Reproductive System and Sexual Disorders: Current Research

Commentary

Role of Artificial Insemination in Polycystic Ovary Syndrome in Women

John Zhang*

Department of Obstetrics and Gynecology, Omdorman Islamic University, Khartoum, Sudan

DESCRIPTION

Polycystic Ovarian Syndrome (PCOS) is the leading cause of infertility in women and the most common endocrine condition in women of reproductive age. Homocysteine is a sulfur-containing amino acid that has been found to be negatively associated with the reproductive result of PCOS women treated with IVF/ICSI. The effect of blood homocysteine levels on the result of artificial insemination in women with polycystic ovary syndrome is unknown. The purpose of this study is to investigate the effect of serum homocysteine on the outcome of intrauterine insemination in females with Polycystic Ovarian Syndrome (PCOS). Methods infertile women (129 cycles) were studied, with 66 cases (87 cycles) in the case group (PCOS group) and 30 cases (42 cycles) in the control group. Group (male factor infertility). The disparities in general data, such as BMI, Hcy, and age, between two groups were compared. The case group was divided into two groups based on serum Hcy levels: LHcy and HHcy.

In PCOS women, the link between pregnancy and serum Hcy level result was compared. Results in comparison to the control group, the PCOS group showed significantly higher serum homocysteine levels. The clinical pregnancy rates of artificial insemination among PCOS women in the HHcy and LHcy groups were 14.29% and 37.88%, respectively. The difference between the two groups was significant. AMH, serum testosterone, HOME IR, TSH, TPOAb, hCG, daily follicle size, artificial insemination frequency, ovulation induction, BMI, infertility years Other parameters, such as intimal thickness, did not differ significantly between the two groups. Women with PCOS have higher serum homocysteine levels. Their levels above the threshold reduce the clinical pregnancy rate of intrauterine insemination in women with PCOS.

Polycystic Ovarian Syndrome (PCOS) is a multisystem disease that affects reproduction, cardiovascular disease, endocrine dysfunction, and metabolism. Polycystic ovarian syndrome affects around 5-10%of women of reproductive age. It is regarded as one of the primary causes of female infertility. Furthermore, it is the most common endocrine disease among women of reproductive age. Clinical symptoms are exceedingly variable, with uncommon ovulation or anovulation, polycystic ovarian alterations, and hyperandrogenemia, as well as metabolic problems. Insulin resistance and lipid metabolic disorders, for example, increase the long-term cardiovascular risk.

Artificial Insemination (AI) is a type of Assisted Reproductive Technology (ART) used to treat infertility caused by mild to moderate endometriosis, male factors, unexplained causes, and ovulation failure. It has the potential to increase the pregnancy rate of PCOS women who have been unable to conceive despite repeated ovulation induction. IUI is one of the most regularly used artificial insemination techniques and refers to the direct injection of cleaned sperm into the uterine cavity through the cervix. In comparison to IVF/intracytoplasmic sperm injection, IUI is a safer, simpler, and less expensive therapeutic option. Homocysteine (Hcy) is a sulfur-containing amino acid that exists in two remethylation routes and trans-vulcanization to produce cysteine and methionine as cofactors in various stages of the route, folic acid, vitamin B12, and vitamin B6 are necessary in amino acid metabolism. Several studies have found that polycystic ovary syndrome women have higher serum homocysteine levels than non-PCOS women. PCOS is associated with a 23% increase in Hcy levels, which may be related to hyperinsulinemia. High homocysteine levels in PCOS patients have been linked to abortion, ovulation disruption, and poor embryo quality during ART. This study will look into how HCY levels affect the outcomes of artificial insemination in PCOS women. Thyroid Stimulating Hormone (TSH), Anti Mullerian Hormone (AMH), male sperm, Thyroid Peroxidase Antibody (TPOAb), salpingography and other data were utilised to estimate the degree of insulin resistance, with fasting insulin levels and fasting blood glucose. Couples with bilateral AFC7, endometriosis, and intrauterine lesions were eliminated. After ruling out other possible disorders that reflect the polycystic ovary syndrome phenotype, it is diagnosed when two of the three abnormalities listed below are present, according to the 2003 updated Rotterdam criteria:

• Hyperandrogenism biochemical and/or clinical signs
• Polycystic ovaries found on ultrasonography
• Oligo and/or anovulation

The case group was then divided into two groups based on serum Hcy levels, the HHCY group and the LHCY group. In PCOS women, the association between pregnancy outcome and serum Hcy level was compared.