ROLE OF VITAMIN D SUPPLEMENTATION IN INTRACYTOPLASMIC SPERM INJECTION OUTCOMES IN WOMEN WITH POLYCYSTIC OVARIAN SYNDROME

Ashraf Hani Abd ELrahman, Mohamed El-Mahdy Abd Elmoneim, Hager Ali Ahmed Teaba

Department of Obstetrics and Gynecology, Faculty of medicine, Alexandria university

Introduction

Polycystic ovarian syndrome (PCOS) as on of the most common endocrine pathology in the reproductive age female around the world is a multifactorial disease with a genetic predisposition exposed to certain environmental factors lead to the expression of PCOS features. Most common environmental factors include obesity and insulin resistance. Some hypotheses also include fetal androgen exposure. ICSI is a procedure in which a sperm is injected directly into an egg to achieve fertilization. It is offered to women with PCOS failing to ovulate with clomiphene citrate followed by chronic low-dose gonadotropin protocols. Vitamin D was found to be involved in the regulation of several hormones in the body including the anti-Müllerian hormone (AMH), follicle-stimulating hormone, estradiol, and progesterone. In addition, a correlation between vitamin D deficiency and PCOS due to the effects of vitamin D receptors on LH and sex hormone-binding globulin levels, the incidence of insulin resistance, testosterone levels, and aromatase gene expression. It has been suggested that VD plays a role in the decidual function and embryo implantation. Therefore, in the last few years, due to emerging evidence of the role of VD in female human reproduction including implantation, there was an increasing interest in investigating the correlation between vitamin D deficiency and in vitro fertilization outcome (66).(58) Some investigators have found better IVF outcomes in cases of sufficient VD status, whereas other studies failed to show any correlation between serum or follicular fluid VD level and pregnancy outcome after IVF/ICSI

Aim of the work

AIM OF THE WORK is to evaluate the effect of vitamin D supplementations on ICSI outcomes in PCO patients.

Subjects and methods

The aim of the trial is to evaluate the effect of vitamin D supplementations on ICSI outcomes in PCO patients This trial was conducted on 54 women undergoing ICSI who were divided randomly in to two groups Group A: Patients who will receive vitamin D3 as 50000 iu once every two weeks for 3months prior to and during –ICSI. Group B: Patients who will go directly to ICSI cycles All women will go through ICSI using long-agonist protocol with three basic elements Exogenous gonadotrophins, purified FSH and LH.

.Co treatment with gonadotropin-releasing hormone (GnRHpat) agonist to suppress pituitary function and prevent premature ovulation starting at least two weeks before stimulation and continued up until oocyte maturation is achieved. Triggering of final oocyte maturation 36 to 38 hours prior to oocyte retrieval as human chorionic gonadotropin (HCG).

Results

The results of our study showed no significant differences in patient's age, BMI, FSH, vitamin D, oocyte, embryo and pregnancy outcome. However our study showed difference in outcome with vitamin D administration but this difference was not significant, as regard primary outcome

Table (1):Comparison between two groups as regard to patient's outcome

Outcome	Group (A) (n=50)		Group (B) (n=50)		P Value
	No.	%	No.	%	
Pregnant	11	40.7	12	44.4	1.000
Twin	1	3.7	3	11.1	0.610
Ectopic	1	3.7	0	0	1.000
Abortion	3	11.1	0	0	0.236

- **p: p value for comparing between the two studied groups**
- ***: Statistically significant at P <0.05**

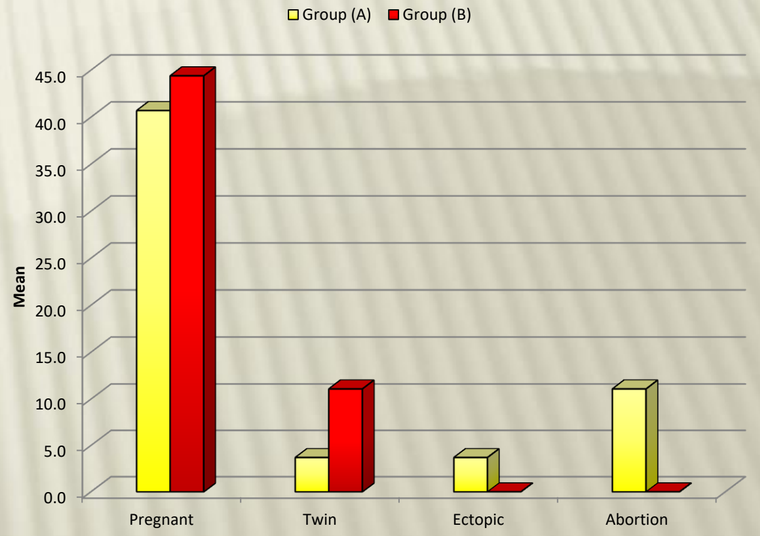

Figure (1): Comparison between two groups as regard to patient's outcome

Conclusion

Our results showed no statically significant differences in ICSI outcomes with administration of vitamin D as 50000iu/2 weeks 3months prior to and during –ICSI by using agonist protocol in PCO patients.