Clinical Manifestations and Diagnostic Criteria for Premature Ovarian Failure

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Keywords: Premature Ovarian Failure, Clinical Manifestations, Diagnostic Criteria

Abstract: To investigate the diagnostic basis of premature ovarian failure (POF) and evaluate the efficacy of sex hormone replacement therapy (HRT). Methods: 50 patients with POF who met the clinical diagnostic criteria were treated with HRT for 3 to 6 cycles. The clinical effects before and after treatment were observed. Vaginal B-ultrasound was used to monitor the dynamic changes of uterus, appendages and serum sex hormone levels. Results: After HRT treatment, patients with menstrual cramps, clinical symptoms were significantly reduced or disappeared. Estrogen levels increased significantly and gonadotropin levels decreased ($P < 0.01$). After treatment, the endometrium is thickened and the follicles develop well. Conclusion: The status of menopause, low estrogen (E2< 25mg /L) and gonadotropin (FSH > 40IU/L, LH > 30IU/L) before the age of 40 is a clinical diagnostic indicator of POF. HRT is an effective method for the treatment of POF.

1. Introduction

Premature ovarian failure (POF), a phenomenon in which women have ovarian dysfunction before the age of 40, known as premature ovarian failure. The incidence of POF accounts for 1% to 3% of adult women. The cause of premature ovarian failure is still unclear in the vast majority of patients. It is thought to be related to heredity, autoimmune processes, infections, etc. Among them, most of the studies on premature ovarian failure and autoimmunity include abnormal antibodies such as FSH antibody, FSH receptor antibody, parathyroid gland, thyroid and adrenal gland, and some patients have ovarian function recovery after immunosuppressive therapy. Autoimmune diseases include blood calcium, phosphorus, fasting blood glucose, morning cortisol, free T4, TSH, thyroid antibodies (such as thyroid dysfunction), whole blood count, erythrocyte sedimentation rate, total protein, albumin/globulin ratio, rheumatism Factor, anti-nuclear antibody, etc. Genetic abnormalities are also heterogeneous and multifactorial, including FSH receptor abnormalities, translocations of X and Y chromosome homologous sequences, and FSH structural abnormalities (which cannot bind to receptors). Infection factors include mumps, viral infections, and the like. Normal women's ovarian function begins to decline when they are 45 to 50 years old. If there is a sign of decline before the age of 40, it is medically called premature ovarian failure. This type of female is often accompanied by amenorrhea or oligos, gonadotropin levels and estrogen levels, clinical manifestations of varying degrees of hot flashes, sweating, vaginal dryness, decreased sexual desire and other premenopausal symptoms. In the past, POF was one of the difficult diseases of gynecology, and the incidence of POF has increased in recent years. In order to improve the clinical efficacy of POF, 50 cases of POF diagnosis and treatment were summarized, and the principles of diagnosis and treatment of POF were briefly discussed.

2. Materials and methods

From 2006 to 2010, 50 patients with POF were admitted, with an onset age of 17 to 39 years. There were 10 cases of abortion history, 8 cases of cesarean section, 20 cases of full-term birth, 10 cases of infertility, and 2 cases of ovarian cyst dissection. Among them, there were 12 cases of menopausal symptoms such as hot flashes, sweating, and irritability, 2 cases of varicella history, and 1 case of mumps. METHODS: Fifty patients were treated with hormone replacement (HRT). Oral Premarin was used at 0. 625 mg / day for 21 days. Amunk progesterone Tablets were given 4 mg /

  DOI: 10.25236/icbcme.2019.004

day for 14 days after taking the drug for 14 to 21 days. Treatment for 3 to 6 cycles. Do the following laboratory tests before use: 1 Electro-immunoluminescence assay: E2 < 5g / L, FSH > 13 / L, LH > 301U / L, PRL is normal; 2 pituitary stimulation test can identify polycystic ovary, T < 5ng / Dl; 3ELIS method for the determination of antibodies, can identify the existence of autoimmune problems; 4 estrogen withdrawal test is often negative. Low blood estrogen levels (usually below 20pg / ml), blood FSH and LH increased, FSH increased earlier than LH; 5B super: showed ovarian small, no follicles are premature ovarian failure; ovary normal size, visible more A small follicle is a non-responsive ovarian syndrome.

