

Case Reports

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Basosquamous carcinoma in lower eyelid: reconstruction with auricular cartilage graft associated with the Tripier flap after Mohs surgery

Carcinoma basoesquamoso na pálpebra inferior: reconstrução com enxerto de cartilagem auricular associado ao retalho de Tripier após cirurgia de Mohs

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ABSTRACT

Basosquamous carcinoma has a high potential for local recurrence and metastasis, especially when it recurs and at the periocular area. A 49-year-old man underwent Mohs micrographic surgery and subtotal reconstruction of the lower eyelid with cartilage graft from the helix of the ear associated with the Tripier flap, evolving with excellent functional and aesthetic results.

Keywords: Basosquamous carcinoma; Eyelid Neoplasms; Mohs surgery; Skin Neoplasms

RESUMO

O carcinoma basoesquamoso tem alto potencial de recorrência local e metástase, especialmente quando recidivado e na localização periocular. Um paciente masculino de 49 anos foi submetido a cirurgia micrográfica de Mohs e reconstrução subtotal da pálpebra inferior com enxerto de cartilagem da hélice da orelha associado ao retalho de Tripier, evoluindo com ótimo resultado funcional e estético.

Palavras-chave: Carcinoma Basoesquamoso; Cirurgia de Mohs; Neoplasias Cutâneas; Neoplasias Palpebrais

INTRODUCTION

The eyelids contain numerous histological elements that can be the source of benign and malignant tumors. They are composed of four layers: skin and orbicularis muscle (anterior lamella), tarsus and conjunctiva (posterior lamella). The skin is composed of epidermis, dermis, and its attachments. Among the annexes, we find the eccrine glands (sweat and accessory lacrimal glands of Wolfring and Krause), apocrine glands of Moll, and sebaceous glands (Zeiss and Meibomian). Most tumors in this location have an epidermal origin. In Caucasians, basal cell carcinoma (BCC) is responsible for about 90% of palpable cancers, followed by squamous cell (SCC) and sebaceous carcinomas, responsible for 5% of cases each.¹

Basosquamous carcinoma (BSC), or metatypical, clinically indistinguishable from BCC, represents about 2% of non-melanoma skin cancers and can be more aggressive than SCC (local recurrence of up to 45% and distant metastases of 5-10%). It usually occurs in the head and neck of older white men. Histologically, typical areas of BCC and SCC are observed, in addition to a transition zone between them.^{2,3}

Mohs micrographic surgery (MMS) allows complete removal of malignant skin tumors while maximizing the preservation of normal tissue. This technique provides the lowest recurrence rate and postoperative complications in the treatment of skin cancer. MMS success derives from obtaining circumferential intraoperative frozen sections with a complete assessment of the lateral and deep surgical margins. Eyelid tumors are at high risk for recurrence and metastasis, but MMS can minimize it. Complete resection of peri-tumoral tumors is crucial because recurrence can lead to devastating consequences, including loss of eye function, invasion of the skull base, and even death. A complete ophthalmological evaluation is recommended preoperatively. Some signs, such as adherence to deep planes, decreased ocular motility, dystrophy, eyeball displacement, eyelid ptosis and proptosis, suggest better investigation with image exams to establish compression or periorbital invasion. A retrospective study of two centers showed that the overall complication rate after repairing the periorbital defect by Mohs surgeons were equivalent, if not lower, to the complication rates in procedures performed by oculoplastic surgeons.^{4,5} MMS is the gold standard in BSC treatment.³ About 1/3 of the cases require more than one phase, with approximately 5% of local recurrence.⁶

CASE REPORT

A 49-year-old man, skin phototype II, with no comorbidities, presented a lesion affecting the right lower ciliary border (from the lateral extremity to near the lower lacrimal point). Clinical and dermoscopy exams suggested basal cell carcinoma (Figure 1). The patient reported treatment (unspecified) of a minor lesion in the same site for seven years with an ophthalmologist.

The histopathological examination of a previous incisional biopsy concluded that it was a solid basal cell carcinoma. Surgical treatment using the Mohs technique was proposed, and the patient was submitted to local anesthesia and conscious intraoperative sedation in a hospital surgical center.

The clinically visible lesion was excised with a margin of more than 2 mm in the first phase (Figure 2). Microscopic examination revealed nodular basal cell carcinoma and poorly differentiated squamous cell carcinoma areas, significantly compromising the resection's deep margin. The next phase obtained free margins, although with an intense inflammatory infiltrate. Though indicated, a new stage was not performed due to the coincidence of the deep margin with the fornix and the bulbar conjunctiva, making it impossible to enlarge the surgery site without damaging the eyeball (Figure 3).

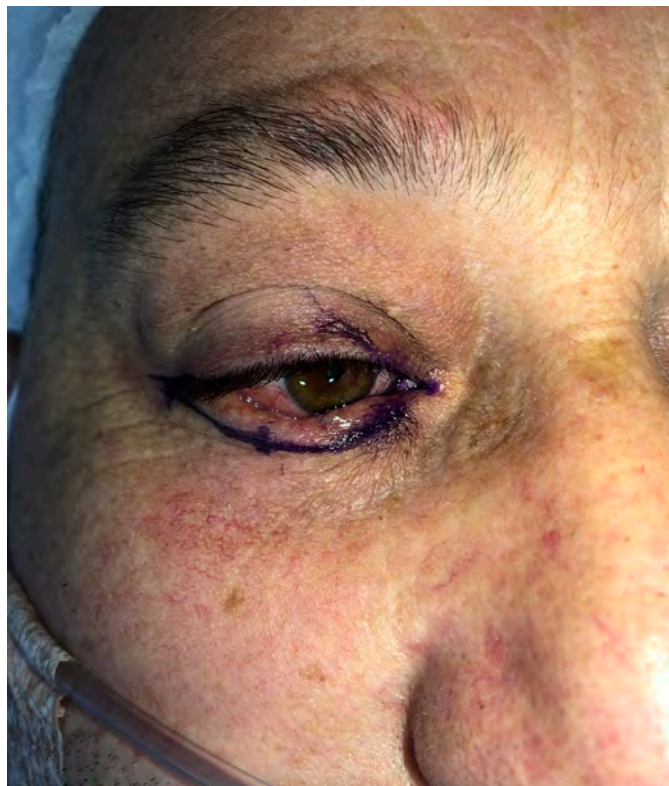


FIGURE 1: Infiltrated lesion, with rounded, pearly, telangiectatic, and focal scar surface involving the lower right palpebral border, with ciliary loss



FIGURE 2: Defect after excision of the first phase of Mohs surgery, with a surgical piece on the gauze

We chose a chondro-perichondrial graft of the ear helix (Figure 4) and a bipediced myocutaneous flap (Tripier) - from the upper eyelid to the anterior lamella - to reconstruct the posterior lamella, promoting vascular support to the graft (Figure 5). After lateral canthotomy, the graft was sutured in the periosteum of the lateral corner (with 5-0 nylon), in the remnant of the medial tarsus, and the lower eyelid retractor muscle (with 7-0 polypropylene) (Figure 6). The flap was sutured on the upper edge of the graft (with 7-0 polypropylene) and the remaining anterior lamella (with 6.0 nylon, in two layers). The donor area was sutured with 6-0 nylon (Figure 7). After 30 days, the flap reached autonomization (Figure 8).

The conventional paraffin histopathological examination of the residual surgical specimen confirmed the diagnosis of basosquamous or metatypical carcinoma. The patient had an excellent aesthetic and functional result on the reconstructed eyelid, with no complications or abnormal healing of the graft donor area. The patient is undergoing dermatological and ophthalmological follow-up.

