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ABSTRACT

The editors of the Iraqi Journal of Embryos and Infertility Researches (IJEIR) are thankful to the huge efforts made by the reviewers in peer reviewing the submitted manuscripts. Thanks to their efforts the second issue of the 10th volume is now available online with open access to the articles content. We are looking forward in inclusion in relevant indexing in the near future. We would like to acknowledge the reviewers for their contribution, and we wish them the greatest success. We ensured the anonymity of both reviewers and authors and followed a double-blind peer-review procedure. We strictly followed the COPE ethical code in the published studies. As of now, the IJEIR is published in new website https://ijeir.net/index.php/ijeir supported by the Open Journal Systems (OJS), therefore all the activities were strictly by the online system. Journal reviewers were given the proper credit via Publons (an online platform that promotes the peer review process). Currently, IJEIR is indexed in Google Scholar, Science gate, Crossref, Iraqi academic journals, Publons, Dimensions, LOCKSS, and CLOCKSS. Our articles are published under the Creative Commons Attribution 4.0 International License and the rights are with the authors which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made.

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Alawsi and Al-Kawaz. http://doi.org/10.28969/IJEIR.v10.i2.e1
### Our Reviewers

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### Our Authors

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Our Articles

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<th>Title</th>
<th>Effect of Administration of Single Dose GnRH Agonist in Luteal Phase on Implantation Rate of Fresh ICSI Cycles</th>
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<tr>
<td>Doi</td>
<td><a href="http://doi.org/10.28969/IJEIR.v10.i2.r1">http://doi.org/10.28969/IJEIR.v10.i2.r1</a></td>
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The luteal phase (LP) in the fresh ICSI cycle is insufficient, adequate LP support is one of the approved treatments for improving implantation and pregnancy rates. It is generally known that the LP is inadequate after ovarian stimulation due to negative from supra-physiological blood levels of steroids released by numerous corporal luteal, LH concentrations are low during the luteal phase. In this study, patients were divided into two groups: (40) patients as study group; those who received GnRHa (Decapeptil 0.1 mg), three days after embryo transfer, in addition to conventional luteal phase support (LPS) in the LP to increase the implantation and pregnancy rate in IVF; and their control group (40) received standard LPS only. On the second day of stimulation, blood samples for FSH, LH, TSH, E2, and prolactin were taken. On the day of ovulation induction, measure E2, progesterone, and LH; and on the day of embryo transfers, measure progesterone and LH. The overall characteristics of the patients in both groups were not significantly different. There was also no significant change in the number of total oocytes, mean of metaphase II oocytes percent, cleavage rate, grade I embryo percent, or serum hormones level between the study and control groups (p > 0.05). GnRH agonist treatment in the luteal phase improves clinical pregnancy and implantation rate in fresh ICSI cycles but is not statistically significant.

Keywords

Luteal Phase Support (LPS); GnRH; ICSI; FSH
Title
Evaluation of Oxidative Stress as a Contributor of Anesthetic Agents' Effects on Embryo Quality and ICSI Outcome in Iraqi Patients

Doi
http://doi.org/10.28969/IJEIR.v10.i2.r2

Abstract
Infertility is described as a couple's failure to conceive for at least a year, using unprotected sex. Even though all anesthetic chemicals have been revealed in the follicular fluids, general anesthesia is still used in many IVF centers for patients who want to get pregnant. This study included 60 infertile women randomly divided into two groups under general anesthesia. 30 patients were given a Ketamine dose of 0.5 mg/Kg and the other 30 patients were received Remifentanil dose of 0.5 µg/Kg for induction of anesthesia. We collected serum for Reactive Oxygen Species (ROS) levels assessment for all patients before and after starting general anesthesia. Routine ICSI procedures was performed on all participants, including clinical evaluation (history, examination, and investigation), controlled ovarian and ovulation stimulation, oocyte retrieval under general anesthesia, follicular fluid collection for postoperative anesthesia medication concentration (Remifentanil and Ketamine), oocyte stripping, oocyte maturity assessment, intra-oocyte sperm injection into mature cells (MII), fertilization and division evaluation and embryo categorization, embryo selection and transfer, luteal phase support, and beta-hCG determination. ROS concentrations were compared between the Remifentanil and Ketamine groups. There was no significant difference in embryo features between Remifentanil and Ketamine, indicating that neither one is superior to the other in this regard. When Remifentanil or Ketamine was taken, there was no significant difference in ROS levels in serum or follicular fluid.

