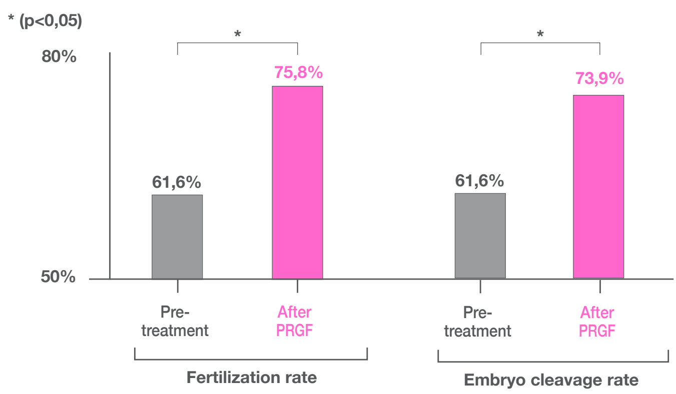
POOR OVARIAN RESPONSE

IMPACT OF BILATERAL INTRAOVARIAN PLATELET-RICH PLASMA IN WOMEN WITH POOR OVARIAN RESPONSE

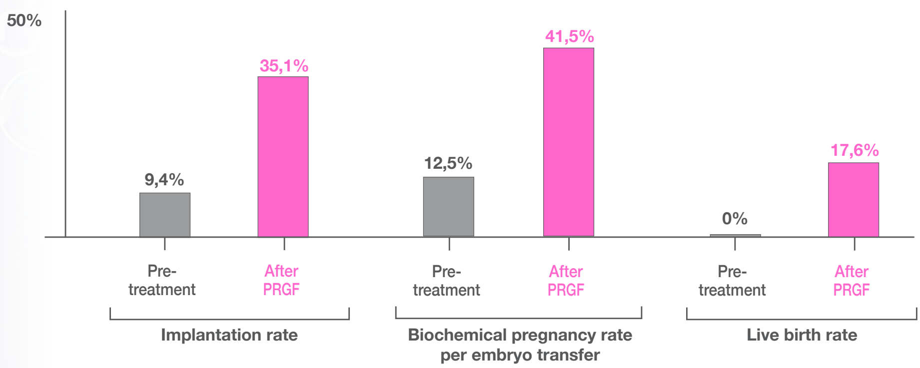
INTRAOVARIAN TREATMENT WITH ENDORET® TECHNOLOGY WAS RELATED TO GREATER OOCYTE QUALITY IN POOR OVARIAN RESPONDERS

THE STUDY INCLUDED 207 POOR RESPONDERS

ICSI OUTCOMES



EMBRYO TRANSFER OUTCOMES



Molinaro P, Ballester A, Garcia-Velasco JA, Muñoz M, Herraiz S. Impact of bilateral intraovarian platelet-rich plasma in women with poor ovarian response or primary ovarian insufficiency: a retrospective study. Fertil Steril. 2025 May 14:S0015-0282(25)00431-5.

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Human Technology

ABSTRACT

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Impact of bilateral intraovarian platelet-rich plasma in women with poor ovarian response or primary ovarian insufficiency: a retrospective study

OBJECTIVE

To investigate the association of autologous platelet-rich plasma (PRP) treatment with functional ovarian reserve parameters and in vitro fertilization (IVF) outcomes of poor ovarian responders and women with primary ovarian insufficiency (POI) who refused oocyte donation.

DESIGN

Observational, retrospective, multicentric cohort study SUBJECTS: Three hundred fifty-three women who underwent PRP treatment, including 207 poor responders and 146 diagnosed with POI.

EXPOSURE

Intraovarian PRP injection.

MAIN OUTCOME MEASURES

Main outcomes were antral follicular counts (AFCs) and serum antimüllerian hormone (AMH). Secondary outcomes were IVF parameters and reproductive outcomes.

RESULTS

In the poor responders' cohort (40.0 ± 3.8 years old, AMH0 = 0.43±0.54 ng/mL; AFC0 = 2.6 ± 2.4), intraovarian PRP was associated with significantly improved AFCs at each follow-up visit (AFC0 = 2.6 ± 2.4 vs. AFC1 = 5.3 ± 3.6; AFC2 = 4.5 ± 3.5; AFC3 = 4.0 ± 2.4; AFC4 = 3.6 ± 2.7) compared with the pretreatment levels. There were 100 pretreatment and 231 posttreatment ovarian stimulation cycles initiated in 111 poor responders with similar yields of metaphase II oocytes (Pre-PRP: 2.4 ± 3.0 vs. Post-PRP: 3.0 ± 3.4) and blastocysts obtained (Pre-PRP: 0.5 ± 0.7 vs. Post-PRP: 0.6 ± 1.1). However, we found novel positive associations between PRP and oocyte quality-related parameters such as maturation (Pre-PRP: 65.8% vs. Post-PRP: 80.8%) and fertilization rates (Pre-PRP: 61.6% vs. Post-PRP: 75.8%), although statistically significant differences were not reached for implantation (Pre-PRP: 9.4% vs. Post-PRP: 35.1%), and biochemical pregnancy rates (Pre-PRP: 12.5% vs. Post-PRP: 41.5%). We identified 23 clinical pregnancies (17 after embryo transfer and six natural conceptions) with seven live births in poor responders who received PRP. In the POI cohort (38.7 ± 4.3 years old, AMH0 = 0.1 ± 0.1 ng/mL; AFC0= 1 ± 1.2), PRP treatment was only related to higher AFCs (AFC1 = 2.1 ± 1.9; AFC2= 1.9 ± 1.9; AFC3= 1.9 ± 1.8, AFC4= 1.9 ± 1.7), but improvements in IVF or reproductive outcomes were not detected.

CONCLUSION

Our results suggest that PRP did not induce quantitative effects on the ovaries, as oocyte and embryo yields were not increased. However, in poor responders, retrieved oocytes seemed more capable of maturing and being fertilized. For POI patients, intraovarian PRP treatment did not improve IVF or reproductive outcomes, and thus, alternatives are still required. Prospective randomized clinical trials are recommended to validate these retrospective findings and elucidate potential mechanisms for PRP-induced ovarian reactivation.

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