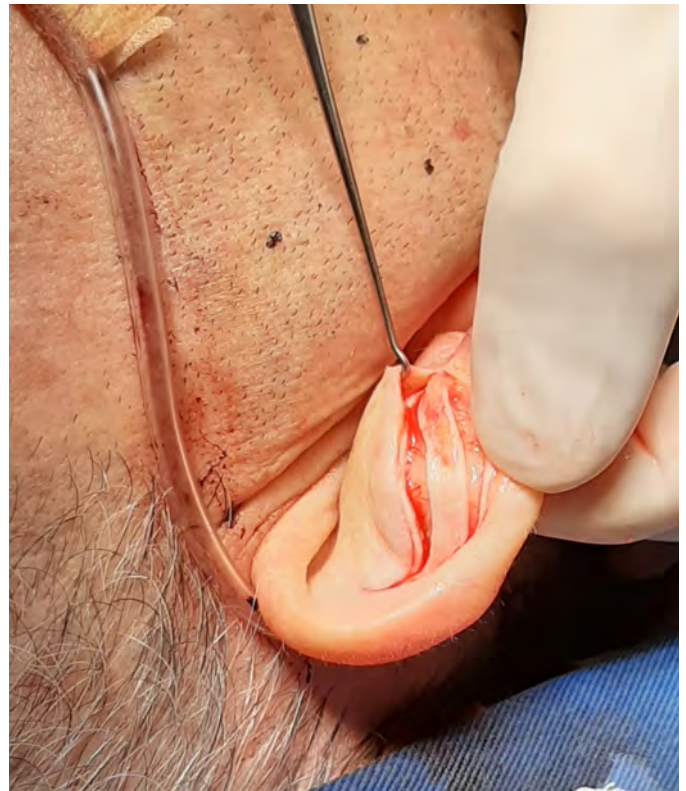


FIGURE 4: Ear cartilage fragment obtained for grafting



FIGURE 3: Final defect after excision of the second phase of Mohs surgery

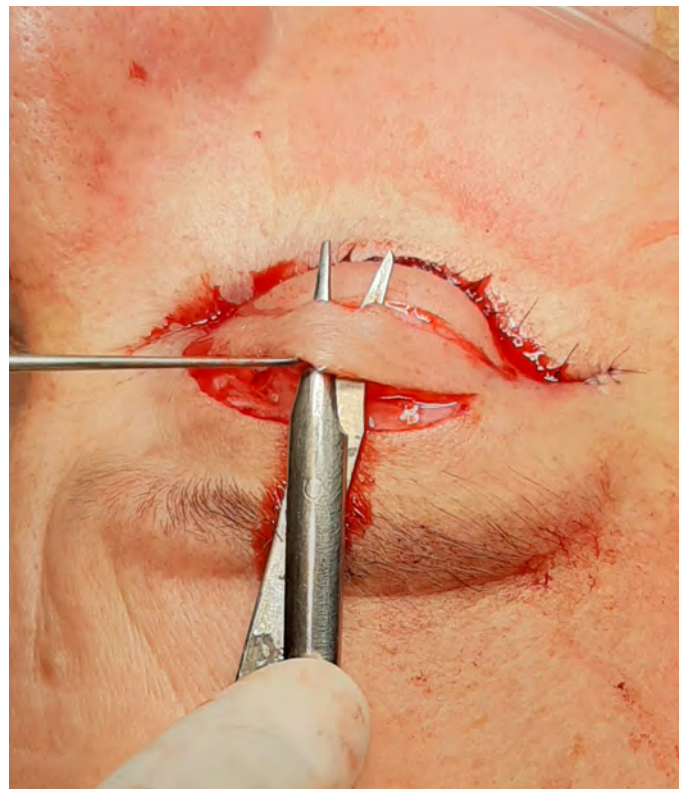


FIGURE 5: Detachment of the bipediced myocutaneous flap of the upper eyelid

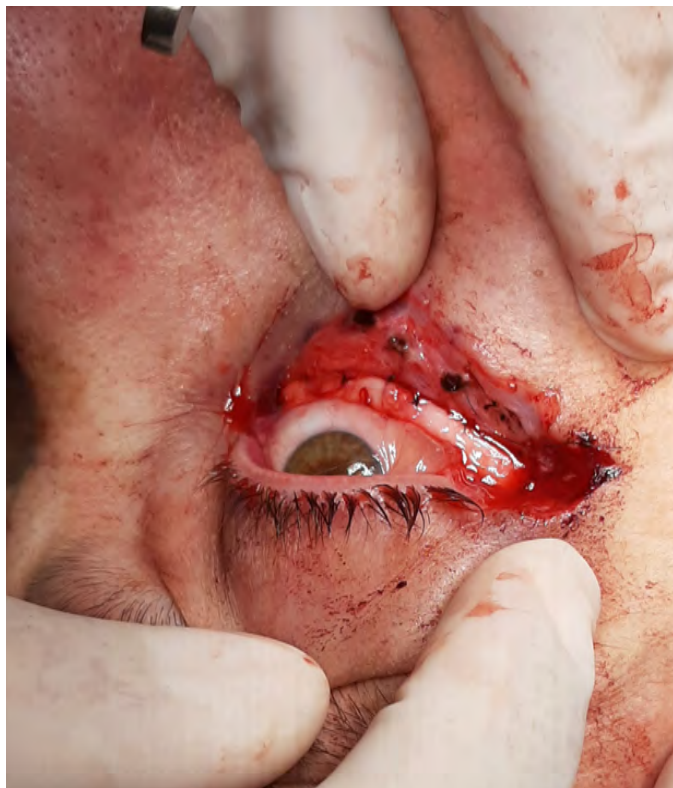


FIGURE 6: Thinned and sutured chondro-perichondrial graft in position

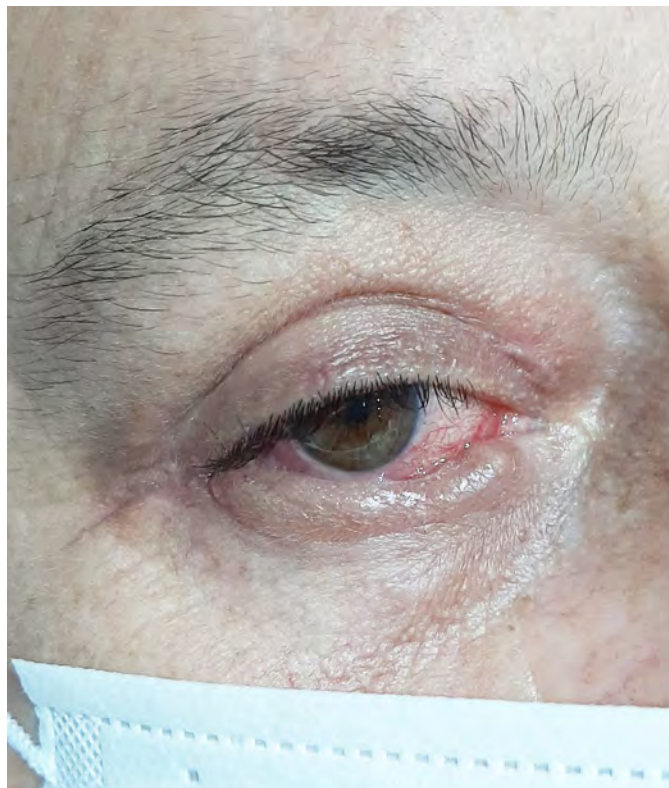


FIGURE 8: Final result after autonomy of the flap



FIGURE 7: Immediate postoperative period, before sectioning the pedicles

DISCUSSION

The histological criteria and terminology of BSC are still controversial in the literature from a prognostic point of view. However, it is essential to differentiate it from the keratotic basal cell carcinoma, an indolent subtype of BCC that does not present squamous differentiation, only formation of horny cysts surrounded by parakeratotic cells within the atypical basaloid cell blocks.⁷ The present case reinforces the importance of the Mohs surgeon's full histopathological knowledge since the previous incisional biopsy showed only a solid BCC.

About 10% of BSCs involve the eyelid region,⁸ and ocular invasion is reported.⁹ The dense inflammatory infiltrate present under the microscope of the second phase of MMS raises doubts about the complete removal of the tumor in this case. On the other hand, an additional phase could have meant an unnecessary orbital exenteration. Rapid immunohistochemistry could have helped differentiate between inflammatory and neoplastic infiltrate, but unfortunately, it was not available.¹⁰ Clinical and radiological follow-up of the patient is indispensable in this case.

Primary closure can reconstruct full-thickness defects of the lower eyelid when it involves up to 25% of the length of the ciliary border. Between 25% and 50%, lateral canthotomy, lower cantholysis, and even a temporal flap can be associated.

