

The efficacy of platelet-rich plasma for the treatment of erectile dysfunction: initial outcomes

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Objective: Through past decades a variety of therapies have evolved for erectile dysfunction (ED). The effectiveness of these methods varies by individual and are often used in conjunction with each other for optimal penile rehabilitation. While the advent of platelet-rich plasma (PRP) is not new to medicine, there has been limited clinical data for its application in the field of sexual medicine, specifically in conjunction with other forms of ED therapy. Evidence suggests PRP promotes the body's natural healing process and therefore may help tissues in the penis better accept other therapies.

Materials and Methods: A retrospective chart review was conducted at Midwest Urological Group in Peoria, IL. At this site, patients are presented with the option of adding PRP to a medication and vacuum therapy regimen to treat their ED. Charts were included if 1) PRP treatment occurred between 8/1/2015 and 8/1/2016; 2) baseline and 4-week post International Index of Erectile Function (IIEF) complete; 3) no penile implant; and 4) initial IIEF indicated moderate ED (10-21). PRP was obtained using the patients' own blood and each patient received only one treatment.

PRP Preparation: Since not all PRP systems yield the same cellular components in their final product, we thought it important to include the cellular components of the specific PRP used in this study. The PRP system we used generates 4-6 times the number of platelets and growth factors normally found in the blood. The system is noted for its low RBC and Granulocytes as well as high Monocyte concentrations.

Results: N = 11 patients met the inclusion criteria. The mean age was 58.09 years with a range of 46-66 years. Three of the patients had hypertension; eight had hypogonadism. The average baseline IIEF score was 15.27 with a range of 6-20. The average post-PRP IIEF score was 20.00 with a range of 7-27. A paired samples t-test revealed that there was a significant difference between groups, $t(10) = 2.58$, $p = 0.027$. In light of the small sample size the effect size was also calculated and found to be large, *Cohen's d* = 0.85, $r = .439$. No adverse effects reported. 100% of patients reported no side effects.

Conclusions: PRP may be a safe and effective supplemental therapy for penile rehabilitation. Particularly notable is the prospect of zero side effects. Further investigation is required to assess how PRP works in conjunction with specific therapies and establish the fit within the physician's treatment protocol.

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