

POI: Premature Ovarian Insufficiency/Pregnancy or Infertility?

Dear Editor,

Premature ovarian insufficiency (POI) is a condition associated with female infertility that affects approximately 1% of women under the age of 40.^[1] It is characterized by amenorrhea, hypoestrogenism and elevated level of gonadotropins. Although the causes of POI are largely unknown, autoimmune diseases, chromosomal abnormalities and environmental factors seem to play an important role in the etiopathology.^[2] Most women have normal menstrual history, age of menarche and possible fertility prior the onset of POI symptoms (i.e., vaginal dryness, night sweats, or hot flushes). A definitive diagnosis of POI is difficult to make, and the diagnostic criteria are not always standard.^[3] Most clinicians would make the diagnosis based on (i) 3-6 months of amenorrhea, (ii) Follicular Stimulating Hormone (FSH) levels above 40 mIU/ml and (iii) low estrogens levels.^[2] In this syndrome, the ovarian failure is not permanent. Indeed, some women experience intermittent and unpredictable ovarian function and in some cases may even conceive spontaneously.^[4]

We report a case of a 28-year-old woman, who was presented to our infertility unit, with 16 months of primary infertility. Her personal history for previous surgery or other relevant pathologies was negative. Menarche occurred at age of 12, followed by regular menstrual bleeding. At 22, she commenced on birth-control pill that stopped 2 years later. Before starting any treatment, hormonal profile of the couple and a sperm test for the partner were planned. They all resulted normal. After 4 failed intrauterine insemination (IUI) cycles, the couple underwent 2 *in vitro* fertilization (IVF) cycles preceded by a karyotype analysis that resulted normal. They both ended with few oocytes retrieved (3 and 1 respectively) and none fertilized. Before all procedures, the patient was stimulated with high doses of recombinant-FSH, followed by daily dose of GnRH antagonist ganirelix when at least two follicles had reached 14 mm

diameter. Ovulation triggering was performed using a subcutaneous injection of corio gonadotropin alpha. Five months after the last IVF-cycle, the patient came back referring amenorrhea. Laboratory tests revealed FSH level at 65 and 75 mUI/mL (menopause > 40 mUI/mL), estradiol (E₂) at 33 and 26 pg/mL (menopause < 40 pg/mL) and anti-mullerian hormone (AMH) at 0.0 ng/mL in two serial determinations. A diagnosis of POI was made. The couple was then listed for oocyte donation. One year later, the patient experienced a menstrual bleeding and a month after a pregnancy test resulted positive. Nine months later a healthy baby was delivered.

Although pregnancy in POI patients is a rare event, it should be always taken into consideration, given the possibility of spontaneous resumption of the ovarian function.

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