

A Unique Case of Primary Corneal Melanoma

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Purpose: To report a unique case of primary corneal melanoma.

Methods: A 59-year-old white woman underwent keratectomy to remove a pigmented rapidly enlarging growth on the corner of her left eye. The specimen was submitted for histopathologic examination.

Results: Ophthalmic examination disclosed no association with limbal or conjunctival melanocytic abnormalities. Histopathologic studies demonstrated nodular malignant melanoma.

Conclusion: Possible development of primary corneal melanoma should be considered in diagnosing all cases with a past history of corneal melanin pigmentation. **Jpn J Ophthalmol 2002;46:114–116** © 2002 Japanese Ophthalmological Society

Key Words: Keratectomy, nodular malignant melanoma, primary corneal melanoma.

Introduction

Corneal localization of malignant melanoma is very uncommon and it is almost always accompanied by limbal or conjunctival melanocytic abnormalities.

A 59-year-old Caucasian woman, diagnosed as having a corneal tumor, was admitted to our hospital. On interview, the patient gave a 20-year history of a small pigmented spot on the cornea of her left eye. During the last few months before admission she noticed that the spot was increasing in size and its pigmentation simultaneously increased. She complained of blurred vision and discomfort in the left eye on blinking.

Best-corrected visual acuity was: RE –1.0 and LE –0.3. A slit-lamp examination revealed a prominent, brown, distinctly demarcated lesion with irregular surface, in the temporal part of the left cornea; its dimensions were 5.5 × 3.0 × 2.5 mm (Figure 1A). The

tumor seemed to involve mainly the epithelium and the superficial corneal stroma, and was surrounded by pigment dispersed in the epithelium. Enlarged blood vessels from the adjacent conjunctiva penetrated into the lesion, but there was no evidence of melanosis in the entire bulbar conjunctiva. The anterior segment of the right eye did not show any abnormalities. Measurements of the intraocular pressure and fundus of each eye were within normal limits. Also a general physical examination and laboratory tests disclosed no evidence of metastases or any other primary neoplastic disease.

The tumor was removed by means of partial keratectomy and cryotherapy. In the 32 months of follow-up no signs of local or distant recurrence of the tumor were observed (Figure 1B).

By histopathologic examination, the excised tumor was classified as nodular malignant melanoma, stage 3, according to Breslow, and pT3a Nx Mx according to WHO (Figure 2A). The immunohistochemical study with HMB-45 showed strongly positive results (Figure 2B).

Melanocytes may be found mainly in the limbus of

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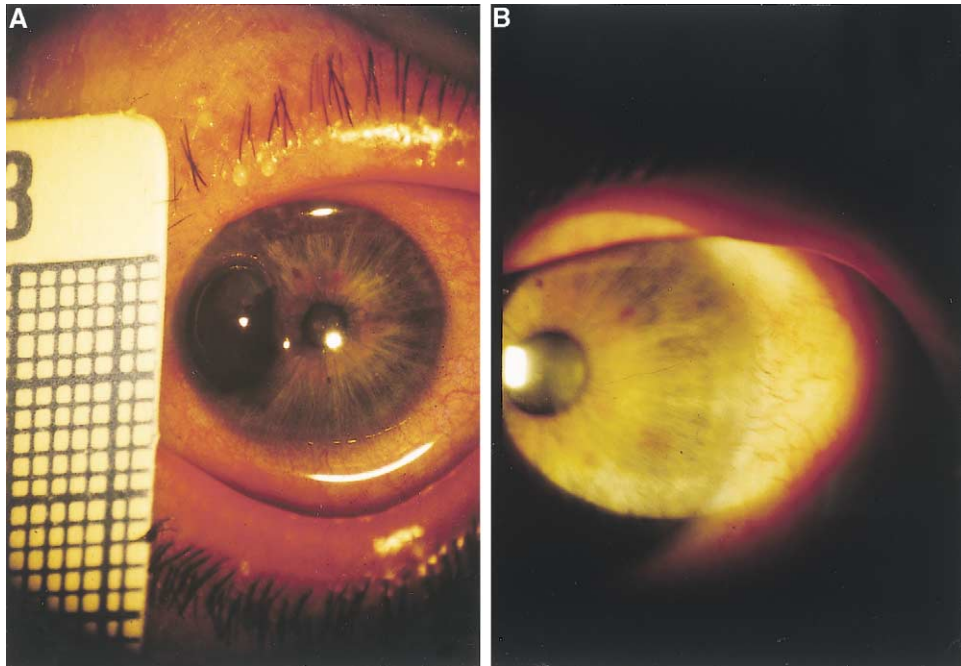


Figure 1. (A) Slit-lamp photograph of preoperative appearance of left eye. Large, concave, corneal lesion and transparent adjacent corneal periphery were observed. (B) 7-day postoperative appearance of this eye.

healthily cornea. Their migration to the epithelium is possible upon exposure to sunlight or toxic compounds.¹ When atypical melanocytes are confined to the epithelium these changes are described as “corneal primary acquired melanosis with atypia”; and when the Bowman layer and stroma are involved, the condition is defined as “corneal malignant melanoma.”²

To date there have been only a very few reports of corneal primary melanoma. Among the previously reported corneal melanomas, only in a single case the limbal or conjunctival origin was excluded.³⁻⁵ Possible development of primary corneal melanoma should be considered in diagnosing all cases with past history of corneal melanin pigmentation.

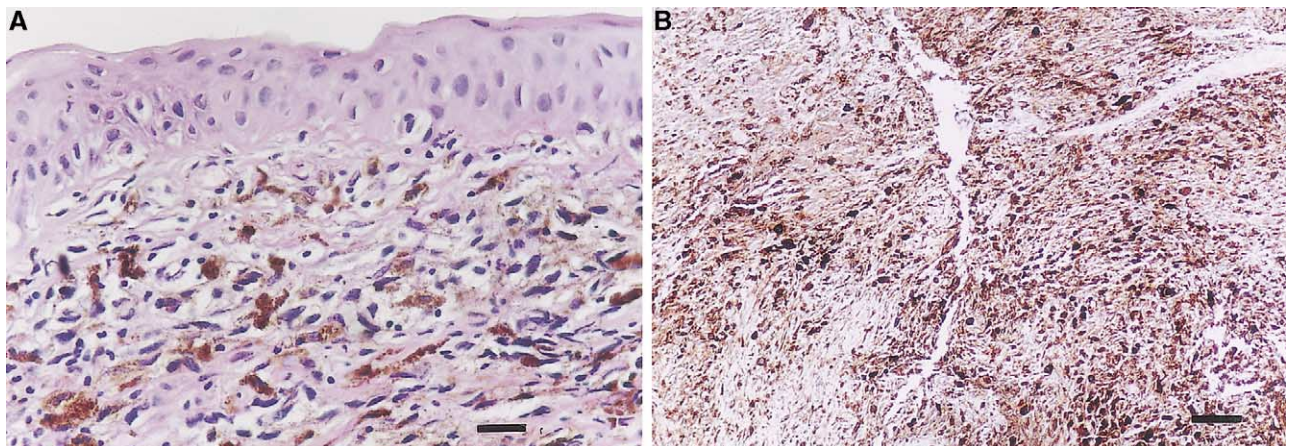


Figure 2. (A) Large, epitheloid cells forming loose structures in subepithelial layer. Invaded basal layer is also visible. Hematoxylin eosin (HE). Bar = 25 μ m. (B) Deeper layer of tumor: spindle-cells forming bundles, abundance of melanin partially hiding neoplastic cells. Capillary vessels closely surrounded by melanoma cells. HE. Bar = 100 μ m.

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