

A comparative evaluation of sub-endometrial and intrauterine platelet-rich plasma treatment for women with recurrent implantation failure

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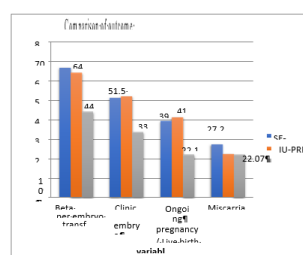
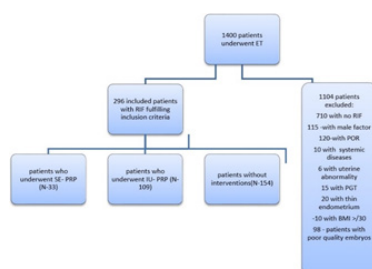
Abstract

Statement of the problem: Recurrent implantation failure (RIF) is a relatively common problem with an incidence of 10%. A few studies have suggested the role of platelet rich plasma (PRP) to tackle this issue. PRP through its paracrine action recruits a wide array of cytokines and growth factors (GF) which are necessary for implantation. Objective of the study is to compare the effectiveness of treatment with autologous activated platelet rich plasma, administered either to sub-endometrium (SE-PRP) or to the endometrial surface (intrauterine; IU-PRP) against control. We introduced a novel technique of administration of activated PRP into the sub-endometrial space of the uterine cavity, which is the niche area for GF and cytokine production.

Methodology: This prospective cohort study was conducted in a fertility unit involving all women aged < 40 years with a history of unexplained RIF undergoing frozen embryo transfer (FET) (n=318). Intervention(s): SE-PRP- PRP was injected into the sub-endometrial space transvaginally in the luteal phase of the previous cycle of embryo transfer under ultrasound guidance (n=55). IU-PRP- Intrauterine infusion of PRP was administered during the index FET cycle when the endometrium was ≈ 7 mm (n=109). Control- who did not choose PRP treatment and underwent standard FET with no intervention (n=154).

Findings: Ongoing pregnancy or live birth rate per transfer cycle (OPR/LBR) was higher ($P < 0.01$) in the SE-PRP and IU-PRP than in the control group. Clinical pregnancy rate per transfer cycle (CPR) showed a similar trend ($P < 0.01$) with a higher rate in the SE-PRP and IU- PRP than the controls. OPR/LBR and CPR were similar between SE-PRP vs IU-PRP ($P = 0.87$). The miscarriage rate was similar in all three groups.

Conclusion: In women with RIF, PRP treatment appears to improve FET outcome with an increase in OPR/LBR. However, SE-PRP treatment does not offer any advantage over lesser invasive IU-PRP treatment.



Biography

Noushin has extensive years of experience in the field of reproductive medicine. She is currently working as a consultant in a national board registered academic fertility research Centre. After finishing her medical school and MD- postgraduation in Obstetrics and Gynecology she completed fellowship in reproductive medicine. She is also a member of RCOG and RCPI. As a noted academician, she has authored numerous publications and given lectures on various topics pertaining to infertility.