بسم الله الرحمن الرحيم

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تم رفع هذه الرسالة بواسطة / حسام الدين محمد مغربي

بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى مسئولية عن محتوى هذه الرسالة.

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Association between Follicular Fluid Estradiol and clinical pregnancy outcome in Intracytoplasmic Sperm Injection Cycles

Thesis

Submitted in Partial Fulfilment of M.D. Degree in Obstetrics & Gynaecology

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Contents

List of Abbreviations

Abbreviation	:	Meaning
AFC	:	Antral Follicular Count
Alpha FP	:	Alpha-Fetoprotein
AMH	:	Anti Mullarian Hormon
ARTs	:	Artificial Reproductive Technologies
ATII	:	Angiotensin II
Beta-EP	:	Beta-endorphin
BMI	:	Body Mass Index
BMP-15	:	Bone Morphogenetic Protein-15
CA125	:	Cancer Antigen 125
CEA	:	Carcino Embryonic Antigen
CES	:	Cumulative Embryo Score
E2	:	Estradiol
EC	:	Early Cleavage
eNOS (NO)	:	Nitric Oxide Endothelial Isoform of NO
ESHRE	:	European Society of Human Reproduction and Embryology
FF	:	Follicular Fluid
Fr	:	fragmentation rate
FSH	:	Follicle Stimulating Hormone
GES	:	Graduated Embryo Score
GH	:	Growth Hormone
GnRH	:	Gonadotrophin Relasing Hormone
HCY	:	Homocysteine

HGSOC	:	High-grade Serous Ovarian Cancer
HMG	:	Human Menopausal Gonadotropin
ICM	:	Inner Cell Mass
ICSI	:	Intra Cytoplasmic Sperm Insemination
IGF	:	Insulin-Like Growth Factors
IL	:	Interleukins
IVF	:	In Vitro Fertilization
IVM	:	Vitro Maturation
LH	:	Luteinizing Hormone
MI	:	Metaphase I
MII	:	Metaphase II
MS	:	mass spectrometry
NPBs	:	Nucleolar Precursor Bodies
O	:	Other
OCT4	:	Ovarian Cancer Subtypes
OHSS	:	Ovarian Hyperstimulation
OMI	:	Oocyte Maturation Inhibitor
P4	:	Progesterone
PCOS	:	Poly Cystic Ovary Syndrome
PGD	:	Preimplantation Genetic Diagnosis
POR	:	Ovarian Response
PRL	:	Prolactin
ROC	:	Receiver-Operating Characteristic
ROS	:	Reactive Oxygen Species
TAC	:	Total Antioxidant Capacity

TE	:	Trophoectoderm
TESE	:	Testicular Sperm Extraction
TLM	:	Time-lapse microscopy
UPLC	:	Ultra Performance Liquid Chromatography
VEGF	:	Vascular Endothelial Growth Factor
WHO	:	World Health Organization

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ABSTRACT

Association between Follicular Fluid Estradiol and clinical pregnancy outcome in Intracytoplasmic Sperm Injection Cycles

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Objective: This study aims to assess the accuracy of follicular fluid Estradiol level in predicting clinical pregnancy outcome, oocyte quality and embryo quality in women undergoing ICSI.

Patients and Methods: The current study was prospective study that included 180 women underwent Intra-cytoplasmic sperm injection (ICSI) procedure using Flexible Antagonist protocol. During oocyte retrieval, follicular fluids of mature follicles (>17 mm) aspirated. Follicular fluid concentrations of 17β-estradiol was determined by ELISA. Upon retrieval, oocytes were analyzed for hallmarks of maturity and classified as GV, MI, or MII based on appearance. Fertilization status observed at 24 h and the nutrient solution renewed, morphology of the dividing embryo was observed and 'embryo grading' done. At least in the two-cell stage embryo transfer were done at third or fifth day after the oocyte collection. Quantitative S.B HCG measured at 14 days post transfer, followed by a vaginal ultrasound 2 weeks later demonstrating an embryonic cardiac pulse.

Results: Our results showed that, the number of retrieved oocytes ranged from (1 to 33 oocytes) mean number 10±7. Follicular fluid E2 concentration ranged from 246±199 (0 to 700) (ng\ ml). Serum E2 concentration ranged from 2361±1583 (100 to 7589) pg\ml. The mean of total number oocytes was 10 with 53% of MII of good quality. And (47%) were of bad quality. All cases had normal fertilization. Number of transferred Embryos ranged from one to three embryos (good quality was of 63.9%), (bad quality was of 36.1) and 103 of cases had embryo transfer on day 5 ,77 had transfer on day 3. Chemical pregnancy was positive in 90 cases (50%) and the clinical pregnancy positive in 66 cases (36.7%). In follicular fluid E2 concentration ranged from 220 to 476 ng\ml that they had clinical pregnancy and ranges from 36 to 320 ng\ml had no clinical pregnancy.

Conclusion: Follicular fluid E2 concentration had fair predictive value in oocyte maturation, embryo quality, chemical and clinical pregnancy. But it was an independent predictor of MII-grading.

Key words: Follicular Fluid Estradiol, clinical pregnancy, Intracytoplasmic Sperm Injection, oocyte quality.