The 30° World Congress on Controversies in Obstetrics, Gynecology & Infertility (COGI)
November 24-26, 2022 | Amsterdam, The Netherlands

AUTOLOGOUS PLATELET-RICH PLASMA INFUSION AND GRANULOCYTE-COLONY STIMULATING FACTOR (G-CSF) TREATMENT IMPROVES PREGNANCY RATE IN WOMEN WITH THIN ENDOMETRIUM IN HETEROLOGOUS FERTILIZATION

Prof G. Menaldo
Centro Clinico San Carlo di Torino, Unità di Procreazione Assistita, Torino, Italy

INTRODUCTION: Endometrial thickness has been identified as a prognostic factor for pregnancy rate for patients who carry out an embryo transfer in heterologous fertilization. Despite advances in infertility treatment, repeated implant failure due to insufficient thickness of the endometrium continues as a challenging difficulty also in heterologous fertilization. The implantation of the embryo is influenced by many factors. Much effort has been made to improve implantation rate with different methods such as platelet rich plasma (PRP) treatment in patients with thin endometrium which has been shown to be effective in improving pregnancy rate. Another factor is the granulocyte colony stimulating factor (G-CSF) which contains endometrial cell receptors and may play a role in implantation. G-CSF is a hematopoietic specific cytokine produced by bone marrow cells, stromal cells, fibroblasts and macrophages. G-CSF increases phagocytosis and oxidative process which is necessary for implantation . Moreover GCSF appears to affect endometrial expression of genes critical for the implantation process, such as endometrial vascular remodeling, local immune modulation and cellular adhesions mechanisms.

METHODS: In this study n.93 patients undergoing in other fertility centers to embryo transfer in heterologous fertilization and with the history of cycle cancellation due to endometriopathy and thin endometrium were considered. Prp was prepared from autologous blood using Plasmolifting kit according to manufacturer`s instructions. After controlling platelet degranulation at microscope, 1 cc of pure PRP was infused on the endometrium under transvaginal ultrasound guidance using Gynetics catheter. G-CSF micro-dose Guna was taken by patients in an oral dose of 20 drops x2 times a day from day 1 of the menstrual cycle until the time to determine serum levels of beta-HCG.

RESULTS: After PRP infusion and G-CSF somministration, the endometrium thickness in PRP group was significantly thicker than that in control group: in 90% of cases the endometrial thickness increased from mm 6/6,5 to mm 8/8,5. Furthermore, treated group had lower cycle cancellation rate when compared to control group. The implantation rate and clinical pregnancy rate in treated group were significantly higher (67%) than those in control group.

CONCLUSION: Treatment with G-CSF and PRP may increase chemical pregnancy and implantation rate in patients with recurrent implantation failure.