

FAILED GnRH AGONIST TRIGGER IN AN EGG DONOR WITH LEVONORGESTREL INTRAUTERINE SYSTEM

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Abstract Body

Introduction

Little is known about whether GnRH agonist therapy can trigger final oocyte maturation in women with a levonorgestrel intrauterine system (LNG-IUS). We report a case of failed GnRH agonist trigger and the subsequent management of an egg donor with a LNG-IUS.

Case Report

A healthy 25-year-old nulligravid egg donor had a LNG-IUS fitted eight months prior to her ovarian stimulation. She became amenorrheic following LNG-IUS insertion. Her baseline tests prior to ovarian stimulation were: FSH 6IU/L, LH 9IU/L, estradiol 104pmol/L, progesterone 0.9nmol/L, AMH 48pmol/L, and AFC of 44. Her BMI was 24kg/m².

She was treated with an antagonist protocol and had a robust response. Thus, a GnRH agonist was used to trigger final oocyte maturation in order to reduce the risk of OHSS. At oocyte retrieval, only six immature oocytes were obtained after complete aspiration of both ovaries. Blood tests immediately post oocyte retrieval showed an LH of 1.9 IU/L and progesterone of 4.6 nmol/L confirming Agonist trigger failure. Two metaphase I oocytes matured in vitro and injected. Oocyte maturation was then re-triggered with recombinant hCG (Ovidrel) and a second oocyte retrieval performed 36 hours later. All hemorrhagic follicles were re-aspirated, six mature oocytes were retrieved, they all fertilized, resulting in four day 5 blastocysts that were vitrified. Injection of the two oocytes from the first retrieval resulted in one blastocyst which was transferred into the recipient developing into an ongoing intra-uterine pregnancy.

Discussion

This case suggests that even though amenorrhea is due to local endometrial changes in most LNG IUS users, it is possible that it can cause anovulation and functional hypothalamic suppression. Therefore, the GnRH agonist trigger should be used with caution in this population. Furthermore, failed GnRH agonist trigger is not always an "all or none" phenomenon and should be suspected when there are drastically fewer oocytes retrieved compared to number of aspirated follicles. Re-trigger using hCG and egg retrieval 36 hours later, including aspiration of previously aspirated follicles, can still yield mature oocytes. Screening for failed GnRH agonist trigger by measuring LH and Progesterone 8-13hrs post-trigger may allow for the diagnosis prior to egg retrieval.