Primary Ocular Caruncular Basal Cell Carcinoma in a Chinese Patient

Chia-Ling Lee,[1] Shiuh-Liang Hsu,[1] and Cheng-Hsien Chang[2,3]
[1]Department of Ophthalmology, Kaohsiung Medical University Hospital, [2]Department of Ophthalmology, College of Medicine, Kaohsiung Medical University, and [3]Department of Ophthalmology, Municipal Hsiao-kang Hospital, Kaohsiung, Taiwan.

Although basal cell carcinoma (BCC) is the most common eyelid neoplasm, BCC that originates from the lacrimal caruncle is extremely rare. To the best of our knowledge, only seven cases have been reported and here we report the first documented primary caruncular BCC in an Oriental patient. A 73-year-old Chinese man presented with a telangiectatic, multilobulated, pigmented tumor that measured 5×5 mm, which had arisen from the lacrimal caruncle of the left eye 3 months previously. The patient underwent tumor excision, and histopathological examination revealed BCC. He received adjuvant chemotherapy with intra-arterial methotrexate (30 mg/m^2). A nodular pigmented BCC recurred in the bulbar conjunctiva close to the original tumor 3 months later, and he underwent a second excision. Bleomycin (8.5 mg/m^2 monthly) was added to the chemotherapy regimen, which was changed to fluorouracil (300 mg/m^2 monthly) 2 months later. The tumor did not recur during follow-up of 22 months. Malignant tumors of the caruncle are infrequent. BCC should be considered in the differential diagnosis of a pigmented caruncular lesion.

Key Words: basal cell carcinoma, caruncle, ocular tumor
(*Kaohsiung J Med Sci* 2010;26:562–6)

Basal cell carcinoma (BCC) is the most common malignant neoplasm of the skin, and accounts for 90–95% of malignant eyelid tumors. However, occurrence of BCC in the lacrimal caruncle is extremely rare. A search of the literature found only seven illustrated reports of primary caruncular BCCs [1–6]. Here, to the best of our knowledge, we report the first case of primary pigmented caruncular BCC in an Oriental patient and review the previous seven cases.

Received: Dec 28, 2009 Accepted: Mar 2, 2010
Address correspondence and reprint requests to: Dr Cheng-Hsien Chang, Department of Ophthalmology, Kaohsiung Medical University, 100 Tz-You 1st Road, Sanmin District, Kaohsiung 807, Taiwan.
E-mail: hankorbit@hotmail.com

Case Presentation

A 73-year-old Chinese man presented with an isolated, multilobulated mass over the left caruncle, without a connection to the surrounding periorbital and eyelid skin (Figure 1). The lesion was brown–black, with a telangiectatic, irregular surface (5×5 mm), and the tumor had been growing painlessly without ulceration for 3 months. Other ophthalmic examination was normal, except for bilateral cataract. The patient was a mechanical designer, without excessive sun exposure or a family history of malignancy. A review of his medical history revealed that he had hypertension and coronary artery disease but no other malignancy.

Under local anesthesia, the tumor, along with the entire caruncle was excised using a "no touch" technique. The tumor did not invade deeply into the orbit and extended only to the subcutaneous tissue.

Histopathology showed infiltrative islands of basaloid cells, with characteristic retraction spaces between tumor islands and surrounding stroma. Elongated nuclei and scanty cytoplasm with peripheral nuclear palisades were consistent with BCC (Figure 2A). Melanin pigmentation was found in clumps (Figure 2B).

Owing to inadequate surgical margins in the pathological report, the patient was referred to an oncologist for adjuvant intra-arterial chemotherapy. After chemotherapy with methotrexate (30 mg/m^2 monthly) for 3 months, one small (2 × 1 mm) pigmented, nodular conjunctival tumor was noted close to the resected caruncle. A second tumor excision revealed recurrent BCC. Another exploratory biopsy of pigmented lesions in the bulbar conjunctiva did not show any malignancy. Bleomycin (8.5 mg/m^2 monthly) was added to the chemotherapy regimen, which was changed to fluorouracil (300 mg/m^2 monthly) 2 months later. Follow-up examination over an additional 22 months showed no evidence of tumor recurrence.

