

Platelet Rich Plasma; A Novel Treatment for Fertility Patients

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Objective

To provide an up to date narrative review on the therapeutic applications of platelet rich plasma (PRP) in the field of fertility.



Design

Review of the literature

Methodology

The following databases were searched for published studies available in the English language over the last 10 years. PUBMED, EMBASE, Cochrane central register of controlled trials (CENTRAL). The search strategy included a combination of keywords including gynaecology, fertility, infertility and platelet rich plasma.

Results

- Therapeutic applications of PRP within the human uterus are either via the intrauterine (intracavity) or subendometrial route.
- PRP has been explored both in vivo and ex vivo in the human endometrium model in its ability to harness the intrinsic regenerative capacity of the endometrium.
- The first study to demonstrate its potential displayed **successful endometrial expansion** and pregnancies in women treated with **intrauterine autologous PRP** infusions.
- Other studies have reported patients with thin endometria treated with intrauterine PRP infusions 36-48 hours prior, displaying **increased endometrial thickness >7mm** and successful pregnancies.
- Another delivery technique which has been explored is direct injection of PRP beneath the superficial endometrium during hysteroscopy- the subendometrial route. In women with recurrent implantation failure and thin endometrium, subendometrial injection has been proven to **improve endometrial thickness and vascularity**.
- Another exciting potential is the application of PRP for premature ovarian insufficiency (POI). In vitro studies demonstrate intraovarian injection of PRP **supports the growth of preantral follicles**.
- In ovaries which are responding poorly to stimulation, PRP has demonstrated **an increase in the number of follicles** and egg yield at collection.

Conclusion

PRP has a therapeutic role in the setting of infertility and further clinical trials are required to fully explore its benefit.

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