A new approach of using platelet-rich autologous plasma to increase the ovarian reservoir in a Syrian Patient with ovarian insufficiency: A case report

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Abstract

Introduction: The prevalence of Primary ovarian insufficiency (POI) is estimated to be 1-2%, resulting from many causes, including, iatrogenic causes which are becoming more common. There is no precise treatment to restore fertility in POI patients. However, new treatments -such as ovarian rejuvenation using platelet-rich autologous plasma (PRP)- are being tested and have shown promising results. We report using a new PRP injection protocol to manage a Syrian patient with ovarian insufficiency.

Case presentation: A 35-year-old woman with five years of primary infertility presented with decreased anti-mullerian hormone (AMH) after she underwent a laparoscopy one year ago. Where the AMH dropped from 1.07 to 0.39 ng/mL after it. She underwent an ovarian rejuvenation using PRP. Half mL of PRP was injected into every ovary, 2 mL were injected into the cervix, 7 mL intra-uterus, and 7 mL were injected intramuscularly to the patient's legs. Fifteen days following the operation, the patient's new AMH level was 0.94 ng/mL. The patient was placed on ovarian stimulation, and five days later the ultrasonography showed the development of six follicles in each ovary.

Discussion: Managing POI using ovarian rejuvenation is the best alternative treatment; When the donor eggs programs are not acceptable. The use of PRP in ovarian rejuvenation has been reported to be effective and showed promising results.

Conclusion: The use of PRP was beneficial in restoring fertility in a patient with ovarian insufficiency, and the new PRP injection protocol was effective. However, more studies are needed to confirm these findings.

Image



Figure legend: The Transvaginal ultrasound of the Right ovary shows the development of four follicles ranged between 1.3-1.5 cm in diameter.

Recent Publications (minimum 5)

1. Melo, P., Navarro, C., Jones, C. et al. The use of autologous platelet-rich plasma (PRP) versus no intervention in women with low ovarian reserve undergoing fertility treatment: a non-randomized interventional study. J Assist Reprod Genet 37, 855–863 (2020). https://doi.org/10.1007/s10815-020-01710-z
2. Petryk N, Petryk M. Ovarian Rejuvenation Through Platelet-Rich Autologous Plasma (PRP)-a Chance to Have a Baby Without Donor Eggs, Improving the Life Quality of Women Suffering from Early Menopause Without Synthetic Hormonal Treatment. Reprod Sci. 2020 Nov;27(11):1975-1982. DOI: 10.1007/s43032-020-00266-8.
3. Panda SR, Sachan S, Hota S. A Systematic Review Evaluating the Efficacy of Intra-Ovarian Infusion of Autologous Platelet-Rich Plasma in Patients With Poor Ovarian Reserve or Ovarian Insufficiency. Cureus. 2020 Dec 12;12(12):e12037. DOI: 10.7759/cureus.12037.
4. Cakiroglu Y, Saltik A, Yuceturk A, Karaosmanoglu O, Kopuk SY, Scott RT, Tiras B, Seli E. Effects of intraovarian injection of autologous platelet-rich plasma on ovarian reserve and IVF outcome parameters in women with primary ovarian insufficiency. Aging (Albany NY). 2020 Jun 5;12(11):10211-10222. DOI: 10.18632/aging.103403
5. Sills ES, Rickers NS, Li X, Palermo GD. First data on in vitro fertilization and blastocyst formation after intraovarian injection of calcium gluconate-activated autologous platelet-rich plasma. Gynecol Endocrinol. 2018 Sep;34(9):756-760. DOI: 10.1080/09513590.2018.1445219.

6. Hosseini L, Shirazi A, Naderi MM, Shams-Esfandabadi N, Borjian Boroujeni S, Sarvari A, Sadeghnia S, Behzadi B, Akhondi MM. Platelet-rich plasma promotes the development of isolated human primordial and primary follicles to the preantral stage. Reprod Biomed Online. 2017; 35:343–50. 10.1016/j.rbmo.2017.04.007.doi: 10.1016/j.rbmo.2017.04.007.

Photograph



Biography (150 word limit)

Dr. Rami Sabouni is a fresh medical graduate from Damascus university, Syria. He showed great passion towards medical research and helped in improve what is already known. His main field of interests are in Gynecology and Obstetrics, especially the fertility medicine, and he is now working on developing methods to overcome infertility.

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Notes/Comments: