

Effect of Intra Ovarian Injection of Platelet Rich Plasma to Patients with Diminished Ovarian Reserve (DOR)-A Prospective Study

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Published May 16, 2023

ABSTRACT

Background: Diminished ovarian reserve (DOR) is defined as the reduction in the quantity of ovarian follicular pool in reproductive age women and amounts to major concern in many couples for being the cause of their infertility. In general, close to 10-15% of infertile couple doesn't respond to stimulation protocols but the incidence may be much higher in the infertile population as many may never undergo a complete evaluation or IVF.

The aim of this study was to investigate the effect of intra ovarian injection of platelet rich plasma to patients with diminished ovarian reserve (DOR) in terms of quality and quantity of oocytes and the improvement in the results of IVF. This article is a piece of work to elucidate the effects of platelet rich plasma in patients with DOR with earlier failed IVF attempts.

Material and Methods: This is a Prospective cohort study conducted in three IVF Clinics Thane-India, Almaty-Kazakhstan, and Tashkent-Uzbekistan from October 2021 to September 2022. All couples with failed IVF with diminished ovarian reserve as per ARSM definition between the age group of 35 to 45 (both inclusive) were invited for the study and consented.

Results: The results suggest that women treated with PRP had significant improvement in biochemical and ultrasound markers of ovarian reserve. Notably, AMH levels were on average 72% higher following PRP ($P < 0.001$). Of the 124 women who underwent PRP treatment to their ovaries and then subsequent IVF/ICSI; yielded an average more than $1.5 \times$ the number of oocytes collected prior to PRP treatment in previous IVF cycles.

Conclusion: This study revealed that the injection of PRP into human ovaries is a reliably safe and effective option to improve the ovarian reserve in women with diminished ovarian reserves and having a failed IVF cycle.

Keywords: Platelet-rich plasma, Ovarian reserve, Diminished ovarian reserve, Assisted reproductive techniques

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Citation: Kumar V, Nath KR, Dongre S, Tokenova A & Ashurova N. (2023) Effect of Intra Ovarian Injection of Platelet Rich Plasma to Patients with Diminished Ovarian Reserve (DOR)-A Prospective Study. J Womens Health Safety Res, 7(S1): 05.

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