

Treatment of nasolabial fold with subdermal dissection and autologous fat injection added with platelet-rich plasma

Nasolabial fold becomes more prominent with age as a result of loss of subcutaneous fat. In younger patients, according to massive weight loss, this fold becomes deeper, so their faces seem to be older.^[1] Wide variety of procedures described to ameliorate this fold. One of this therapeutic options is subdermal dissection and autologous fat injection frequently, for permanent cosmetic result.^[2] In recent decades, studies revealed that by using of PRP with fat, the survival of free fat grafts is enhanced. PRP is a fraction of autologous blood and consist of platelet, which is rich in variable growth factors that accelerated healing of soft tissue.^[3] In this study we evaluated a possible effect of autologous fat with PRP injection in deep nasolabial fold repairment. A total, 36 patients were enrolled in this study, between 2011 and 2012, who referred to Alzahra Hospital, Isfahan, for repairment of deep nasolabial folds. These patients were randomly assigned in two groups of equal number by using the random table number. Both groups were matched for age and gender (the average of patients' age in both groups were 39.1 ± 3 -years-old and 14 patients (77.7%) in case and 15 patients (83.3%) in control groups were female). In the case group, subdermal dissection and autologous fat injection with PRP was performed. In control group, only autologous fat was injected. The depth of nasolabial fold was classified as follows: Grade I: Visible folds on animation, Grade II: Visible folds at rest, Grade III: Visible folds at rest and deeper on animation, Grade IV: Deep folds at rest and deeper

on animation, and Grade V: Overhanging folds.^[4] All patients were evaluated for the improvement nasolabial fold (based on classification), and the satisfaction based on questionnaires that has filled with patients before and after procedure, between 4 and 8 months. Analytical study showed that based on improvement and stability of nasolabial fold augmentation and patients' satisfaction there was a significant difference between two groups ($P < 0.001$ and $P < 0.05$, respectively). Usage of autologous free fat for soft tissue augmentation is prevalent since many years; however, because of short life of fat, we needed frequently injection. Recently, PRP was introduced as a source of variable factors that causes improvement in the fat retention and survival rate. Most of the previous studies have been performed on animal models^[5] or have not been evaluated the influence of autologous fat with PRP on improvement of nasolabial fold depth directly. So, on this basis of study, it seems to be that this procedure is an ideal way in treatment of nasolabial fold.

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REFERENCES

1. Cho JM, Lee YH, Baek RM, Lee SW. Effect of platelet-rich plasma on ultraviolet b-induced skin wrinkles in nude mice. *J Plast Reconstr Aesthet Surg* 2011;64:e31-9.
2. Pires Fraga MF, Nishio RT, Ishikawa RS, Perin LF, Helene A Jr, Malheiros CA. Increased survival of free fat grafts with platelet-rich plasma in rabbits. *J Plast Reconstr Aesthet Surg* 2010;63:e818-22.
3. Schettino AM, de Oliveira DF, Franco TR. Use en autologous plasma in abdominoplasty: Previous note. *Rev Col Bras Cir* 2011;38:202-4.
4. Trevor MB, Lisa A, Dimitrios M, Foad N. The art of aesthetic surgery: Soft Tissue Fillers in Aesthetic Facial Surgery. 2nd ed. 2011. p. 347-8.
5. Stallworth CL, Wang TD. Fat Grafting of the Midface. *Facial Plast Surg* 2010;26:369-75.