

Negative pressure suction in nasal septum surgery*

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SUMMARY

Operations for the correction of septal deviations are among the most common in otorhinolaryngology. Several approaches and techniques have been proposed, for securing the mucoperichondrial flap back in place. A new method of stabilizing the septum by applying a negative pressure suction tube, without the insertion of any kind of packing, is described. The advantages of the negative pressure suction are that the patient can breathe through the nose immediately after the operation, there is no pressure sensation and the pain, if any, is reduced, there is no epiphora, no skin edema and the patient feels very comfortable. Risks for complications are minimal.

Key words: nasal septum, nasal packing, negative pressure

INTRODUCTION

Operations for the correction of septal deviation are among the most common in Otorhinolaryngology. Several approaches and techniques have been proposed, for securing the mucoperichondrial flap back in place (Guyuron and Vaughan, 1995; Illum et al., 1992; Meloni et al., 1996). A new method of stabilizing the septum by applying a negative pressure suction tube, without the insertion of any kind of packing, is described.

MATERIAL AND METHODS

Twelve patients underwent nasal septum surgery for the correction of septal deformity. After the correction of nasal septum deviation and before the closure of hemitransfixion, a RED-O-PACK MINI 120 ml equipped with one FG08 Redon type suction drain with a length of 50 cm and a diameter of 1.5-2.0 mm (Vygon Company), was fitted within the mucosa curving upwards close to the perpendicular plate of the ethmoid. The suction tube leaves the nose from the lower end of the incision (Figure 1). The incision was carefully closed with 3 X 0 chromic catgut through and through mattress sutures and a 2 X 0 silk suture fixed the suctiontube. Special attention was paid to the distance between the incision and the proximal hole of the tube. After the suction tube was brought out, it was held on the cheek with a tape, then passed above and behind the auricle and fixed on the shoulder where the RED-O-PACK was anchored. Nearly always bilateral tunnels were used, but no second drain was necessary. The blood accumulates towards the base of the septum, due to the gravity. Because the inferior strip of the car-

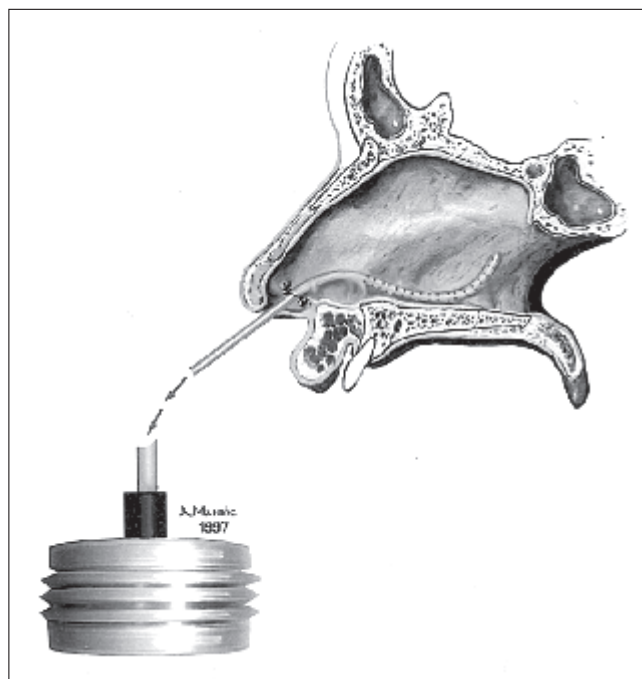


Figure 1: Drawing of the negative pressure suction tube appropriately fitted at the surgical field, curving upwards close to the perpendicular plate of the septum.

tiliginous portion is usually removed, which allows communication between both sides of the septum, a single suction tube is sufficient. Before inserting the tube, it was shortened according to the size of the septum. Also a number of holes exist on

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the curved portion of the tube and some on the straight part, gathering blood from the base of the septum. The curved portion of the suction tube is located approximately between the perpendicular plate of the ethmoid and the septal cartilage, which are often separated during surgery.

The negative pressure was kept constant in all cases for 48 hours and the patients accepted the tube without any complaints, as they were able to breathe freely through their nose. The suction tube was removed when no more blood was accumulated in the RED-O-PACK. Every 6 hours, the air and the blood were removed from the RED-O-PACK and the amount of collected blood was measured. The total amount of the blood collected ranged from 20-50 ml for each patient (mean volume 35 ml).

DISCUSSION

The advantages of negative pressure suction are the following. The patients can breathe through the nose immediately after the operation. There is no pressure sensation and the pain is reduced, if any. There is no epiphora, no skin edema and the patient feels very comfortable. The risk for complications is minimal (Kristensen et al., 1996; Schwab and Pirsig, 1997). The constant suction of the blood prevents the development of hematoma. The patent nasal cavities and the lack of packing eliminate the risk of sinusitis and toxic shock syndrome. As the irritation of nasal mucosa is minimal, the possible postoperative development of vasomotor rhinitis is considerably reduced. The nasal mucosa is not injured and synechiae are avoided (Guyuron, 1989).

The surgeon feels more comfortable being able to inspect the patent nose. Patients with heart and respiratory diseases can be operated with greater safety. Patients reluctant to undergo packing of their nose after nasal septum surgery are more easily

convinced of undergoing the operation with this new technique. This method is also indicated in cases where a hematoma has already developed as the result of an injury to the nose or as a complication of nasal septum surgery.

The limitation of this method is the presence of large perforations with mucosal deficiency, where the attempt of tear closure with sutures is unsuccessful. Small perforations can be closed with sutures or with loose packing.

This is a preliminary technical report for a new method for fixing the mucosa flaps after septal surgery. A controlled study of comparing patients with different kinds of nasal packing after septal surgery with patients where the above technique is used is underway and the results will be presented in the future.

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