



A New Suture Technique for Spreader Graft Fixation in Rhinoplasty

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Introduction

The spreader grafts are matchstick shaped longitudinal grafts which placed between the dorsal septum and upper lateral cartilages submucosally. These grafts are used to reconstruct internal nasal valve, to correct dorsal septal deviations and to recreate or improve dorsal aesthetic lines [1-3].

Most commonly they placed bilaterally along the nasal septum and fixed with horizontal mattress sutures. Fixation must be symmetrically and precise for maximizing the aesthetic results. Graft displacement and cartilage shearing are the two major problems that can be seen when tightening the suture. A new suture technique is developed by the first author to prevent these problems.

Material and Methods

203 rhinoplasty operations were performed between 2012 and 2015 in our clinic. All operations were performed by the first author. Open rhinoplasty technique was used for all patients. Bilateral spreader grafts were used in 115 cases and all grafts were fixated with the described technique. These patients were admitted to this study. Patients ages ranged from 16 to 63 (mean age = 35,3). 72 of 115 patients were female and 43 were male. Primary rhinoplasty was performed in 87 patients and secondary rhinoplasty in 28 patients.

Surgical Technique

After positioning the grafts bilaterally, the needle is passed through spreader graft, dorsal septum and opposite sided spreader graft, and then back to each like in horizontal mattress suture (Figure 1) but suture is not tighten so a loop was created (Figure 2). The trailing end of the suture is passed through the loop and then suture is tighten and tied (Figure 3).

Results

All patients were followed up periodically. The mean follow up was 36 months. During this period, no signs of early displacement of the graft were clinically observed. No graft extrusion towards the dorsum was observed. All patients were satisfied with the surgical outcome.

Case 1

A 23 year old female admitted to our clinic for the correction of dorsal nasal hump and septal deviation (Figure 4). She had narrow middle vault. Primary septorhinoplasty performed. Bilateral spreader grafts were used for the correction of narrow nasal vault (Figure 5). Fixation of these grafts was performed with the described suture technique.

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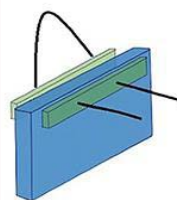


Figure 1: Suture passed through the cartilages and a loop was created.

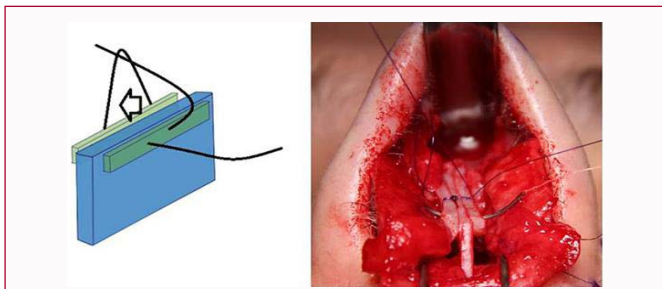


Figure 2: Trailing end of the suture passed through the loop.

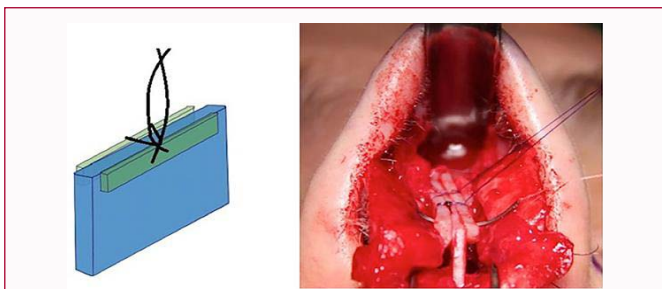


Figure 3: Suture tighten and tied.

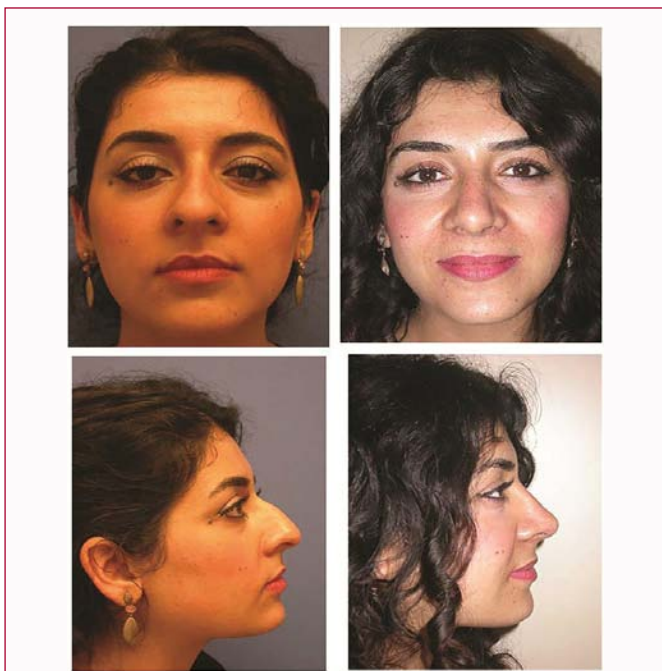


Figure 4: A young female with dorsal hump and septal deviation; right above – preoperative anterior view, left above – postoperative anterior view, right below – preoperative lateral view, left below – postoperative lateral view.

Case 2

A 33 year old female admitted to our clinic for the correction of inverted V and tip deformity. She had rhinoplasty before. Secondary rhinoplasty was performed with open technique. Conchal cartilage was harvested and used as spreader grafts. Fixation of these grafts was performed with the described suture technique.

Discussion

In 1984, Sheen first described spreader grafts as a method of reconstructing the internal nasal valve and/or recontouring the aesthetic appearance of the nasal dorsum in cases of primary and



Figure 5: A patient with inverted T and tip deformity; right above – preoperative anterior view, left above – postoperative anterior view, right below – preoperative lateral view, left below – postoperative lateral view.

secondary rhinoplasty [4]. Since then, spreader grafts were began to use extensively in rhinoplasty. These grafts have to be fixed precisely to prevent irregularities. For this purpose the described suture technique was developed.

We thought it is a useful technique and has two advantages:

A) Alignment of spreader grafts can be done very easily, because the suture encircles the upper side of the septum and spreader grafts, which differs from horizontal mattress suture and with tightening of the suture, it positioned spreader grafts in the same horizontal plane along the nasal septum.

B) In horizontal mattress suture, the forces acting on the cartilage only in horizontal plane which can lead to cartilage shearing due to the suture over-tightening.

In our technique forces acting on the cartilage is distributed 360 degree equally and that prevents cartilage shearing and damage.

Fixation of spreader grafts is an issue in rhinoplasty. Various techniques have been described by various authors [5-8]. Our technique is an easy and useful method for precise fixation of the spreader grafts and prevents spreader graft malposition at long term.

Conflict of Interest

None of the authors has a financial interest in any of the products, devices, or drugs mentioned in this manuscript.

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