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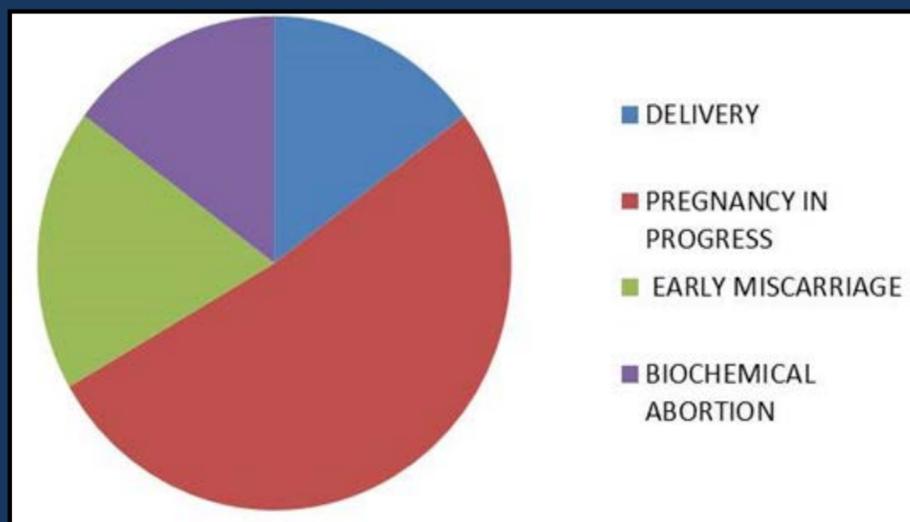
USE OF ENDOMETRIAL PRP (PLATELET RICH PLASMA) WITH PLATELET DEGRANULATION IN TREATMENT OF PATIENTS WITH FAILED IVF ATTEMPTS

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PROBLEM STATEMENT: PRP is a new promising regenerative therapeutic application which can offer therapeutic benefits without detrimental side effects as it is a direct product of own blood sample. PRP has been employed in several fields of medicine: from plastic surgery, maxillo-facial surgery, dental surgery, orthopedics, eye surgery and gynecology. PRP is highly rich in several growth factors that have a significant role in tissue regeneration. The main ones include epidermal growth factor, vascular endothelial growth factor, transforming growth factor beta 1 and beta 2, interleukin 10, several classes of platelet-derived growth factors. More recently, clinical trials have provided substantial amount of evidence that PRP can have many beneficial effects in the field of infertility through its regenerative effects. PRP applications have been demonstrated to have cell proliferative effects as well as anti-inflammatory effects while working on tissue repair. PRP application has also been associated with increased 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 PRP applications for 84 patients with: adenomyosis, previous IVF failures and patients who cannot obtain a desired level of endometrial thickness for a successful embryo transfer. The endometrial PRP application is administered approximately 48-96 h before embryo transfer. PRP was prepared from autologous blood using RegenACR kit according to manufacturer's instructions and subsequently infused on the endometrium using Gynetics catheter.

RESULTS: After application of PRP, the endometrial thickness was satisfactory in all patients (>8 mm), with endometrial three-layer pattern, before progesterone administration and embryo transfer was performed; of these patients with previous IVF failures beta-HCG was positive in 28 of them: 4 live-birth following a delivery of healthy baby, 14 women with physiological pregnancy, 6 had early miscarriage within 12 weeks pregnancy and 4 with biochemical abortion.



CONCLUSION: In our experience, PRP treatment seems to have an important regenerative function, because all patients subjected to treatment had a good endometrial thickness, ideal for embryo implantation. These results translates into several pregnancies, registered also in women with previous IVF failures, with adenomyosis and low endometrial thickness and in women who have never had a pregnancy before.