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**OVARIAN AND ENDOMETRIUM PLATELET-RICH PLASMA (PRP)
THERAPY IN REPRODUCTIVE MEDICINE**

Prof G. Menaldo

Centro Clinico San Carlo di Torino, Unità di Procreazione Assistita, Torino, Italy

INTRODUCTION: Platelet-rich plasma (PRP) contains high levels of various growth factors and cytokines, which play critical roles in different cellular and inter-cellular pathways. In this study we have applied PRP to reproductive medicine to overcome the problem of patients with low ovarian reserve and patients who cannot obtain adequate endometrial thickness for successful embryo transfer. We evaluated the effectiveness of ovarian drilling and PRP injection, in order to rejuvenate and reactivate ovaries with the ultimate goal of indicating a possible correlation between this mode of treatment and reproductive effect in women with diminished ovarian reserve as determined by one prior IVF cycle canceled for poor follicular recruitment response. PRP application in the endometrium has also been associated with increased thickness and progesterone receptor activity. Progesterone receptors are the main actors that help maintain a thick and healthy endometrial lining, which in turn, helps with embryo implantation.

METHODS: We have started offering ovarian and endometrium PRP applications for 157 patients (32 and 47 years old) with: IVF failures, poor oocyte yield and Premature Ovarian Failure and patients who cannot obtain an adequate endometrial thickness. Ovarian infusion of PRP is programmed in the 8-10 day of the menstrual cycle while endometrial PRP application is administered 48-96 h before embryo transfer. PRP was prepared from autologous blood using the Plasmalifting kit according to the manufacturer's instructions. After controlling platelet degranulation at the microscope, 1 cc of pure PRP was infused on ovaries using a thin needle under transvaginal ultrasound guidance and/or infused on the endometrium using the Gynetics catheter.

RESULTS: To verify the action of this treatment we attach importance to the presence of a dominant follicle in the 8-10 day of the next cycle; we also check the hormonal profile of FSH and E2 in the 3rd day of the menstrual cycle; after application of PDGF, the endometrial thickness was satisfactory in all patients (>8 mm), with an endometrial three-layer pattern. Results of PRP treatment in the ovary and endometrium are promising because 38% of these patients with previous IVF failures achieved pregnancy.

CONCLUSION: PRP treatments seem to have an important regenerative function of the reproductive system. These results translate into several pregnancies, registered in all women with previous IVF failures.