3. Results

Efficacy observation: 1 Symptoms and signs: 12 of 50 patients had hyperthermia, hyperhidrosis, irritability symptoms disappeared or disappeared, and 42 cases had menstrual bleeding 3 to 5 days after stopping the drug. 8 cases of future menstruation, treatment failure. 2 Determination of sex hormones: 50 patients were tested for serum FSH, LH, E2 before treatment and 3 to 6 cycles after drug withdrawal. Among them, FSH and LH decreased ($P < 0.01$), E2 increased ($P < 0.05$), and 3 vaginal B-ultrasound: 50 patients were measured for uterus and ovary size before and after vaginal B ultrasound. Endometrial thickness. Estradiol (E2) is mainly produced by ovarian follicles, corpus luteum and placenta during pregnancy. Examination of blood and urine estradiol has certain value for endocrine and gynecological diseases such as diagnostic precocity and dysplasia. Increased: seen in children feminization, estrogen-producing tumors, gynecomastia, cirrhosis decompensation. Adrenal hyperplasia. Reduction: Congenital ovarian hypoplasia, menopausal syndrome, anterior pituitary dysfunction, pituitary shortness, pregnancy poisoning, no brain. Follicle stimulating hormone and luteinizing hormone, collectively called gonadotropin, promote follicular maturation and promote estrogen secretion together with luteinizing hormone. Increased: seen in primary amenorrhea, primary sexual dysfunction. Early anterior pituitary hyperfunction, testicular seminoma, Turner syndrome, Klinefelter syndrome, etc., as well as intake of clomiphene, levodopa and other drugs. Reduction: seen in estrogen or progesterone treatment, secondary hypogonadism, Sheehan syndrome (also known as Sheehan syndrome), late pituitary dysfunction, and intake of oral contraceptives, sex hormones and other drugs. Luteinizing hormone is a hormone produced by the pituitary gland. In men, it stimulates the secretion of male hormones by Leydig cells, and stimulates the ovaries to secrete female estrogen in women. Increased: seen in polycystic ovary syndrome (continuous anovulation and excessive androgen, etc.), TUYN-ER syndrome, primary hypogonadism, premature ovarian failure, oophorectomy; menopausal syndrome or menopausal women. Reduced: seen in the hypothalamus - pituitary gonadotropin, as follows hypothalamic amenorrhea; long-term use of contraceptives; LH and FSH can be decreased after hormone replacement therapy.

4. Discussion

Premature ovarian failure is characterized by ovarian failure in women before age 40, clinically not uncommon, 10% to 28% of primary amenorrhea, and 4% to 18% of secondary amenorrhea is POF. The cause of the disease is not very clear, and it is currently believed to be caused by multiple factors. For some reasons, any part of the primordial follicle is congenitally reduced or the follicular maturation is blocked, resulting in an accelerated rate of follicular atresia. Lighter causes earlier follicle emptying, and severe cases lead to gonadal atrophy. In addition, autoimmune diseases, gonadal infections, gonad chromosomal abnormalities and adverse physical and chemical factors may lead to premature aging of ovarian function. Women who are 40 years of age or older with persistent amenorrhea and symptoms of estrogen deficiency suggest a POF. The diagnosis depends mainly on the Gn measurement, which is generally considered to be high FSH, LH, and the diagnosis of premature ovarian failure after repeated exclusion of laboratory error and the possibility of Gn peak before ovulation can be determined. Due to the decline of ovarian function, the level of E2 is lowered, and patients have symptoms such as hot flashes, sweating, irritability,

difficulty in sexual intercourse, infertility, fatigue, genital and breast atrophy, which cause great pain to patients and thus reduce the quality of life of these women. Therefore, attention should be paid to the treatment of this disease, and hormone replacement therapy is currently effective. Women should not supplement hormone drugs or health products, improper hormone supplements and poor health care, can lead to excessive stimulation of the ovaries, resulting in a large number of adverse reactions, the results will backfire, counterproductive, aggravating amenorrhea.

