

Clinical pregnancy in a woman of 45 years after gamete intrafallopian transfer (GIFT)

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Summary

Clinical pregnancy in women over 44 years is rare in assisted reproductive technology (ART). A case of a 45-year-old woman with clinical pregnancy after GIFT is described.

Key words: GIFT; ART; Age; Clinical pregnancy.

Introduction

The age of the patient is crucial for the prognosis in assisted reproductive technology (ART). There are numerous studies which show that patients over age 44 have a very poor outcome.

The following report describes a case of a 45-year-old woman with primary infertility who became pregnant with gamete intrafallopian transfer (GIFT).

Case

A 45-year-old woman presented with a 10-year history of primary infertility. The menstrual cycle was 28 days and ovulation was documented. Gynecologic examination, vaginal ultrasound and hormonal screening (FSH=14 mlu/ml, LH=4.6 mlu/ml, E₂=80 pg/ml on day 3 of her cycle. Hysterosalpingography showed normal tubes and uterus and free tubal passage. Semen analysis detected normal sperm (volume 2 ml, concentration 100x10⁶ and motility 40%). During the study cycle, the patient underwent a regimen of gonadotropin stimulation that included GnRH agonist suppression followed by administration of exogenous gonadotropins. In accordance with this protocol, 0.5 mg of leuprolide acetate (Daronda, Abbott) administered daily by S.C. injection was initiated in the luteal phase. This dose was continued until ovarian suppression was achieved, as confirmed by estradiol concentrations and sonography. This dose was continued for six days after the onset of ovarian stimulation. Ovarian stimulation was initiated using recombinant FSH. The standard dose was 300 IU/day. Treatment was continued until six follicles of diameters 20, 17 mm developed with an estradiol level of 1,704 pg/ml. Two 5,000 IU ampoules of human chorionic gonadotropin (Pregnyl, Organon) were given to trigger ovulation.

Transvaginal oocyte retrieval was performed 36 hours after hCG administration. The male partner produced a semen sample by masturbation. The sample was allowed to liquefy and then examined. The seminal plasma was removed by washing the sperm with culture medium. Finally by the Percoll gradient technique, the most motile fraction of the sperm was separated

and used for the transfer; a Cook catheter was used with a 45° angle placed at 3 cm. An air bubble separated the oocytes (8 oocytes in total for the procedure) with 100,000 processed sperm used for each oocyte.

The laparoscopic technique requires a standard two-puncture laparoscopy, plus a third puncture for the catheter sheath. The laparoscopy procedure also detected stage I endometriosis, with implants deep to the peritoneal surface. After the GIFT is performed the patient spends an average of two hours in the recovery room. Luteal progesterone supplementation was initiated on the day of oocyte retrieval and was achieved by vaginal progesterone suppositories, 100 mg three times daily. Clinical pregnancy was identified by the presence of a gestational sac with fetal heart beat on ultrasonography performed seven weeks after oocyte retrieval.

Discussion

The outcome of assisted reproduction in women >40 years of age is extremely poor [1]. Various mechanisms have been proposed to account for the decline in fertility with age including progressive follicular depletion, decline in granulosa-cell function, poor oocyte quality and diminished endometrial receptivity. In a recent publication by Ron-El *et al.* no clinical pregnancies were recorded in women ≥ 45 years [2].

This has led to age limits for acceptance of patients in many programs. The general opinion in IVF programs is that patients aged ≥ 45 years should not be offered treatment with their own eggs.

The Templeton *et al.* [3] analysis also showed a significant reduction in the success rate with increasing duration of infertility, even after adjustment for age. In our case the duration of infertility was ten years.

Bar-Hava *et al.* in a recent publication [4] observed that ICSI is associated with better results in women who started their treatments at ≥ 40 years. In a previous study Abdelmassih *et al.* demonstrated that ICSI is not a solution for the age problem [5].

Debate continues on the true effectiveness of GIFT compared with IVF. In women over 42 years old, the

French national results [6] showed that clinical pregnancy rates per oocyte collection were double (14%) by GIFT vs. 7% by IVF.

In conclusion this case report demonstrates that strict age limits in assisted reproductive technology are debatable. It may be that GIFT offers an advantage over IVF (especially when endometriosis is also detected) in the age group over 40. For appropriate patient selection and counseling predictive tests for a patient's individual performance in ART treatment are needed.

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