Short communication

Treatment of conjunctival melanoma

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ABSTRACT

Clinical case: The cases of an 86-year-old woman and a 61-year-old man with conjunctival pigmented tumors are presented. An excisional biopsy, conjunctival cryotherapy and amniotic membrane grafts were performed in both cases, along with the application of mitomycin-C in the postoperative period. The histology study confirmed the clinical suspicion of melanoma. Tolerance was good during the follow-up with no signs of recurrence in the last 12 and 6 months, respectively.

Discussion: The recommended treatment for conjunctival melanoma is surgical removal with adjunctive therapies such as cryotherapy or topical mitomycin-C. This is a well tolerated therapy and effective for preventing recurrences in the short-medium term.

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RESUMEN

Casos clínico: Mujer de 86 años y varón de 61 años con sendas tumoralaciones conjuntivales pigmentadas. En ambos casos se realiza biopsia escisional, crioterapia en conjuntiva, recubrimiento con membrana amniótica y aplicación de mitomicina C (MMC) en el postoperatorio. El estudio histológico confirmó la sospecha clínica de melanoma. Durante el seguimiento la tolerancia ha sido buena, sin signos de recurrencia al cabo de 12 y 6 meses, respectivamente.

Discusión: El tratamiento de elección en el melanoma conjuntival es la resección quirúrgica, asociada a tratamientos adyuvantes como la crioterapia o la MMC tópica. Es una terapia bien tolerada y eficaz en la prevención de recurrencias a corto-medio plazo.

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Introduction

Conjunctival melanoma is an extremely low prevalence tumor (2–4 cases/10 million inhabitants/year) accounting for 1–2% of all malignant ocular tumors. It expresses in the middle age as a vascularized conjunctival nodule with variable pigmentation. It can originate from primary acquired melanosis with atypia, as occurs in 75% of cases, in an acquired nevus (20–30%), or it can arise de novo (5–10%).\(^1,2\)

The recurrence rate is of 43–51% at 10 years, and it is related with the invasion of the surgical margin and the extralimbal location of the tumor. Metastasis occurs in nearly a third of cases at 15 years, mainly due to lymphatic dissemination. Mortality is estimated at 15–30% at 10 years, the risk factors being presence at an early age, thickness (over 1–2 mm, according to different authors), epithelioid histology with increased mitotic activity and minimum inflammatory reaction, lymphatic invasion or extralimbal location of the tumor (caruncle, sac fundus and palpebral conjunctiva).\(^1,2\)

Treatment requires radical resection by means of excisional biopsy and, due to high recurrence rates, adjuvant treatment is also recommended such as cryotherapy, radiotherapy or various topical chemotherapy agents such as mitomycin C (MMC) or alpha-2b interferon (IFN).\(^1,4\)

Clinic cases

Female, 86, pseudophakic, referred due to conjunctival pigmented lesion of one year evolution in left eye (LE). The best corrected visual acuity (BCVA) in both eyes was below 0.1 (finger counting at 1 m), with 40° endotrophy and severe limitation of abduction in both eyes. Anterior segment examination in LE revealed a pigmented nodule in the nasal bulbar conjunctiva and flat perilimbal pigments in upper limbus (Fig. 1). The ocular fundus revealed myopic chorioretinopathy with large atrophy plates in the posterior pole, explaining the poor visual acuity. Systemic study was requested including hemogram, biochemistry with liver function tests and tumor markers, as well as cranial-orbital, cervical and thoracobdominal tomography which gave negative results. The tumor was excised with free margins, cryotherapy and defect coverage with amniotic membrane (AM) graft attached with biological adhesive. After epithelization (at 12 days), the occlusion was withdrawn and topical treatment was prescribed with 0.04% MMC 4 times a day for 2 weeks. Patient tolerance to treatment was good, without signs of local or systemic recurrence after 12 months follow-up (Figs. 2 and 3).

Male, 61, without relevant history, referred due to pigmented conjunctival injury in LE of one month evolution. BCVA was 1.0 in RE and of 0.8 in LE. In LE pigmented and highly vascularized nodular lesion was observed, with dilated nutritional vessels in the inferior temporal limbar conjunctiva (Fig. 4). The rest of the ophthalmological examination was normal and the systemic study was negative. Excisional biopsy was performed with cryotherapy at the edges for 10–20 s with AM graft and biological adhesive. The histological study confirmed the clinic suspicion of melanoma in both cases. After epithelization, 0.04% MMC eyedrops were prescribed at a dosage of 4 times a day during 2 weeks, uninterrupted. After 6 months the patient did not exhibit signs of local recurrence or remote disease (Figs. 5 and 6).

Discussion

Up to the 1980s, the treatment of choice for conjunctival melanoma was orbital exenteration, which at present has
not been demonstrated to effect any change in survival rates. Current recommendations are more conservative and include surgical resection by means of excisional biopsy with margins free of tumor. The prevention of recurrence and the extension of the disease-free period continue to be the main object sets for the ophthalmologists. This has given rise to the development of a range of adjuvant therapies, including intra-surgery cryotherapy, brachytherapy and the topical use of several chemotherapy agents. These topical treatments enable high concentrations with negligible or nonexistent systemic effects, although they exhibit toxic potential for the ocular surface. Of relevance among said agents is MMC, an alkylating agent with long-term effects similar to ionizing radiation. It is applied topically after epithelization of the defect and for short periods. Adverse reactions are slight and temporary, the most frequent being epiphora due to lachrymal point stenosis, conjunctivitis and more rarely toxic keratitis as well as risk of limbar insufficiency in case of prolonged administration. Topical IFN is beginning to be used recently and appears to be efficient, above all in patients who are intolerant to MMC.

The reconstruction of the ocular surface remains an essential concern of the surgeon, above all in cases of large defects such as those produced by conjunctival melanoma. In these cases, the use of AM is particularly useful as it promotes epithelization of the defect and recovers the ocular surface with minimum inflammation and cicatrization.

In summary, excisional biopsy represents a diagnostic technique for confirmation of conjunctival melanoma and, at the same time, is the treatment of choice. However, it must be supplemented with adjuvant therapies for reducing the high recurrence rates associated to this tumor.

**Conflict of interest**

No conflict of interest has been declared by the authors.

**References**