

The “Butterfly Graft” as a Treatment for Internal Nasal Valve Incompetence

Sir:

There is a growing recognition that abnormality in the nasal valve area, which is located at the cross-section through the nasal passages at the caudal end of the upper lateral cartilages,¹ causes nasal stuffiness more frequently than previously realized. Over the past few decades, this has led to the development of a multitude of nasal valve procedures.^{2,3} One such technique aims at increasing the valve area by widening and reinforcing the nasal valve angle with a curved piece of ear cartilage. This so-called butterfly graft was previously described for treating nasal valve insufficiency caused by reductive rhinoplasty.⁴ In this series, we prospectively evaluated this technique for both revision and primary cases.

Ear cartilage is harvested from the cymba conchae or from the shoulder of the antihelix. Although this is not strictly necessary, precise positioning of the graft is easiest through an external approach. Pockets are formed by partially freeing the vestibular skin from the undersurface of the lateral crura. The graft is then inserted and fixated over the lower edges of the upper lateral cartilages ([Fig. 1](#)). The sutures are passed through the lateral crura, the graft, the caudal borders of the upper lateral cartilages, and the vestibular skin/mucosa, thereby widening the valve angle while ensuring maximal stability. The graft eventually lies for its greatest part under the lateral crura, with minimal chance of external visibility ([Fig. 2](#)).



Fig. 1. Insertion of a butterfly graft under the cephalic portion of the lateral crura.

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Fig. 2. Final position of the graft: over the caudal border of the upper lateral cartilages and under the cephalic border of the lower lateral cartilages.

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Eighty-four patients, with nasal valve incompetence on 157 sides (73 bilateral and 11 unilateral), were operated on by both authors in their respective hospitals. There were 48 men and 36 women, with an average age of 45.4 years (range, 19 to 71 years) and an average follow-up of 7.9 months (range, 3 to 31 months). Fifty-one patients (61 percent) had had at least one previous nasal operation; 33 patients (39 percent) were primary cases. In 58 patients (69 percent), additional procedures were performed for functional and/or cosmetic reasons, and 26 patients (31 percent) had only butterfly placement. Preoperatively and postoperatively, (subjective) scores for nasal airflow per side were collected on a 10-point scale, with 1 indicating total obstruction and 10 indicating a perfect nasal airway. Preoperatively, the average score for the 157 sides involved was 3.6 of 10 (range, 1 to 7); postoperatively, it was 7.4 of 10 (range, 3 to 10). The average improvement was 3.8 of 10 (range, 0 to 8). The average improvement was 4.3 of 10 in the 33 primary cases compared with 3.6 of 10 in the 51 revision cases. The average improvement in the 26 patients who had only butterfly graft placement was 4 of 10 compared with 3.7 of 10 in the 58 patients who underwent concomitant procedures. Overall, postoperatively, 93 percent of sides operated on showed subjective improvement, and no sides were worse. There were no complications, although in some cases the graft caused slight supratip fullness that in time became barely noticeable. In our experience so far, both for revision and for primary cases,

butterfly graft placement has generally been very effective as treatment for internal nasal valve insufficiency.

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