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# Interpolation flap on the posterior surface of the ear

Retalho de interpolação na face posterior da orelha

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#### ABSTRACT

The posterior surface of the ear is an uncommon site for skin cancer. It has anatomical and cutaneous characteristics that make local reconstruction difficult using standard surgical techniques. We present a case of reconstruction of a defect on the posterior surface of the ear secondary to excision of a basosquamous carcinoma, using an interpolation flap.

Keywords: Carcinoma, Basosquamous; Ear; Surgical Flaps

#### RESUMO

A região posterior da orelha é um local incomum de câncer de pele. Ela tem características anatômicas e cutâneas que dificultam a reconstrução local por meio de técnicas cirúrgicas habituais. Apresentamos um caso de reconstrução de um defeito em face posterior de orelha, secundário à exérese de um carcinoma basoescamoso, utilizando-se um retalho de interpolação.

Palavras-chave: Carcinoma Basoescamoso; Orelha; Retalhos Cirúrgicos

### **Report Case**

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#### INTRODUCTION

The skin is the most common organ affected by cancer, which occurs in places where there is more sun exposure, such as face and neck.<sup>1</sup> Depending on the size and site of the tumor, a graft or flap needs to be made to reconstruct the defect resulting from the excision.<sup>2</sup>

The posterior surface of the ear has curves and ridges, with skin that has little mobility for a simple flap; it is difficult to fix compressive dressings in the case of grafting, which can pose a challenge in reconstructing the site with no anatomical distortions.<sup>3</sup>

An interpolation flap (IF) consists of using tissue from a site not immediately adjacent to the defect, maintaining a vascular pedicle to supply the flap until neovascularization is established between the flap and the recipient bed, and only after integration of these two sites (recipient and flap) the pedicle is sectioned.<sup>4</sup>

We report a reconstruction of a defect on the posterior surface of the ear, following excision of a basosquamous carcinoma, in which we used an IF, with good aesthetic and functional results.

#### **METHODS**

We treated a patient with a basosquamous carcinoma on the posterior surface of the left ear:

An 83-year-old male patient presented with an erythematous vegetating plaque on the posterior surface of his left ear, measuring  $37 \times 23$ mm, whose incisional biopsy confirmed a basosquamous carcinoma, which underwent surgical excision, with margins of 4mm, with a resulting defect measuring  $41 \times 27$ mm (Figure 1A). We decided to reconstruct it with an IF.

#### Description of the technique:

Patient in horizontal dorsal decubitus;

The lesion was marked with methylene blue or a surgical pen with a 4mm margin (Figure 1A). The donor area was marked, starting in the retroauricular area, at the lower margin and parallel to the defect, extending caudally through the posterior cervical area up to 2cm below the earlobe (Figure 1B);

Antisepsis with topical 10% polyvinyl-iodine;

#### Placement of surgical drapes:

Infiltrative anesthesia with 2% lidocaine with vasoconstrictor;

Incision of the lesion with a 15 blade and en bloc excision of the piece up to the subcutaneous tissue;

Hemostasis;

Incision of the flap, as previously marked. Detachment of the flap and its positioning and suturing at the defect site, maintaining the vascular pedicle (Figure 2);

Detachment of the edges of the donor site with curved Metzenbaum scissors;

Primary suturing of the donor site (Figures 2 and 3);

After three weeks (Figure 4), sectioning and repositioning of the pedicle (Figure 5).

#### RESULTS

The patient showed good integration between the flap and the recipient area postoperatively. Figure 6 compares the images preoperatively and two weeks following the second stage of the surgery.

#### DISCUSSION

Large surgical wounds resulting from excisions of cutaneous neoplasms in the auricular area are challenging for the dermatological surgeon.<sup>3</sup> Satisfactory results depend on the technique used and the training to perform it, and the patient's health conditions.<sup>4</sup>

The posterior surface of the ear is an uncommon site for skin cancer, generally serving more as a donor area because it is less photoexposed.<sup>5</sup> For reconstruction of this site, an ideal flap should be thin and flexible, match the color of the recipient area and not have an obvious scar on the donor site.<sup>6</sup>



FIGURE 1: A -Erythematous vegetating plaque on the back surface of the left ear. B - Drawing of the flap



FIGURE 2: A -Erythematous vegetating plaque on the back surface of the left ear. B - Drawing of the flap







FIGURE 3: A - Defect following excision of the lesion. B - Positioning the flap in the recipient area. C - Donor area sutured





FIGURE 4: A - Three weeks following surgery. Good integrity of the recipient and donor areas. B - Detail of the pedicle



**FIGURE 5: A** - Before sectioning the pedicle. **B** - After sectioning the pedicle and repositioning in the donor area



**FIGURE 6: A** - Pre-operative. **B** - Two weeks after sectioning and repositioning the pedicle

Although thick flaps can cause trap doors, which is elevation at the recipient site, the important thing is to maintain the functionality of the ear in the final result, as it supports glasses and hearing aids.<sup>7</sup>

An IF uses tissue from an area not contiguous to the defect, maintaining a vascular pedicle to supply the flap until neovascularization occurs between the flap and the recipient bed. The disadvantage is that it requires a second stage, after three weeks, when the pedicle will be sectioned after the integration of the two areas (recipient and flap).<sup>4</sup> Our patient had a good evolution, maintaining the flexibility of the ear, without a trapdoor, preserving local anatomy and functionality (support for glasses, hearing aid, and protective mask), with the scar hidden in the posterior cervical area.

#### CONCLUSION

An IF is a good option for reconstructing defects on the posterior surface of the ear, with good aesthetic and functional results.  $\bullet$ 

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