Keywords
Ketamine, Remifentanil, Reactive Oxygen Species, Oocyte Quality, General Anaesthesia

Pages

Online Archive
https://ijeir.net/index.php/ijeir/V10i02AR02
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Title
Histochemical Study of Human Placental Tissues in Gestational Diabetic Mellitus

Doi
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Abstract
Gestational diabetes mellitus (GDM) is a serious pregnancy complication in which a woman who has never had diabetes develops chronic hyperglycemia during her pregnancy. Normal placental function is essential for optimal fetal growth. The transport of glucose from the mother to the fetus is critical for fetal nutrient demands and can be stored as glycogen in the placenta. However, the function of this glycogen deposition is unknown: It may well be a source of fuel for a placenta itself or the storage reservoir for the later use by the fetus in times of need. While the significance of the placental glycogen remains unknown, the mounting evidence indicates that the altered glycogen metabolism and/or deposition is associated with many pregnancy complications, such as gestational diabetes, that adversely affect fetal development. The aim of this study is to assess glycogen deposition using Histochemical staining of Periodic Acid Schiff (PAS) stain. The placenta tissue collected from 50 women were enrolled in this study (25 women with no complications) and (25 women with gestational diabetes). The placentas of the two groups were compared in this study based on glycogen deposition with periodic acid-Schiff stain. The results of a histochemical investigation using PAS stain revealed a significant increase in the glycogen deposition (p≤0.001) in diabetic women's placenta within the intervillous core, around fetal vessels, and the basement membranes.

Keywords
Histochemical, Placental, Gestational Diabetic Mellitus

Pages

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Correlation of Pregnancy-Associated Plasma Protein (PAPP-A) in Serum and Follicular Fluid with Oocyte and Embryo Quality in PCOS and non-PCOS Women Undergoing ICSI Cycle

http://doi.org/10.28969/IJEIR.v10.i2.r4

Pregnancy-Associated Plasma Protein (PAPP-A) is a zinc metalloproteinase in the insulin growth factor system (IGFs) produced by the syncytiotrophoblast region of the placenta. It plays a critical function in the cleavage of IGFBP4. In the ovary IGFs, it regulates follicular and oocyte maturation, and steroidogenesis. While in polycystic ovarian syndrome (PCOS) Hyperinsulinemia and hyperandrogenemia it causes follicular environment changes and early ovulation resulting in lower oocyte and embryo quality in patients and this will decrease the success of pregnancy in women enrolled in the ICSI cycle. The present study aimed to assess the relationship of PAPP-A levels in serum and follicular fluid in women with PCOS and non-PCOS with oocyte and embryo quality in women undergoing ICSI cycle. 45 infertile Iraqi women were enrolled. Women with PCOS had to meet at least two of the three criteria set by the Rotterdam ESHRE/ASRMS criteria, the age of the included women ranged between 20-45 years. In non-PCOS patients, PAPP-A has higher level in serum and follicular fluid but without a statistically significant difference matching with PCOS group. In addition, there was no significant correlation between PAPP-A levels in serum and follicular fluid with oocytes and embryo characteristics. However, PAPP-A levels are higher in serum and follicular fluid in women with positive pregnancy but without significant differences. PAPP-A had no correlation with oocyte and embryo quality.

Infertility, Polycystic Ovarian Syndrome, Pregnancy-Associated Plasma Protein, Intra Cytoplasmic Sperm Injection, Oocyte and Embryo Characteristics
| Title | The Effect of Intrauterine Infusion of Peripheral Blood Mononuclear Cells Culture on Subendometrial Blood Flow in Patients Undergoing ICSI Cycles |
| Doi | [http://doi.org/10.28969/IJEIR.v10.i2.e1](http://doi.org/10.28969/IJEIR.v10.i2.e1) |
| Abstract | In recent years increasing evidence proposed that local immune cells at implantation site have largely contributed to embryo implantation. The intrauterine infusion of activated peripheral blood mononuclear cells culture 2 days before embryo transfer can enhance the implantation. One of the methods used to evaluate the endometrial receptivity is by assessing the sub endometrial blood flow. A total of 67 infertile women (30) women receives intrauterine non-invasive insemination of peripheral blood mononuclear cells (PBMC) culture 2 days before embryo transfer representing the PBMC test group, and (37) women without receiving any cell as Non-PBMC group. The cultured PBMC are administered into the uterine cavity of the patients. 2 days later, embryos are transferred into the uterine cavity. Endometrial thickness and sub-endometrial blood flow measurements are taken for all cases on trigger and embryo transfer days. On embryo transfer day there was no significant difference (p = 0.770) in mean endometrial thickness between the PBMC group and Non-PBMC group. There was a significant difference (p< 0.001) in the mean resistive index; the level being lower in the PBMC group. Moreover, there was a significant difference (p< 0.001) in the mean pulsatility index. Regarding all enrolled women, the pregnancy rate of 25.4 %, the rate was higher in the PBMC group in comparison with the Non-PBMC group, 43.3 % versus 10.8 %, respectively and the difference was significant (p = 0.002). The use of PBMC culture can improve sub-endometrial. |
| Keywords | Endometrial Receptivity, ICSI, Fresh Embryo Transfer, Peripheral Blood Mononuclear Cells, Subendometrial Blood Flow |
| Online Archive | [https://ijeir.net/index.php/ijeir/V10i02AR05](https://ijeir.net/index.php/ijeir/V10i02AR05) |
| Online PDF | [https://ijeir.net/index.php/ijeir/article/view/v10i2r5_2021_ijeir](https://ijeir.net/index.php/ijeir/article/view/v10i2r5_2021_ijeir) |
| Dates | Received: 28-Sep-2021 Accepted: 06-Nov-2021 Published: 08-Nov-2021 |
Effect of Autologous Platelet-Rich Plasma (PRP) Treatment on Endometrial Receptivity in ICSI Cases