Defects above 50% need reconstruction of the posterior lamella: a periosteal flap can be used for defects involving the

lateral third, while the Hughes tarsoconjunctival flap is the best option for central defects.¹¹

An option to reconstruct defects larger than 2/3 of the length of the lower eyelid is combining a graft to restructure the posterior lamella with a flap to restore the anterior lamella. The graft can be harvested from the nasal septum, oral mucosa, or auricular cartilage.¹² Matsuo initially described the chondro-perichondrial graft of the ear in 1987, using the auricle (pinna) as the donor area for reconstruction of the posterior lamella. However, Sanchez and Lerner, in 2013, proposed the use of the ear helix as a donor area due to its smaller thickness, the greater malleability of the cartilage, and, consequently, the better adaptation to the eyeball concerning the shell cartilage.¹³

The Tripiet bipediced upper eyelid flap is indicated to reconstruct defects in the lower eyelid, especially in the middle third. This technique requires a second surgical time to section the lateral pedicles.¹⁴ Although other local flaps can be used,¹⁵ the Tripiet flap, because it is myocutaneous, allows better nutrition of the underlying graft, and provides a superior aesthetic result by using skin from the eyelid region.

CONCLUSION

MMS is the gold standard to treat malignancies in the eyelid region, including more aggressive tumors such as basosquamous carcinoma. The reconstruction of extensive full-thickness defects of the lower eyelid with the association of chondro-perichondrial graft of the ear helix with the Tripiet bipediced myocutaneous flap presents as a practical and safe option with good functional and aesthetic results. ●

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Data collection, analysis, and interpretation.