Ovarian Platelet-Rich Plasma Converts Previously Nonproductive or Cancelled IVF Cycles into Viable Retrievals in Poor Responders

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Introduction

- Patients with diminished ovarian reserve or prior poor response to ovarian stimulation often have limited infertility treatment options
- Intraovarian platelet-rich plasma (PRP) is an emerging regenerative approach that delivers concentrated autologous growth factors directly to ovarian tissue
- PRP has been proposed as a potential strategy to improve ovarian response, however, clinical evidence is limited

Objective

To evaluate whether ovarian PRP was associated with improved ovarian response and IVF cycle progression in patients with diminished ovarian reserve or prior poor response.

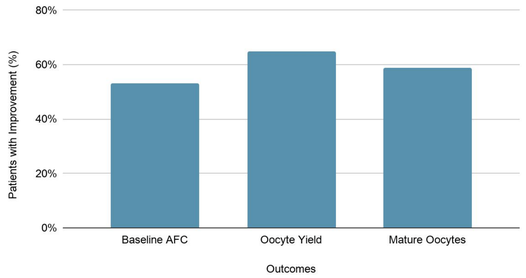
Methods

- Retrospective cohort study of patients undergoing IVF before and after intra-ovarian PRP
- Pre- and post-PRP IVF cycles were compared within the same patients
- Outcomes assessed included antral follicle count (AFC), oocyte yield, mature oocytes, and cycle completion
- Stimulation protocols and gonadotropin dosing were also reviewed to assess whether changes in response were attributable to PRP versus protocol differences

Results

- Baseline AFC increased in 9 of 17 patients
- Oocyte yield increased in 11 of 17 patients
- Mature oocyte (MII) counts increased in 10 of 17 patients

Figure 1: Post-PRP Improvement Among Evaluable Patients



- Patients with prior cycle cancellation or extremely poor response (n = 3), including one patient with a previously cancelled cycle due to lack of follicular development and another with conversion to intrauterine insemination, were able to proceed to oocyte retrieval following PRP
- Among 5 patients who previously produced no embryos, 3 demonstrated embryo development in subsequent cycles after PRP, including development of cleavage-stage embryos and blastocysts. Additionally, two patients conceived spontaneously following PRP while preparing for subsequent IVF cycles
- Improvements occurred despite similar gonadotropin dosing in most patients, suggesting the observed effect was not solely attributable to changes in stimulation protocols

Conclusions

- Improvements were observed in AFC, oocyte yield, and mature oocyte counts following PRP
- Several patients with previously cancelled or nonproductive cycles were able to proceed to retrieval and/or embryo development after PRP
- Ovarian PRP may enhance ovarian responsiveness and facilitate successful retrieval in patients with prior poor response or cancelled cycles
- This approach may offer a potential therapeutic option for a population with otherwise limited treatment success
- Larger prospective studies are needed to confirm efficacy and identify which patients are most likely to benefit

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