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The crosstalk between a receptive endometrium and a functional blastocyst during human embryo implantation is crucial for conception. Because platelets rich plasma (PRP) with concentrated platelets 4-5 times higher than normal, when release of granules containing growth factors including VEGF, TGF, PDGF, IGF, and EGF, these factors involved for sub endometrial angiogenesis and endometrial receptivity. 44 women under the age of 40 were given antagonist ovarian stimulation treatments, the oocytes were harvested utilizing 2-D power doppler ultrasound guidance, then ICSI done for them. On the hCG day all had an intrauterine autologous PRP infusion. Power Doppler is utilized to measure endometrial thickness (EnT), pulsatility index (PI), and resistance index (RI) of sub endometrial arteries, as well as serum levels of VEGF and EGF were measured on the hCG day and ovum pickup (OPU). The ultrasound findings, on the hCG day compared to those of OPU in all women with intrauterine infused autologous PRP were highly significant (HS). The mean EnT, RI, PI, VEGF and EGF at OPU day was lower than that on hCG day in a HS manner, with (p < 0.001), (p < 0.001), (p = 0.047), (p < 0.001), and (p < 0.001) respectively. These characteristics were shown to be significantly and independently associated to intrauterine PRP infusion. After PRP injection, both growth factors serum levels (VEGF and EGF) increased, and ultrasonography sub-endometrial metrics such as EnT, RI, and PI changed as the thickness grew while vascular resistance decreased, and all considered as predictors of endometrial receptivity.

Keywords
PRP, ICSI, EnT, RI, PI, VEGF, EGF

Pages
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### Title
In Vitro Studying the Effect of Adding Autologous Platelet Rich Plasma (PRP) to the Human Semen on the Sperm DNA Integrity

### Abstract
For conception and the development of healthy embryos, sperm DNA integrity is crucial. According to a growing body of studies, there is a strong correlation between sperm DNA damage and male infertility. Among the new medicines being developed in the medical field, the application of Platelet Rich Plasma (PRP) in human reproduction has yet to be examined. A total of 100 semen samples were used in the current experimental investigation. From November 2020 to June 2021, the research was conducted at the High Institute for Infertility Diagnosis and Assisted Reproductive Technologies. Masturbation was used to get an ejaculated semen sample. After semen analysis, the samples were separated into two equal parts, one without autologous PRP and the other with 2% autologous PRP, with the DNA fragmentation assessed using the Sperm Chromatin Dispersion Test. There was highly significant reduction in DNA fragmentation index (p < 0.001). The mean sperm DNA integrity was reduced after adding PRP (33.85±16.73 vs 38.55±16.64), Mean (± SE). PRP has been shown to improve human sperm DNA integrity.

### Keywords
- PRP
- DNA
- Sperm Preparation
- DFI
- Sperm DNA Fragmentation

### Pages
2021;10(2):90-100.

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Title
Adding Low Dose hCG to rFSH in GnRH Antagonist ICSI Cycles: A Randomized Controlled Trial

Doi
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Abstract
Inhibition of luteinizing hormone (LH) by gonadotropin releasing hormone (GnRH) antagonist may lead to suboptimal response during ovarian stimulation. In addition, several studies suggest that low level of LH is associated with lowered fertilization and implantation rate and increased early pregnancy loss rate. The aim of this study is to study the effect of adding low dose human chorionic gonadotropin (hCG - 200 IU), as an LH supplement, to recombinant follicle stimulating hormone (rFSH) in a GnRH antagonist cycles in women undergoing in vitro fertilization/intracytoplasmic sperm injection (IVF/ICSI) treatment. Sixty-three infertile women undergoing IVF were randomly divided into two groups. One group was stimulated with the conventional stimulation protocol (rFSH alone), while the second group received 200 IU hCG in addition to rFSH in the late follicular phase (hCG + rFSH). Both groups' results including pregnancy rate, total dose of rFSH required, duration of stimulation, endometrial thickness, oocytes and embryos characteristic, serum hormone levels (Testosterone, Estradiol, Progesterone, and LH) and level of epidermal growth factor (EGF) were compared. The results show that pregnancy rate among the group of women who received the low dose hCG was higher than those who did not receive hCG. However, this difference did not reach statistical significance. Furthermore, other cycle outcomes and hormonal values were comparable between the two stimulation protocols.

Keywords
GnRH antagonist, Late Follicular Phase, Low Dose hCG, Ovarian Stimulation, LH

Pages

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Authors

![Contributed authors chart](chart1.png)

*Figure (1): Contributed authors*

Reviewers

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*Figure (2): Contributed reviewers*
Editorial Management

![Editorial Management Scheme and Peer Review Process]

Figure (3): Editorial management scheme and peer review process

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