Surgical treatment of lower eyelid solar elastosis. A case report

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Background

Solar elastosis is a lesion caused by histological degenerative changes produced by sun damage to the skin. The degree of elastosis is related to the cumulative amount of ultraviolet radiation, and this in turn has been associated with the risk of developing basal cell and spinocellular carcinoma of the skin. The treatment of choice for eyelid lesions consists of local surgical excision. The Mustardé flap is an advancement and rotation flap of the inner cheek that allows reconstruction of very severe defects of almost the entire extension of the lower eyelid.

Keywords: Solar elastosis, spinocellular carcinoma, Mustardé flap.

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Solution of the epidermis by a narrow band of collagen of normal appearance, with collagen fibers arranged horizontally. The degree of elastosis is related to the cumulative amount of ultraviolet radiation, and this in turn has been associated with the risk of developing basal cell and spinocellular carcinoma of the skin.

The treatment of choice for eyelid lesions consists of local surgical excision of both benign and malignant lesions, the latter being considered with the need for a free margin of 3mm.

The basic principles of palpebral reconstruction are to maintain the symmetry of the palpebral openings avoiding the displacement of eyelashes, eyebrows or lacrimal points. It requires a new eyelid, consisting of the outer layer of skin and the inner layer of mucosa, with a semi-rigid skeleton in between to provide structure to the flap.

The Mustardé flap is an advancement and rotation flap of the inner cheek that allows reconstruction of very severe defects of almost the entire extension of the lower eyelid, either alone or associated with a posterior lamella support graft.

Case report

The patient is a 77 year old female, with no relevant medical history, who was referred by the Dermatology Department for presenting since 5 years ago, a lesion in the right lower eyelid with papillary aspect, which has been increasing in size progressively affecting more than 50% of the entire eyelid, with suspicion of malignant lesion. The case was evaluated by the Plastic Surgery Department, observing a lesion with irregular edges, nodular, non-mobile, involving almost the entire lower eyelid, given the macroscopic findings, it was evaluated and protocolized for an excisional biopsy of the lesion, with Mustarde type flap rotation.

After delineation of the area to be resected and cannulation of the lacrimal duct by the ophthalmology service, the lesion was resected with safety margins and it was completely removed, as well as the preparation of the skin flap, which was rotated over the defect to cover the lower eyelid. Subsequently, the auricular cartilage is taken in the region of the postauricular concha, which is configured and placed over the tarsal defect, fixed and covered and dermocutaneous closure is performed in two planes.

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Figure 1. 1x0.5cm lower eyelid lesion involving more than 50% of the eyelid.

Discussion

The eyelids can be affected by a large number of benign and malignant tumors originating in the skin. They are usually identified by their clinical appearance, but a biopsy is always necessary to establish a definitive diagnosis. In the case of localized tumors, which do not involve a large surface area, total excision of the tumor is preferred.

Malignant tumors, specifically basal cell carcinoma as histologic type, is the most frequent of the palpebral tumors, so in our clinical case it was the initial suspicion of the lesion, being the surgical treatment of choice.

However, the histopathologic result reported a tumor-free lesion with presence of solar elastosis, being this a frequent histopathologic finding, related to the degree of exposure to solar radiation. There are several studies that report the histopathological presence of solar elastosis in lesions compatible with basal cell carcinoma, melanoma and squamous cell carcinoma, being observed in up to 97.3% of cases of the latter, suggesting that solar radiation is the main etiopathogenic factor in the development of the lesion, so the possibility of progression of the lesion to a malignant lesion is not ruled out.



Figure 2. The lesion to be resected is marked and the flap is planned.



Figure 3. Results in the immediate postoperative period.

In our case it is a lesion with involvement of more than 50% of the lower eyelid, which in most cases leads to lagophthalmos, synechiae, with defects



Figure 4. Postoperative result 10 days after the surgery.

in lubrication of the eyeball and corneal ulcers, so the treatment of choice should be functional. In this case the mustardé flap offers adequate perfusion, with the use of adjacent tissues and adequate aesthetic resolution, in addition to reconstruction with auricular graft to provide adequate support.

The aesthetic and functional results in the patient were as expected, with progressive improvement.

Conclusion

Solar elastosis is a finding related to intense exposure to ultraviolet radiation, closely related to the risk of neoplasms. Eyelid lesions involve a wide group, so it is important its histopathologic diagnosis and later its surgical management, being the Mustarde flap a good option for eyelid reconstruction.

Conflicts of interests

There was no conflict of interest during the study, and it was not funded by any organization.

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