Successful Pregnancy Outcome in Primary Amenorrhoea

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Abstract: **Background:** Women diagnosed with premature ovarian failure frequently receive hormonal replacement therapy as a vital part of the management protocol, nevertheless, it is very unusual for patients to get pregnant while on hormonal therapy. **Case:** A 20-year-old woman with a history of primary amenorrhoea and under developed secondary sexual character was diagnosed with premature ovarian failure. Part of her amenorrhoea workup included hormonal level estimation, karyotyping, laparoscopy and bilateral ovarian biopsy. She was started on HRT when she attained menarche and developed secondary sexual characters. Two years later she got married and conceived with the very first cycle of IVF, and a successful outcome of a twin gestation. **Conclusion:** The etiology of premature ovarian failure is unknown most of the time. In scarce cases this condition undergoes spontaneous, reversible remission. Most of the women with POF can achieve successful pregnancies with HRT but on the failure of HRT a successful pregnancy can be achieved with IVF is what was observed in our case.

Keywords: primary amenorrhoea; premature ovarian failure; HRT

1. Introduction

Amenorrhoea is the absence or abnormal cessation of the menses (¹). Primary and secondary amenorrhoea describes the occurrence of amenorrhoea before and after menarche, respectively. Most causes of primary and secondary amenorrhoea are similar. Need of evaluation of primary amenorrhoea is indicated when there has been a failure to menstruate by age 15 in the presence of normal secondary amenorrhoea are similar. Need of evaluation of primary menses occurrence of amenorrhoea before and after menarche, respectively. Most causes of primary and secondary amenorrhoea such as positive family history, a concurrent autoimmune disorder, stress, or stigma of one of the inherited conditions. In many instances a formal pedigree enquiry is required to determine other female family members who may be affected, particularly if the inheritance is passed through an unaffected male.

Netter et al have suggested that sever emotional stress could be cause of POF (⁶). Even though there is a absence of controlled evidence for a specific population, physiologic replacement of ovarian steroid hormones seems rational until the age of normal menopause (⁶,⁷). Temporary return of ovarian function, as indicated by elevated estradiol levels, follicle development, and even pregnancy may occur in women with idiopathic, iatrogenic ovarian failure (⁶,⁷). Here, we report a case of POF who attained menarche and developed secondary sexual characters following hormone replacement therapy, and concieved by IVF.

2. Case Report

A 20 year old woman presented to the obstetrics and gynecology opd with primary amenorrhoea, she was never investigated till this age due to the guilt of being blamed. Physical examination: height 160 cm, weight 58 Kg, BMI 22.65 Kg/m², cranic, and upper and lower limb measurements between 50° and 75° percentile. No alterations detected in fingers and toes. She was of normal built but had scanty axillary and pubic hair. Her breasts were of Tanner stage 2. Facial features revealed no dysmorphisms, moreover neither mental impairment or cognitive deficit was evident. Vital signs were normal.
A pelvic ultrasound showed a infantile uterus with steak ovaries. Her serum tests were: FSH 65 mIU/ml, LH 30 mIU/ml and prolactin 101 mIU/ml. These levels were repeated 1 months later and found to have similar findings. Her karyotype was 46XX. Few other investigations that were also normal were serum DHEA, testosterone, anti-nuclear antibodies and an intravenous urogram. A diagnosis as premature ovarian failure was done after a laproscopic biopsy of the ovaries showed the presence of the follicles. She was treated with cyclical hormonal therapy and attained menarche after 3 months of the initiation of the therapy. She married after 2 years and was keen to have children. 12 months later patient wanted to conceive and insisted on IVF due to family pressure. With the very first cycle of the IVF patient conceived a DCDA twin gestation. She was put on dydrogestosterone 10 mg twice daily till 16 weeks gestation to support the pregnancy until placental function was established. The pregnancy progressed uneventfully until she went into labour at 36 weeks gestation. A caesarean section was performed as patient presented with PPROM and first twin ws found to be breech and second was cephalic. Patient delivered a healthy baby boy of 2.2kgs and girl of 2.3 kgs. Following delivery, she was amenorrhoeic for 24 months and when she came again for follow up. Her serum profiles were similar to the levels when she was first diagnosed with POF. The patient had no intension of further pregnancies she was put on the oral contraceptive pill.

3. Discussion

The pathophysiology of POF is believed to differ from the normal menopause process. In the latter, ovarian function gradually declines and this change is permanent. Women with POF on the other hand, tend to experience intermittent ovarian function, and remissions and pregnancies are possible. In ovarian failure (premature or menopause), the ovaries produce only small amounts of oestrogen or none at all (serum oestrogen <25 pg/mL). This results in loss of negative feedback to the hypothalamus and pituitary glands. The pituitary gland therefore produces elevated levels of FSH (>40 mIU/ml). Women with POF are not always sterile:they still have 5% chance of conceiving at some timeafter diagnosis (6). The terms “hypergonadotrophichypogonadism” and “premature ovarianinsufficiency” are more accurate, than premature ovarian failure. Majority of the spontaneous pregnancies occur while patients are receiving HRT, but this may not imoya cause-and-effect relation (6).

Our patient had never been investigated till the age of 20 years for primary amenorrhoea and under developed secondary sexual characters. As most of the other blood investigations where with in normal limits the exact cause of the premature ovarian failure was not detected. Although, we know that ovarian “failure” in POF does not mean permanent cessation of ovarian function, but the likelihood of recovery of ovulation is not possible to predict POF (7). Although, different drug intervention such as various dosage of corticosteroids, estrogen, clomiphene, high-dose gonadotropin, recombinant FSH, danazol, and apopatic inhibitors were recommended to induce ovulation in patients with POF, “but the few randomized controlled trials that are available fail to demonstrate any significant improvement in ovulation and pregnancy rates” (7,9). Assisted conception (IVF) with donated oocyte was documented to be choice inthese patients (6,7). Advanced in technology of cryopreserved ovarian tissue transplantation and in-vitro maturation of oocytes derived from stem cells, may make it possible for some women with POF to use their own egg for IVF (10,11). The women with a significant family history of POF may consider oocyte or embryo cryopreservation since there are currently no entirely reliable tests to predict ovarian reserve (12,13). Pregnancy in the patients with POF is associated with significant fetal and maternal mortality and morbidity such as increased risk of a child with fragile X syndrome, intra uterine fetal death, pregnancy-induced hypertension, and postpartum adrenal crisis (14–16). So women who wish to avoid pregnancy should use a barrier method, because HRT or use of oral contraceptive pills will not prevent conception, perhaps due to the elevated gonadotropin levels in this condition (17).

References


