

# Comparison of progesterone administration before and after embryo transfer in ART cycles

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## Abstract

**Introduction:** Nowadays the wide spread use of GnRH agonists in ART protocols has emerged the need for luteal phase support by progesterone. However the time of starting progesterone administration is still obscure, some investigators recommend the day of oocyte retrieval and the others later. The present study was designed to investigate the effect of the progesterone administration timing before or after embryo transfer on the outcome of ART.

**Materials and Methods:** A randomized clinical trial was designed to study a total of 575 women referred to Shahid Sadooghi University of Medical Sciences and Yazd Madar Hospital, undergone ART treatment. Using long GnRH-a protocol, the patients were randomly divided into two groups. Progesterone administration was started on oocyte retrieval day in the first group (n= 307), versus after embryo transfer in the second group (n=268). Pregnancy rate were analyzed using statistical trials including  $\chi^2$  and T.

**Results:** Regarding the age of couples, the duration and etiology of infertility, the number of follicles, retrieved oocytes and zygotes ( $3.0\pm 1.4$  in first group versus  $2.8\pm 1.4$  in second group) no statistically significant difference was observed. The outcome, defined as a positive pregnancy test was not different in two groups.

**Conclusion:** Considering the results and the disturbances following intramuscular injection of progesterone including the risk of bleeding, the administration of progesterone after embryo transfer is recommended.

**Key Words:** Infertility, Assisted Reproductive Technology (ART), Oocyte retrieval, Embryo transfer, Luteal phase support, and Progesterone.

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