Short communication

Oncocytoma of the caruncle: A case report

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ABSTRACT

Case report: We describe a 79-year-old woman who had a small lesion on the inner corner of her right eye for the last 6 months. The lesion was surgically excised and histologically analyzed, with a diagnosis of oncocytoma of the caruncle.

Discussion: Ocular oncocytomas are rare benign neoplasms found in the caruncle, conjunctiva, lacrimal gland and lacrimal sac. They are composed of transformed epithelial cells of the ducts. Although rare, this tumor should be recognized especially in the elderly because of the exceptional development of adenocarcinoma.

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Introduction

The majority of tumors that originate in the area of the eyelids, brows and orbits may begin in the caruncle as this structure contains accessory lacrimal glands, sebaceous glands and hair follicles. The most frequent malignant caruncle tumor is sebaceous carcinoma and the benign form is oncocytoma. This tumor originates from glandular and secretion epithelium and can therefore also appear in the lacrimal sac, lacrimal gland,
conjunctival ancillary glands and eyelids. Caruncle oncocytoma tends to appear in elderly people as a slow-growing reddish and rounded mass which could be confused with hemangioma, nevus or cysts. Histologically, it is made up of cubic or column cells of eosinophilic granular cytoplasm.

A case report of caruncle oncocytoma is presented, reviewing the histological characteristics thereof.

**Case report**

A female, 79 years of age, visited our service reporting a roundish lesion in the internal edge of the right eye with onset 6 months back and exhibiting slow and progressive growth without other related symptoms apart from the esthetic concern. The patient did not refer previous ocular surgery or traumatism or any ophthalmological report general history of relevance. The ophthalmological examination revealed visual acuity of 0.5 in both eyes due to bilateral cataracts, with ocular pressure and fundus within normal values. Slit lamp examination of the right eye revealed the existence of a rounded reddish mass in the caruncle of about 5 mm × 5 mm, with yellowish spots inside and a vessel crossing over it (Fig. 1). The surface of the lesion did not exhibit alterations and did not infiltrate surrounding skin. Differential diagnosis between granuloma or caruncle epidemic cyst and hemangioma was established and the tumor was completely removed in a surgical procedure under local anesthesia (Fig. 2), preserving the tumor in tamponated 10% formaldehyde solution for study by Pathological Anatomy.

The histological study demonstrated that the tumor was made up of oncocytic cells without atypia organized in a well-defined papilla and solid areas, both defining a central cystic cavity within which loose papillary structures were observed having identical histological characteristics. Alternately with oncocytic cells, globoid cells carrying mucine were observed in a large central vacuole (Figs. 3 and 4). Large microscopic examination revealed intense granular dots in the cytoplasm of the oncocytic cells. No mitosis figures were identified. In the light of these findings and taking into account the location of the lesion in the caruncle, the diagnosis was conjunctival oncocytoma (oxyphilic adenoma) or oncocytic tumor.

**Discussion**

The caruncle is the small oval-shaped conjunctival protuberance located in the lacrimal fossa medially to the plica semilunaris next to the internal palpebral edge. It is covered by a stratified epithelium similar to that of skin but without keratinization. Like the skin, it comprises hair follicles, fatty tissue and sebaceous and sweat glands, but it also comprises smooth muscle and secondary lacrimal glands. Precisely the occasional presence of these glands infrequently gives rise to benign and malign neoplastic injuries. In addition, as the area is exposed to sun radiation, this could be an important factor in the development of some tumors. There are very few studies on caruncle tumors. Most of these tumors are benign (95%), with oncocytoma being the most frequent type together with eosinophilic and cystic adenomas. The most frequent reported malign tumors are the sebaceous and basal cell carcinoma.
Oncocytoma is a benign tumor made up of transformed secretion and glandular epithelial cells known as oncocytes, which have been described in glandular tissue in all parts of the body including the thyroid, parathyroid, salivary glands, suprarenal glands, kidney, pancreas and liver. The caruncle is the most frequent ocular site.\textsuperscript{1,5} Other locations such as the lacrimal sac or glands, conjunctiva or eyelids are extremely rare.\textsuperscript{1} It is estimated that 3–8% of all biopsied caruncle tumors respond to this etiology.\textsuperscript{3}

Caruncle oncocytoma presents slow-growing solid or cystic lesions between 2 and 5 mm length and expresses more frequently in females than in males (5/1), the mean age being 73 years.\textsuperscript{4,5} In general they do not express symptoms but occasionally give rise to inflammatory reactions.\textsuperscript{1,4,5} Caruncle oncocytomas are removed for esthetic reasons and to establish the diagnosis. Biologically it is a benign tumor although some cases of malign oncocytomas have been described.\textsuperscript{2}

Histologically, caruncle oncocytoma comprises polyhedral or oval-shaped cells with abundant eosinophilic granular cytoplasm which stains positively with Schiff periodic acid and with phosphotungstic acid with small, rounded and eccentric nuclei. The architectural pattern is heterogeneous as the characteristic cells can form groups in columns, plates, strings or nests, with or without ductal differentiation or cystic changes.\textsuperscript{3} On the electronic microscope, oncocytoma exhibits cellular cytoplasm with mitochondriae of various sizes and forms with crystals inside\textsuperscript{1,4} as well as a small number of other organelles.\textsuperscript{3} This oncocyte transformation is not specific and it is believed it could represent changes in aging.\textsuperscript{3}

The main differential diagnosis to be taken into account from the histological viewpoint is oncocytic adenocarcinoma even though it exhibits microscopic malignity characteristics which are absent in the oncocytoma such as cellular atypia, invasiveness and the existence of recurrence and metastasis.\textsuperscript{4}

The differential diagnosis must be made with benign inflammatory masses, papilloma and dermoid and epidermoid cysts, with sebaceous cell carcinoma, basocellular and spinocellular carcinoma, angioma, pyogenic granuloma and caruncle nevus.\textsuperscript{1,4}

As the tumor is benign, complete resection is the definitive treatment.\textsuperscript{5}

**Conflict of interests**

No conflict of interests has been declared by the authors.

**REFERENCES**