key words: PN scoring, Intracytoplasmic sperm injection (ICSI), Uterine embryo transfer (UET), Male factor infertility, Zygote intrafallopian transfer (ZIFT).

P-54
Use of drugs during pregnancy in pregnant women

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Introduction: Using drugs especially herbal medicine is so common among pregnant woman to improve both the mother and fetus’s health. This research was programmed in order to study the drug usage (herbal and chemical) during pregnancy and its relation to the mother and child’s health.

Materials and Methods: In this descriptive and cross-sectional study, 3587 pregnant women in all hospitals of Birjand were interviewed. The questionnaire included baby’s health condition and the drugs taken by their mothers. The samples were taken randomly from volunteers. The statistic tests were X² and T-test.

Results: In total 28.1% of pregnant women were reported to use chemicals during pregnancy. These chemicals were of three major types: supplements (Vitamins, Iron, Folic Acid), analgesics and sedatives (Acetaminophen) and Antibiotics. Overall 36.8% of pregnant women used herbal drugs. Among 64 types of herbal drugs which were used Zingerber was the most favorite. About 1.6% of pregnant women used herbal and chemical drugs to abort embryos. The most common usage of herbal drugs was for cold and relieving pain. In this study, 14.4% of mothers
were illiterate and 37.4% were just of elementary education. There was a fine relation between drugs usage and mothers education. In 1.1% of newborns we found abnormality and the portion of herbal use larger than chemical.

**Conclusion:** The widespread use of drugs during pregnancy indicates an increased need to educate mothers especially for some drugs used for abortion and some others which are fatal in high dosage, or others which lead to child’s abnormality and mother’s problems. It is also suggested to pay an extreme attention to the safety and normal dosage of herbal medicines which are used more than chemicals.

**Key words:** Pregnancy, Pregnant woman, Herbal medicine, Side-effects.

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**P- 55**

**Fertility and infertility information resources on the Internet**

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**Introduction:** Fertility and infertility are familiar terms to many people. There are increasing demands to obtain more information about infertility by professionals in one side and the patients or their relatives in the other side. One of the main sources of information which is accessible to everybody is internet. This article provides information about the web sites that are related to different aspects of fertility and infertility. In each aspect, some of the most helpful Web sites that may serve as a source of infertility information are provided. In each site there will be links to other helpful Web sites. The authors are not responsible for the quality and content on any introduced sites.

http://www.fertilityneighborhood.com/ contains treatment information and a supportive community for infertility. Featuring a free ask the pharmacist service, chats with leading fertility experts, and the latest research news.

http://www.resolve.org/ is The National Infertility Association Web site in USA which answers the questions about infertility and family building options.

http://www.inciid.org/ The InterNational Council on Infertility Information Dissemination (INCHID – pronounced "inside") is a non-profit organization that helps individuals and couples explore their family-building options.

http://www.malereproduction.com/ The Center for Male Reproductive Medicine and Vasectomy Reversal is a non-sponsored websites dedicated to vasectomy reversal and Male fertility information.

http://www.asrm.org/ American Society for Reproductive Medicine (ASRM) is a voluntary, non-profit organization devoted to advancing knowledge and expertise in reproductive medicine, including infertility, menopause, contraception, and sexuality.

http://www.infertilitywebsites.com/ This Web site provides educational information to help infertility organizations develop, host, operate, and promote their infertility Web sites.

http://www.fertilityplus.org/ FertilityPlus is a non-profit website for patient information on trying to conceive. It is not professional, but rather is providing information that is written by patients for patients.

http://www.theafa.org/ The American Fertility Association (AFA) is a national, non-profit organization.

http://www.sart.org/ Society for Assisted Reproductive Technology (SART) is the primary organization of professionals dedicated to the practice of ART in the United States.

http://www.visembryo.com/ The Visible Embryo provides visual references for changes in fetal development throughout pregnancy and can be navigated via fetal development or maternal changes.

http://www.alphascientists.com/ Alpha Scientists Web site provides an international forum for scientists in reproductive medicine. The site provides access to professional resources such as events, images, job postings, and the embryology societies.

http://www.infertilitybooks.com/ This site contains over 320 infertility books, organized in helpful subject categories, for both consumers and professionals.
http://www.infertilityprofessionals.com/ This website provides helpful information for reproductive and infertility professionals, including physicians, embryologists, nurses, donor egg services, surrogacy services, and clinic office managers.

**Conclusion:** Despite the complexity of the Internet, it is surprisingly easy to search the World Wide Web for medical information. With the right skills you can save yourself a lot of time and effort making the Internet a highly effective tool for supporting your work in health and medicine.

**Key words:** Infertility, Fertility, Internet.