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## VIDEOS OF SURGICAL PROCEDURES IN DERMATOLOGY

### The Single-Stage Paramedian Forehead Flap<sup>☆</sup>

### Colgajo paramedial frontal en un tiempo quirúrgico



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#### Introduction

The paramedian forehead flap, described by Millard in 1974,<sup>1</sup> was proposed as an alternative to the axial median forehead flap, which had been used for several decades for the reconstruction of large defects of the tip, dorsum, and ala of the nose. The paramedian forehead flap is an excellent alternative for reconstruction of these areas of the nose, as it provides a large volume of cutaneous tissue with good viability.<sup>2</sup> Traditionally, this flap has been performed in a 2-stage procedure, sectioning the dissected pedicle 3 weeks after the initial operation,<sup>3</sup> although performing this technique in 3 stages has been studied for large defects, finding no differences in the necrosis rates.<sup>4</sup> One of the drawbacks of this flap is the need to perform delayed reconstruction, with a significant increase in surgical costs and in patient discomfort. To avoid the disadvantages associated with the traditional technique, and following the modification put forward in 2002 by Park,<sup>5</sup> we propose performing a paramedian forehead flap in a single operation, with a buried pedicle passing along the dorsum of the nose.

#### Description of the Technique

We present the case of a patient with a sclerodermiform basal cell carcinoma measuring 4.5 cm in its longest diameter, localized on the tip of the nose, with partial invasion of both alae nasi. Prior to surgery, the right supratrochlear artery was identified using a portable Doppler device in the operating room, and the flap was designed. Flap length was measured to avoid tension and to facilitate an adequate blood supply, and the foreseen shape of the nasal defect was reproduced at the distal end of the donor region. Tumescence anesthesia was then applied to the perilesional area and to the area of the flap. The anesthetic solution was formed of a mixture of 20 ml of 2% mepivacaine, 10 ml of 1% bupivacaine with epinephrine, and 2 ml of 1 molar bicarbonate in 100 ml of normal saline. The use of buffered anesthesia with a vasoconstrictor aids hemostasis, reduces pain on injection of the solution, and does not increase the risk of necrosis. After anesthesia, the tumor was excised with a 3 mm surgical margin. The initial incision was performed with a disposable no. 15 scalpel, followed by dissection using Stevens scissors, with meticulous hemostasis by electrocautery and ligation of vessels using a fast-absorbing 3/0 suture material. We then dissected the flap, with the pedicle following the path of the previously localized right supratrochlear artery. In order to avoid the formation of inclusion cysts, we removed the epidermis from the part of the pedicle of the flap that was to be buried along the dorsum of the nose. Using Stevens scissors, a tunnel was then fashioned along the dorsum of the nose, starting from the base of the pedicle. The distal end

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of the flap was passed through the orifice and covered the initial surgical defect without tension. Finally, the flap was sutured in place with 5/0 silk.

Histology confirmed the diagnosis of sclerodermiform basal cell carcinoma and that the borders were free of tumor. The cosmetic result 10 weeks after surgery was good.

## Indications

This technique is suitable for tumors that affect a large part of the tip of the nose, with extension onto the dorsum of the nose or alae nasi.

## Advantages

The single-stage variant of the paramedian forehead flap with a pedicle buried along the dorsum of the nose, gives us the possibility to close a large surgical defect of the external nose in a single operation without the need for skin grafting, reducing the morbidity associated with the 2-stage technique.

## Complications

The single-stage paramedian forehead flap technique is a safe procedure that does not usually give rise to major postoperative complications. The main complications can occur during the de-epidermization process, due to the risk of sectioning the pedicle on removing the epidermis with the scalpel. Likewise, it is important to perform meticulous hemostasis during all phases of the operation in order to avoid the formation of edema in the nasal tunnel, as this could lead to flap necrosis due to supratrochlear artery compression or damage.

## Conclusions

The aim of oncologic dermatologic surgery is correct excision of tumor lesions in as few operations as possible, with the best cosmetic result. Use of the paramedian forehead flap procedure with a buried pedicle enables us to cover a large surgical defect of the nose in single operation, with a good cosmetic result.

## Conflicts of Interest

The authors declare that they have no conflicts of interest.

## Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at [doi:10.1016/j.adengl.2017.08.015](https://doi.org/10.1016/j.adengl.2017.08.015).

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