

Ovarian histopathology and Laparoscopic assessment of premature ovarian failure and its relation to thyroid dysfunction

Thesis

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By

Maram Salah El_din Mahmoud Ahmed

(M.B.B.Ch)

El-fayoum University

Faculty of medicine

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Summary:

Premature ovarian failure is defined as a primary ovarian defect characterized by absent menarche (primary amenorrhea) or premature depletion of ovarian follicles/arrested folliculogenesis before the age of 40 years (secondary amenorrhea). The prevalence of POF in the general population is between 0.3% and 1.1%.

Three diagnostic criteria comprise POF: Amenorrhea lasting more than 4 months, age less than 40 years, and serum follicle-stimulating hormone (FSH) >40 mIU/mL on two occasions at least one month apart.

Diagnosis is completed with hormonal profile (Hypergonadotrophic hypogonadal state), ultrasound, ovarian biopsy and karyotyping for patient less than 30y.

Thyroid disorders are common association with POF either as a part of endocrinal syndrome or due to common autoimmune pathogenesis. Both hyper and hypothyroidism are implicated in this condition as both lead to an abnormal menstrual pattern, ovulatory dysfunction and

infertility problems as they cause disturbed folliculogenesis, lower fertilization rates and lower embryo quality

Ovarian biopsy is an invasive investigation needed to evaluate ovarian structures and their number that help to detect ability of the patients to conceive.

This study aims to monitor thyroid functions & thyroid antibodies in female patients with infertility due to premature ovarian failure with laparoscopic assessment of pelvic tissues & histopathological examination of ovarian tissues for these patients compared to patients with normally functioning ovaries.

The study was done on 50 patients; 25 were diagnosed as POF and other 25 were control. History, examination and investigations were done in the form of hormonal profile (FSH, LH, E2, TSH, T3 and T4), ultrasound and ovarian biopsy. TPO-antibodies were also screened in both case and control groups.

Ovarian biopsy that was taken by laparoscopy for POF cases were studied after immunostaining with anti-leukocytic common antigen.

Our results showed higher incidence of POF in rural areas 60% ($p = 0.7$) and more in nulliparous women 56% ($p = 0.8$). Autoimmune oophritis represented 27% of POF causes in this study as ovarian biopsies showed variable degrees of inflammation and subsequent fibrosis. Signs of ovulation were observed in 54% of the patient in the form of corpora albicans, while primordial follicles were found only in 9% of patients.

Hyperthyroidism was found in 4% of patients, hypothyroidism was also found in 4% ($p = 0.2$).

This study reported probable association between POF and autoimmune thyroiditis as it was found in 16% of POF patients ($p = 0.3$).