

**Background:** Platelet rich therapy (PRT) has been increasingly used for wound healing, fat grafting, hemostasis as well as facial enhancement. Although platelet rich therapy with or without fat grafting for facial enrichment continues to gain popularity, little evidence exists to support its use. Therefore, the purpose of this systematic review is to provide practitioners with greater evidence for the utility and usage of platelet based therapies.

**Methods:** A MEDLINE search was performed for platelet rich plasma (PRP) and fibrin therapies with and without fat grafting yielding 3,046 studies. This search was then narrowed by including studies performed only for facial augmentation such as wrinkle reduction, skin tonicity, pigmentation, deflation, and overall aesthetic appearance. Studies performed for other purposes were excluded.

**Results:** A total of 19 studies, 7 with PRT only and 12 with PRP and fat grafting, encompassing 518 patients were included. For PRT only, the average age of patients was 48.72 years with a mean follow up time of 3 months. Most often, 3 treatments consisting of 1.5ml of PRP each were used. The lower eyelid, nasolabial folds and crows feet were most commonly injected areas. Roughly 88.8% of patients reported subjective improvements in overall appearance with 70% and 91% specifying diminished wrinkles and greater skin tonicity respectively. 87.6% and 68.8% of physicians noticed improvement in patient wrinkles and tonicity respectively. Skin pigmentation was enhanced in 66% of studies. Mild injection related complications such as transient erythema, edema, and bruising were rarely indicated. For PRP with fat grafting, 1 treatment with a 1:2 ratio of PRP and autologous fat was most commonly used. The nasolabial folds and malar regions were most often injected. Patients reported 99% satisfaction with treatment and the addition of PRP resulted in significantly greater preservation of fat graft (82.3% versus 31%).

**Conclusion:** Platelet rich therapies represent a promising new minimally invasive tool in facial enhancement. Both patients and physician observers reported marked improvement in overall appearance, wrinkle reduction, skin tonicity, deflation and pigmentation. Additional studies are needed to better analyze this technique.