

## Case Report

## Advantages and Disadvantages of Reconstruction of the Nostril Ala by Composite Graft Apropos of a Case

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**Abstract: Introduction:** The authors report a case of nasal reconstruction by frontal flap and compound graft on an amputation of the nostril. The aim of the work is to determine the advantages and disadvantages of forehead flap with compound graft in nasal reconstruction. **Observation:** A 30-year-old patient with no particular history was admitted to the stomatology and maxillofacial surgery department of the University Hospital of OWENDO for amputation of the left nostril by human bite. The examination revealed a loss of cutaneous-musculo-cartilo-mucous substance of the nasal ala and part of the tip of the nose. The indication for reconstruction by frontal flap associated with a compound graft was established. The 1st operation allowed a repair combining a septal mucosal graft with the auricular cartilage and the frontal flap. The 2nd stage was performed on D26 and consisted of weaning and repositioning of the frontal flap, completed by degreasing at the level of the nasal wing. Result deemed satisfactory. **Discussion:** The use of the frontal flap is classically done in 3 stages with defatting in the 2nd stage and can be coupled with a compound graft. This use can also be done in 2 stages with degreasing and late weaning in the 2nd stage with or without a compound graft. One of the advantages remains the good reliability, and one of the disadvantages the frontal scar. **Conclusion:** The combination of frontal flap and composite graft allows good reconstruction of the nasal ala.

**Keywords:** Forehead flap, nostril amputation, reconstruction.

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### INTRODUCTION

Nasal reconstruction has always been a challenge for the maxillofacial surgeon and the plastic surgeon. This reconstruction uses several materials for its repair. Among the materials used are the forehead flap and compound grafts.

Compound grafts have been known for many years. They are made up of cartilage and mucosa that can be taken separately or together. Thus we will have fragments of atrial conch associated with the septal mucosa or the septal mucosal cartilage association. For reconstruction, the fragments of the auricle or the nasal region are reintegrated at the level of the amputated region and thus remain a method of choice for both anatomical and aesthetic repair [1].

The authors report a case of nasal reconstruction by frontal flap and compound graft on an amputation of the nostril. The aim of the work is to

determine the advantages and disadvantages of forehead flap with compound graft in nasal reconstruction.

### OBSERVATION

A 30-year-old woman with no known history was admitted to the maxillofacial surgery and stomatology department for amputation of her nose by human bite following a fight with her partner.

The examination on arrival revealed a patient in good general condition and good state of consciousness, amputation of the left nostril with absence of mucous tissue, cartilage, muscle and skin tissue (Figure 1). After clinical examination, the indication for reconstruction by composite graft and frontal flap at 2 operating stages was asked and the preoperative assessment requested and performed.



**Fig. 1: Nasal ala amputation**

The first operation had taken place on day 12 of his hospitalization. Intraoperatively, a sample was taken of the septal mucosa, the concha of the ear and the oblique frontal flap. Reconstruction of the nasal mucosal plane by the septal mucosa, fixation of the concha of the ear to reconstruct the framework of the nostril wing, and creation of the musculocutaneous plane by the frontal flap took obliquely (Figures 2 and 3).



**Fig. 2: Reconstruction by compound graft with frontal flap (J10 post op)**



**Fig. 3: Weaning and repositioning**

On D26 postoperative, the second operation was performed. The patient benefited from weaning with repositioning of the frontal flap but also from degreasing at the level of the reconstructed nostril. On postoperative day 60, the result was considered satisfactory with an acceptable nostril opening. However, there was a hypertrophic scar at the flap harvesting site and a dyschromic aspect of the nasal ala (Figures 4 and 5).



**Fig. 4: Frontal hypertrophic scar (D60 post op) (D26 post op)**



**Fig. 5: Dyschromic nostril wing**

## DISCUSSION

We opted for a compound graft combining an oblique frontal flap to repair our nostril amputation. The frontal flap taken in this position allowed us to have enough length to repair major amputations of the nose. Some authors also report this reconstruction by frontal flap [2] and its texture close to that of the nose, and its reliability [3] however for others this repair can be done by nasolabial flap during a strictly nostril amputation [4].

Our reconstruction was done in 2 stages with a weaning coupled with a degreasing in the second stage which is different from that found in the literature and which is done in three stages [2, 5]. By using 2 stages, we avoid having to bring the patient back to the operating room several times because the result is the same.

The repair would have been difficult without a compound graft. The choice of the compound graft taken separately made it possible to reconstruct the nasal mucosa with the septal mucosa, to reform the

framework of the nostril wing by restoring a good calibration to the nose from the cartilage taken from the ear. This choice, although very morbid, avoids the septal perforation that would have been induced by removal of the septal cartilage. The frontal flap has disadvantages such as the obvious frontal scar, the repositioning in two or three stages.

## CONCLUSION

For major amputations of the nose, reconstruction by compound graft associating the septal mucosa, concha of the ear and the forehead flap is more indicated because it has several advantages.

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