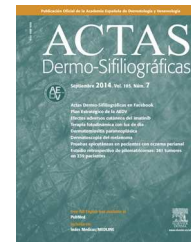




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VIDEOS OF SURGICAL PROCEDURES IN DERMATOLOGY

Chondrocutaneous Island Flap for Reconstruction of an Antihelix Defect[☆]



Colgajo condro-cutáneo en isla para la reconstrucción de un defecto de antehélix

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Introduction

The auricle of the ear is a bilaterally symmetrical facial structure with a complex anatomy.¹ Four contour lines have been described; these lines must be preserved during auricular reconstruction to maintain a natural appearance. The first line defines the oval outline or perimeter of the ear; the second is the border of the helix; the third line is formed by the concha, antitragus, and tragus; and the fourth line is the border of the triangular fossa. The auricle is composed of skin, cartilage, ligaments, and muscles.

The auricular cartilage is a thin and flexible elastic lamina that is present throughout the auricle except in the area of the ear lobe. It is an essential structure as it gives the ear its shape and support.^{2,3}

These anatomic characteristics make the auricle of the ear one of the most difficult structures to reconstruct. The final result must respect the contours, orientation, and projection of the auricles, or else the esthetic harmony of the face will be altered.⁴

We present the case of an 83-year-old man with an ulcerated adenoid basal cell carcinoma on the left antihelix, lying

on an area of calcified auricular cartilage (Fig. 1). Complete removal of the lesion required the excision of skin and cartilage, leaving the superior border of the cartilage of the helix unsupported. We designed a chondrocutaneous island flap, or chondrocutaneous V-Y advancement flap. This was a flap of skin and cartilage with a subcutaneous pedicle and random vascularization; the vascular pedicle of this type of flap is satisfactory because of the rich vascularization of the posterior aspect of the auricle.^{1,4}

Description of the Technique

Complete excision of the tumor left a defect of 1.8 × 1.5 cm. The flap was designed as an isosceles triangle with its base superiorly, corresponding to the inferior border of the defect; the height of the triangle was twice the length of the base. The incision included the anterior skin and the underlying cartilage. The borders were liberated by careful dissection of all the attachments that interfered with its mobilization, all the while avoiding damage to the subcutaneous pedicle. Flap mobility increases as the pedicle becomes narrower; the objective is to strike a balance between advancement and a sufficient blood supply. This is achieved by adequate dissection of the base and liberation of the vertex. After mobilization, the borders are sutured subcutaneously, starting with the superior vertices and continuing along the sides. The inferior vertex is sutured in V-Y. Deep sutures must be avoided as they could cause flap necrosis and decrease its mobility.

The video shows the flap procedure.

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Figure 1 Ulcerated adenoid basal cell carcinoma measuring 1.8 × 1.5 cm.

Indications

Small or medium-sized defects of the auricle of the ear. This flap allows tissue concordance to be achieved in a single operation without the need to dissect large amounts of tissue or create Burow triangles. The cosmetic results are good (Fig. 2).⁴

Contraindications

This flap should not be used for large auricular defects.

Complications

Flap necrosis can occur if the pedicle is insufficient; this is the most important complication and can be avoided by designing and dissecting a sufficient pedicle and avoiding the placement of sutures on the posterior surface of the flap (pedicle).⁵

A trap-door effect can be avoided by performing wide dissection of the area to avoid the tissue contraction responsible for this effect.^{1,3}



Figure 2 Postoperative result 3 months after surgery.

Deformity of the auricle of the ear with the subsequent alteration of facial symmetry is due to an inappropriate indication for the use of this flap or a poor design.²

Conclusions

The chondrocutaneous island flap for reconstruction of the antihelix is a subcutaneous pedicle flap that is easy to perform. The flap uses local skin, provides cartilaginous support, and is performed in a single operation. This all favors good functional and cosmetic results.

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.2015.05.004](https://doi.org/10.1016/j.adengl.2015.05.004).

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