Glabellar flap for basal cell carcinoma reconstruction. A case report

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Case Report

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Background
Basal cell carcinoma is the most common type of skin cancer. Surgery remains an excellent option with the use of skin flaps for post-tumor resection closure. The glabellar flap has become over the years a flap of choice for defects in the lateralized nasal root and the internal canthal region, due to its good irrigation, since it is usually a good tissue reservoir, and the great mobility this region offers.
We present the case of a reconstruction of two separate nasal defects treated with the combination of glabellar and advancement flap at the same surgical time.
An indication for the combination of this type of flap is for reconstructions of several non-contiguous surgical defects, at the level of the nasal dorsum and/or root, of medium size and whose separation allows both flaps to be mobilized without risk of necrosis.

Keywords: Basal cell carcinoma; Nasal defects; Glabellar flap; Advancement flap.

Basal cell carcinoma is the most common type of skin cancer. It is slow growing and rarely metastasizes at a distance. On the scalp and nose it is especially aggressive, with recurrences typically appearing within the first two years following surgery[1].

Surgery continues to be an excellent option with the use of skin flaps for post-tumor resection closure. The surgical margin in lesions smaller than 2 cm and with well-defined clinical limits is 3-4 mm. With 4 mm, tumor-free histological edges are obtained in 95% of the resected carcinomas. In depth, the entire dermis or up to half of the subcutaneous cellular tissue must be covered[1].

Over the years, the classic glabellar flap, first described by Gillies and subsequently modified by Reiger, has become a flap of choice for defects on the lateral surfaces of the root of the nose and in the area of the medial canthus, because of its excellent blood supply, its ample reserve of tissue, and its satisfactory mobility[2].

Case report

An 81-year-old female patient presented with a history of systemic arterial hypertension under treatment and basal cell cancer in the nasal tip diagnosed 6 years ago, which required resection of said lesion.

She was referred to our clinic by the dermatology service due to recurrence with the presence of 2 skin lesions of 2 years of evolution, located on the nasal tip on the right side and on the nasal bridge on the left side, approximately 0.5 cm and 1 cm in diameter respectively, clinically compatible with basal cell carcinoma.

For the reconstruction of both defects in a single surgical procedure, a glabellar flap is designed for a nasal bridge defect combined with an advancement flap for a nasal tip lesion. (Figure 1).

After marking the flaps, as well as asepsis and antisepsis, with local anesthesia with 2% lidocaine, the skin of the glabellar region, bridge, nasal tip and right lateral wall was infiltrated, from which the tumor lesions were completely removed, respecting a safety margin of 4 mm, deepening to the cartilaginous plane.

The flap was lifted following a deep, submuscular and supraosteocartilaginous plane to preserve the angular artery, which emerges from the internal canthus and is responsible for vascularizing the flap.

First, the rotation of the glabellar flap was performed to cover the internal canthus defect and subsequently the advancement flap of the right lateral nasal wall was performed to cover the defect in the nasal tip, in which the defects are triangulated on the sides opposite to the surgical incision to cover properly the defects. Subsequently, they were sutured in planes and the procedure was completed without complications or eventualities. (Figure 2).

At the post-surgical appointment, sutures are removed and histopathological results are collected from both lesions, which report infiltrating basal cell

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Figure 1. Design of the flaps to the size of the surgical defects with sufficient oncological margins.

carcinoma. From a functional and aesthetic point of view, the result was excellent (Figure 3).

Figure 2. Advancement and rotation of flaps. Both defects are covered.

Figure 3. Patient 8 days post surgery.

Discussion

In defects of the upper and middle third of the nose, a truncated glabellar or frontonasal flap is made, which is transferred to the defect by transposing the glabellar triangle and direct closure of the donor area. The flap adapts to the defect, usually requiring thinning of its most distal portion and correction of a small dog ear secondary to its rotation. The repositioning of the glabellar triangle instead of its complete excision allows the flap to be re-advanced if necessary[3].

These flaps have the advantage of an excellent blood supply derived from nasal branches of the angular artery, a branch of the facial artery, which supplies the lateral walls of the nose. There is therefore a low risk of necrosis[2].

This combined flap is indicated for the reconstruction of multiple, medium-sized, noncontiguous surgical defects on the dorsum and/or root of the nose, in which the separation of the defects permits the 2 flaps to be mobilized without risk of necrosis[2].

The great advantage of these flaps is their versatility, as their design can be varied in each patient according to surgical considerations, such as the site, size, and depth of the defect and cosmetic factors[2].

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In addition, several defects of the nasal dorsum are reconstructed in a single surgical procedure, simply, quickly and with low risk of necrosis, and the anatomy of the different subunits of the nasal pyramid is adequately respected[3].

Conclusion

The glabellar flap, along with its different modifications over the years, has demonstrated excellent functional and aesthetic results in the repair of nasal or canthal defects secondary to oncological processes, since the tissue it provides has similar characteristics to the area to be reconstructed, which benefits in hiding the scar between the limits of the aesthetic subunits, in addition to being easy to design and having adequate vascularity security.

It was decided to repair 2 discontinuous oncological lesions in the nasal pyramid, using a glabellar flap combined with an advancement flap which allowed us to close both surgical defects in the same surgical time, without post-surgical complications such as necrosis and with excellent functionality in monitoring. Therefore, we recommend the combination of both flaps as an option when it is desired to reconstruct two nasal defects in a single surgical procedure.

Conflicts of interest

The authors have no conflicts of interests to declare.

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