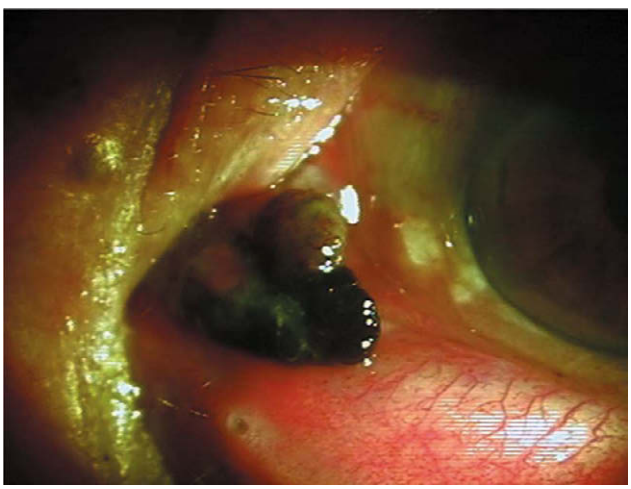

Figure 1. *Darkly pigmented, multi-lobular, non-ulcerative tumor on left caruncle, 5 × 5 mm. Adjacent eyelid skin was free of tumor.*

Discussion

The histogenesis of BCC is unclear. Either pluripotential germ cells in the deepest layer of the epidermis, or basal cells of pilosebaceous structures have been proposed to develop into carcinoma. The caruncle serves a transition zone between the skin and conjunctiva. It has a non-keratinized epithelial lining similar to the conjunctival epithelium, and harbors skin elements such as hair follicles, sebaceous glands, accessory lacrimal glands and sweat glands. Consequently, BCC is likely to occur in the caruncle.

Of the eight primary caruncular BCCs reviewed in the literature, including this present case and seven previous cases, male cases (n = 6) were more common than female cases (n = 2) (Table) [1–6]. Patient ages ranged from 24 to 82 years, with five being older than 60 years. All the previous seven cases were from North America or Europe. Our report is believed to be the first case of an Oriental patient with caruncular BCC. Of the seven previous cases, five of the tumors were described as pale, vascularized and lobulated

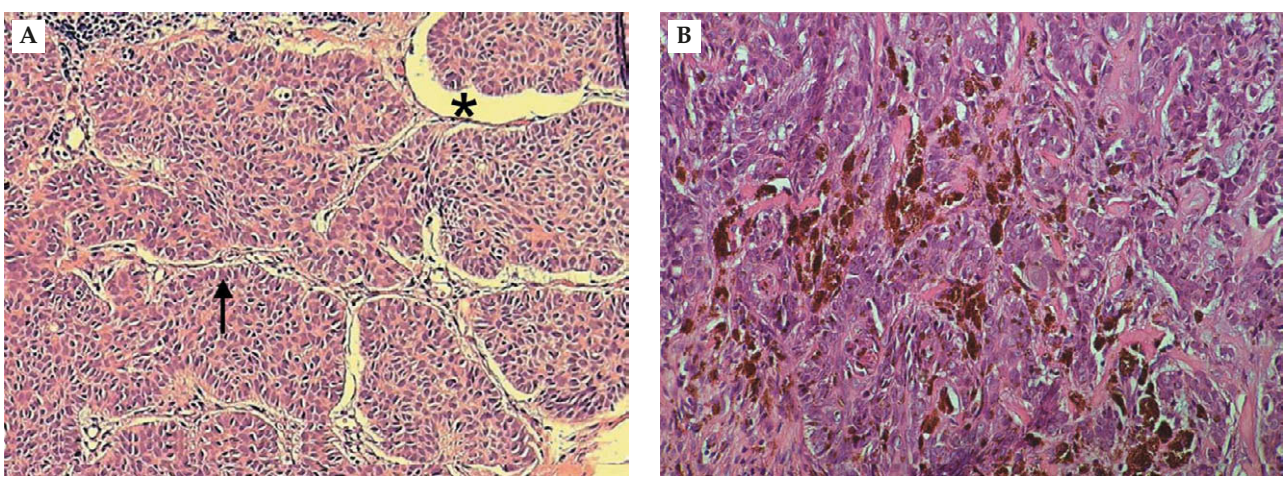

Figure 2. *(A) Basaloid tumor islands with peripheral nuclear palisade (arrow) and typical retraction spaces (asterisk) (hematoxylin and eosin stain, 100×). (B) Pigment clumps between pleomorphic neoplastic cells. The diagnosis was a pigmented basal cell carcinoma (hematoxylin and eosin stain, 200×).*