Letters to the Editor

Successful Retrieval of Oocytes followed by Surrogacy in Hypogonadotropic Hypogonadism

Sir,

The new reproductive technologies such as IVF ICSI and surrogacy are becoming increasingly common, enabling infertile couples to become parents and create families. One of the rare causes of female infertility is hypogonadotropic hypogonadism (HH) which is characterized by absent or decreased function of the female ovaries. It can be defined by inappropriately low serum concentrations of LH and FSH, which is an effect of GnRH deficiency. But successful ovulation induction can be induced with gonadotropins leading to successful pregnancies in some cases.

We report a case of a 31-year-old female who came to our outpatient department with primary amenorrhea and primary infertility. We had advised the hormonal profile and the ultrasound pelvis. Serum hormonal measurements were FSH: 1.9 IU/ml, LH: 0.7 mIU/L, estradiol: <20 pg/ml, prolactin: 9.1 ng/ml, thyroid stimulating: 2.3 pg/ml. Ultrasound showed bilateral small sized ovaries with hypoplastic uterus. The husband’s semen analysis was normal. She was diagnosed as a case of hypogonadotropic hypogonadism.

In view of the above diagnosis, we recommended self egg surrogacy with high dose hormones to the couple. As her FSH and LH levels were low, we stimulated her ovaries also with the highly purified menotrophin HMG 450 IU (hpHMG, Menopur; Ferring GmbH, Germany). After 7 days of stimulation, transabdominal scan showed 7 good follicles of 14 mm size in both ovaries (Patient was uncomfortable with transvaginal scan). After that daily subcutaneous injection of GnRH antagonist, 0.25 mg Cetrorelix (Cetrotide, Merck Serono S.p.A, Italy), was added. When follicles reached 18 mm, 500 mcg recombinant hCG (rhCG, Ovitrelle; Merck Serono S.p.A, Italy) was given to trigger ovulation. Transvaginal oocyte aspiration of right ovary and transabdominal oocyte aspiration of left ovary (left ovary was too high and was not approachable through vaginal route) were performed before 36 h, under ultrasound guidance, using Wallace OPU needle and Cooks gamete buffer media. We retrieved 4 oocytes from the right ovary and 3 oocytes from the left ovary and which were fertilized in the laboratory in Cooks fertilization media. Embryos were further cultured in cleavage media. 7 good embryos (grade A) were formed, out of which 3 embryos were transferred in the surrogate after preparing with long protocol method of GnRH agonist 0.5 mg inj. leuprolide acetate (Lupride; Inca Sun Pharmaceutical Industries Ltd.) and 4 embryos were frozen in one vial. After 14 days of luteal support, beta HCG was done which came positive. Ultrasound was done after 2 weeks of beta HCG that showed intrauterine singleton live pregnancy of 6 weeks. Antenatal period was uneventful. She delivered one healthy baby at 37 weeks.

The gonadotropins (FSH and LH) either urinary or recombinant can be used for ovulation induction in woman with hypogonadotropic hypogonadism for infertility. But it may require high dose or long duration of gonadotropins to stimulate the ovaries. This method yield pregnancy rates per cycle of 25-50%. Even low dose human chorionic gonadotrophin can be administered in the late follicular phase of the ovulation induction cycle, which may be an effective way to provide luteinizing hormone like activity in hypogonadotrophic patients. In addition to stimulating the production of intrafollicular androgens, which provide the substrate for estrogen production that enhances oocyte development, LH activity promotes development of larger follicles.

Thus, surrogacy is a viable, and only option to start families for patients with hypogonadotropic hypogonadism.

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Conflicts of interest
There are no conflicts of interest.

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