

Effects of autologous platelet-rich plasma in repeated implantation failure: a randomized controlled trial

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Context: Repeated implantation failure (RIF) is a major challenge in reproductive medicine and despite several methods that have been described for management, there is little consensus on the most effective one.

Objective: This study was conducted to evaluate the effectiveness of platelet-rich plasma in improvement of pregnancy rate in RIF patients.

Methods: Randomized controlled trial

Patients: Between 2016 and 2017, a total of 116 patients who failed to conceive after 3 or more embryo transfer with high quality embryos and candidate for frozen embryo transfer (FET) were assessed for eligibility to enter the study.

Intervention: Intrauterine infusion of 0.5 ml platelet-rich plasma (PRP) that contained 4-5 times more than peripheral blood sample was performed 48 h before blastocyst transfer in FET cycles in intervention group. Standard treatments were performed in control group.

Main Outcomes: Chemical and clinical pregnancy rates were assessed.

Results: 97 patients completed the study procedure. There were no significant differences between two groups in terms of age, body mass index (BMI) and number of previous embryo transfer (ET). Chemical pregnancy rate was higher in intervention group than control group (53.06% vs 27.08% respectively; p value: 0.009). Clinical pregnancy rate was higher in PRP group than control group (44.89% vs 16.66% respectively; p value: 0.003)

Conclusion: According to this study, it seems that platelet-rich plasma is effective in improvement of pregnancy outcome in RIF patients.

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