

Use of pentoxifylline during ovarian stimulation to improve oocyte and embryo quality: A retrospective study.

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ABSTRACT

OBJECTIVE: This study aims to investigate if the administration of pentoxifylline during ovarian stimulation have an impact on the quantity and quality of oocytes recovered for in vitro fertilization (IVF), the quality of zygotes and embryos resulting from IVF, the serum estradiol and progesterone concentrations, the endometrial thickness and pregnancy outcomes after embryo transfer.

METHODS: Retrospective crossover study including 18 women with recurrent implantation failure, defined as having a history of at least two consecutive cycles of implantation failure and 25-45 years of age at the time of embryo transfer. Pentoxifylline was added during their following IVF attempt aiming to improve endometrial function. Oocyte, zygote and embryo quality, serum estradiol and progesterone concentrations, endometrial thickness and IVF outcomes were compared between the two sequential attempts.

RESULTS: Compared to the first attempt, the outcomes of the second attempt, with the addition of pentoxifylline administration, resulted in higher numbers of total and mature oocytes, better oocyte, zygote and embryo quality, higher serum estradiol concentrations, thicker endometrium and better clinical IVF outcomes.

CONCLUSIONS: The administration of pentoxifylline during ovarian stimulation seems to improve IVF outcomes, not only by the generating a thicker endometrial lining, but also by producing a higher number of oocytes, with better oocyte, zygote and embryo quality, and higher serum estradiol concentrations.