CASE REPORT

Earlobe reconstruction by the Gavello technique and bilobed flap*

Reconstrução do lóbulo auricular pela técnica de Gavello e retalho bilobado

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Abstract: The earlobe is an anatomical structure that has a significant aesthetic role. Its surgical repair places a challenge due to the difficulty of obtaining a natural appearing and durable outcome. The authors present two options: the Gavello technique and the bilobed flap, after the excision of malign neoplasms of the earlobe. The Gavello technique makes use of a bilobed flap with an anterior base to mold the new earlobe. D'Hooghe's bilobed flap with a pre and post-auricular lobe allows the reconstruction of small earlobes. Both techniques, although old, acquire an important and current interest in earlobe reconstruction, by reason of the moderate degree of difficulty, the use of a single time surgical act and under local anesthesia, with a proper aesthetic result.
Keywords: Carcinoma, basal cell; Ear; Ear neoplasms; Melanoma; Surgical flaps

Resumo: O lóbulo auricular é uma estrutura anatómica com uma importância estética significativa. O desafio inerente à sua reconstrução relaciona-se com a dificuldade em obter um resultado duradouro e cosmeticamente aceitável. Os autores apresentam duas opções: a técnica de Gavello e o retalho bilobado, após excisão de neoplasias malignas do lóbulo auricular. A técnica de Gavello, recorre a um retalho bilobado com base anterior, para constituir o novo lóbulo auricular. O retalho bilobado de D'Hooghe, com lobos pré e pós-auriculares, permite a reconstrução de defeitos de pequenas dimensões. As duas técnicas descritas, apesar de antigas, mantém-se actuais pela execução de grau de dificuldade média, em tempo cirúrgico único, sob anestesia local com a obtenção de resultados cosmeticamente aceitáveis.
Palavras-chave: Carcinoma basocelular; Melanoma; Neoplasias da orelha; Orelha; Retalhos cirúrgicos

INTRODUCTION

The earlobe is an anatomical structure of small dimensions without specific function, but with a significant aesthetic role. With an abundant blood supply and without cartilaginous tissue, the challenge underlying its reconstruction is related to the difficulty in obtaining a longstanding and aesthetically acceptable outcome.

Almost every reconstructive method for total earlobe repair implies the use of adjacent tissue to compose a pediculated or bilobed flap. The residual deformity, location of the scars and the viability of the neighboring tissue are the key factors that determine the selection of the reconstructive method.

There are several techniques described for that purpose, and all can be performed with local anesthesia. Gavello, in the 1970's, was one of the first authors

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to describe a method using a bilobed flap with an anterior base, located beneath the auricular defect. The flap is raised and folded upon itself, horizontally, with the anterior flap forming the anterior part of the reconstructed earlobe. The two flaps, overlapping, form the new earlobe. The superior edge of the flap is sutured to the auricular defect and the donor area is primarily sutured.[1] Depending on the size of the repaired defect, a cutaneous or cartilaginous graft may be necessary.

The bilobed flap was primarily described by D'Hooghe, consisting of two wings, both nourished by an inferior base, located respectively on the pre and postauricular folds. Both wings are raised and brought together to rebuild the new earlobe. The disadvantage of this technique is it can be applied only for small defects.

In the same period of Gavello, several other foldover flaps were described, but in a vertical plane. Brent's technique is one example of that, used for larger defects of the lower third of the auricle and earlobe, resorting to foldover flaps and cartilaginous grafts to give volume and shape to the new earlobe.[2] Brent recommended the increment of the flap by over 30% and resorting to cartilaginous grafts (contralateral auricle or condrocostal cartilage) to oppose tissue contraction.

Weerda published a modification of the Gavello technique for cases with loss of a portion of the helix, associated with the loss of the earlobe.[3] In this technique, a cartilage framework is added to the Gavello flap, to rebuild the helix.

Alanis and Okada individually proposed methods in a single step in the 70's, but with adherent earlobes.[3,4] Both consisted in a bilobed flap, with an anterior base, in a vertical plane, with an anterior wing slightly bigger than the posterior one that is sutured to the surgical defect. The posterior wing is folded to shape the posterior aspect of the new earlobe. The use of a cartilaginous graft is also possible in this method. The major disadvantage of this flap are the visible scars beneath the earlobe.

Nélaton and Ombrédanne reported a distinct two-step reconstruction technique, similar to total auricular reconstruction. It implies creation of a pocket where a cartilaginous graft is inserted. In a second stage, the auricle is raised and the postauricular area and the surgical defect are grafted with split or full thickness skin grafts.

Winn also reported a foldover flap, without grafts, but with unfavorable cosmetic results.[2]

More recently, in 1991, Seidman and Novelly described a single stage technique, with a U-shaped flap below the auricle, drawn inferiorly to the lower part of the earlobe.[2] The flap is then raised, keeping its pedicle, tubulized over itself (to shape and provide volume) creating a medial surface to the reconstructed earlobe. The postauricular closure is in V-Y, closing the donor area beneath the auricle. The size of the reconstructed earlobe may fluctuate, according to this technique, changing the length and width of the U flap.

CASE REPORT

We present three patients with surgical amputation of the earlobe after skin cancer excision. A basal cell carcinoma and a malignant melanoma were excised in patients seen in figures 1 and 2, where the

Figure 1: Basal cell carcinoma of the left earlobe

Figure 2: Malignant melanoma of the left earlobe with planning of the Gavello technique

Figure 3: Basal cell carcinoma of the earlobe

Figure 5: Three months follow-up of patient in Figure 2

Figure 4: Three months follow-up of patient in Figure 1

Figure 6: Three months follow-up of patient in Figure 3

reconstruction was possible using Gavello's technique. In the third patient, with a basal cell carcinoma, the earlobe reconstruction was achievable with the bilobed flap (Figure 3). All procedures were under local anesthesia and no postoperative complications were observed. In figures 4-6 we can see the outcome of the surgical procedures at three months follow-up.

DISCUSSION

The surgical techniques used to reconstruct the excised earlobes are two of the several methods described to rebuild this anatomical structure. They present several advantages compared to the remaining methods: reconstruction in a single step; reliability regarding vascularization, with a random vascular pedicle in a highly vascularized area; donor area with

similar features to the receptor area and the final outcome, with acceptable aesthetic results.

In both techniques there is no need of grafting (skin or cartilaginous tissue).

Major limitations or disadvantages are the difficulties in its use to rebuild large earlobes and when the adjacent donor area is not intact.

Despite the progress and improvement in surgical procedures in dermatological surgery, the appeal of earlier techniques, with a moderate degree of difficulty, is of added value, given the complexity that some of the more recent techniques acquire, with a similar cosmetic outcome. ❑

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