5. Diagnosis of premature ovarian failure

The accepted diagnostic criteria for premature ovarian failure are at least 4 months of amenorrhea before the age of 40, and 2 or more serum FSH > 40 U / L (two months apart), estradiol level < 73 2 Pmol/ L . Medical history, physical examination, and other ancillary laboratory tests can aid in the diagnosis of related etiological diseases. 2 1 History of the patient to collect detailed medical history, including the age of menarche, menstruation before menopause, amenorrhea, the cause of amenorrhea (spiritual stimulation, environmental toxicants, etc.), history of drug use, history of cancer chemotherapy, History of radiotherapy, history of ovarian surgery, history of pelvic infections, history of tuberculosis, and history of pregnancy and childbirth. Conscious symptoms such as hot flashes, excessive sweating, insomnia, irritability, irritability, vaginal dryness, dysuria, etc. There have been and are currently no mumps and AIDS (HIV) infections, as there is a rare decline in ovarian function secondary to infection. Understand the past and current autoimmune diseases in patients and their families, such as Addison disease, thyroid disease, diabetes, SLE, rheumatoid arthritis, leukoplakia, Crohn's disease and Sjogren's syndrome. A small number of epidemiological studies have shown a family predisposition to premature ovarian failure. Recently, studies have shown that genetic mutations in the gonadotropin receptor can cause premature ovarian failure, so family history should be carefully asked, including menstruation and fertility of mothers, sisters, and female second-degree relatives. Situation and birth status of male relatives.

During a systemic examination, attention was paid to systemic development, mental and nutritional status, and mammary and pubic hair development was examined and graded according to Tanner's grading criteria. Pelvic examination should pay attention to the presence of atrophic vaginitis caused by estrogen deficiency. Autoimmune POF patients (lymphocytic oophoritis) can sometimes be found by pelvic examination of enlarged ovaries. The main signs of the above-mentioned autoimmune diseases should be examined.

Laboratory tests In addition to serum sex hormone levels, when clinical indications, attention should also be paid to the examination of relevant diseases, such as blood, urine routine analysis, erythrocyte sedimentation rate, anti-nuclear antibodies, immunoglobulins and rheumatoid factor tests. Pituitary tumors can be identified by magnetic resonance imaging and by the production of intact FSH, and subunits by thyroid releasing hormone stimulation. Bone mineral density should be measured in patients with suspected low bone mass and osteoporosis. A pelvic ultrasound was performed to determine if there were any anatomical abnormalities and the presence or absence of follicles. However, for spontaneous POF patients with normal karyotype, pelvic ultrasound does not change the clinical diagnosis, because even if follicles are found, it has not been proven that treatment can restore ovarian function.

6. Conclusion

Premature ovarian failure is also caused by ovarian dysfunction, accompanied by a series of symptoms such as hot flashes, palpitations, insomnia, irritability, and multiple dreams. Because premature ovarian failure is a woman before the age of 40, secondary amenorrhea is the main manifestation, while autonomic dysfunction and other symptoms are mild. However, for women in the reproductive period, on the basis of secondary amenorrhea, there are symptoms such as hot flashes. (In addition to other diseases), premature ovarian failure should be considered.

References

[1] Lin Tiecheng, Wang Gang, Han Yubin, et al. Clinical study of electrosurgical resection for chronic cervicitis [J]. Chinese Journal of Endoscopy, 2005, 11(8): 865 - 869.

[2] Qian Deying, Yan Jianmin, Huang Zhihong, et al. The effect of cervical electric ring cutting on 203 cases of cervical intraepithelial neoplasia [J]. Chinese Journal of Practical Gynecology and Obstetrics, 2003, 19(8): 473 - 475.

[3] Xu Wei, Song Yijun. Clinical manifestations and diagnostic criteria for premature ovarian failure [J]. Journal of Practical Obstetrics and Gynecology, 2003, 19 (4): 195-196.

[4] Yang Yuehua. Microwave treatment of cervical erosion 538 cases of efficacy observation [J]. Chinese Community Doctor, 2008, 22.

[5] Wang Wei, Li Jijun. Advances in the etiology of premature ovarian failure [J]. Modern Obstetrics and Gynecology Progress, 2002, 11(2): 136.