Case Report

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OBS & GYN Section

Successful Pregnancies Following Hormone Replacement Therapy in a Patient with Premature Ovarian Failure: A Case Report

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ABSTRACT

Premature ovarian failure is a serious life-changing condition that affects young women, remains an enigma and the researcher's challenge. Spontaneous pregnancy in a patient with POF is uncommon. If fertility is a concern, treatment usually consists of estrogen therapy as hormone replacement and oocyte donation. We report here a case of a 27-year old woman, who was diagnosed to have premature ovarian failure, started ovulating after 26 months of hormone replacement therapy (HRT). She conceived spontaneously and delivered successfully.

Key Words: Premature Ovarian Failure, Hormone Replacement Therapy, Oocyte Donation

INTRODUCTION

Premature ovarian failure (POF) affects approximately 1% of women before the age of 40years [1]. POF traditionally defined as hypergonadotropic hypogonadism and amenorrhea arising before the age of 40years [2]. It is a heterogeneous disorder that occurs from a variety of aetiologies. It is diagnosed on the basis of elevated levels of serum follicle stimulating hormone (FSH) usually ≥40 IU/L, detected at least on two occasions a few weeks apart [3]. The diagnosis may remain elusive despite a thorough diagnostic work-up, including a karyotype, specific anti-body studies, or an ovarian biopsy. Spontaneous ovulation leading to pregnancy has been reported in 5-10% of women with POF [4]. Though some cases apparently occurred without any therapy, most of them involved women who received some form of estrogen replacement [5-7]. We report here a case of remission of premature ovarian failure following hormone replacement therapy(HRT) for 26 months, who conceived spontaneously and delivered successfully.

CASE REPORT

A 27-year old woman presented with secondary amenorrhea who had regular menstruation. Hormonal assay showed FSH 136.17mIU/ml and LH 46.54mIU/ml. Prolactin and thyroid profiles were within normal limits. Repeat assays done 6-weeks later showed FSH 87mIU/ml and LH 20.31mIU/ml. Her age of menarche was at 15 yrs of age. She had regular cycles for 12 years following menarche with an average flow for 5 days every 30 days. She had average amount of flow and no dysmenorrhoea. Transvaginal ultrasonography revealed normal uterus and ovaries. Written consent was obtained and was started on conjugated equine estrogen 0.625mg and medroxyprogesterone acetate 10mg/day by an endocrinologist from 07/03/2006. The couple was counselled for donor oocyte as the option for conception. One year later, In-vitro fertilization (IVF) using donor oocyte was done but failed. She continued HRT for another year uptill 17/05/2008 and stopped on her own. She started menstruating spontaneously. Repeated hormonal assay showed FSH 7.75mIU/ml and LH 3.43mIU/ml. She conceived spontaneously after four months of menstruation. Her antenatal period was uneventful. She delivered a healthy female baby weighing 3.16 kgs by cesarean section in June 2009. Subsequently she resumed her menses after ten months. She conceived spontaneously, one year following the delivery and had a healthy male baby weighing 4 kg.

DISCUSSION

Premature ovarian failure generally results in secondary amenorrhea at some time after puberty, but also may occur at any time before menarche and is distinguished from gonadal dysgenesis on the basis of ovarian morphology and histology. Although the likelihood of achieving pregnancy after diagnosis is only about 5-10%, some women with premature ovarian failure do conceive and approximately 80% of their pregnancies end in a healthy live birth [4]. However, there is no evidence that any form of treatment other than egg donation and IVF can increase the chance of pregnancy. There are several isolated cases of spontaneous pregnancy in women with POF treated with estrogen [6-8]. A study reported that six women who conceived after POF diagnosis. Two pregnancies occurred while on conjugated estrogen; two occurred while patients were on combined oral contraceptive pills, and two conceived spontaneously [5]. There may be differences in fertility outcomes in women with ovarian failure, depending on the age of onset. Spontaneous return of ovarian function can occur in women with an established diagnosis of POF, and no particular feature is able to predict this rare event with great accuracy. Attempts to improve ovulation rates achieved with gonadotropin therapy by pretreatment with estrogen or GnRH agonist but with limited success [4]. There are several explanations for the usefulness of HRT in these patients. Exogenous estrogen could act by lowering serum FSH and restoring the sensitivity of the remaining follicles, or by directly increasing the sensitivity of granulosa cells to FSH. Both actions would result in ovulation [9]. HRT makes the uterus suitable for the implantation of the fertilized egg and subsequent pregnancy. There are reports that support the importance of actually lowering serum FSH. Despite high percentage of POF patients being treated with estrogen replacement, there is a paucity

of published reports on pregnancies in these patients; higher doses of estrogen appear to work better [10]. It is recommended that patients with POF should be treated by a trial HRT and should have close monitoring for ovulation prior to resorting to oocyte donation. Congenital malformation of fetus in a pregnancy following spontaneous ovulation has been reported in a case of premature ovarian failure. The possibility of congenital anomalies in this fetus may be a result of the poor quality of oocytes because of the altered FSH and LH levels [11].

SUMMARY

Women with POF can conceive spontaneously long after confirmation of the diagnosis, as described in our case. HRT may reduce serum FSH, restore the sensitivity of remaining follicles to FSH, hence achieving spontaneous ovulation and pregnancy.

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