Corneal–Conjunctival Squamous Cell Carcinoma

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Purpose: To report an extremely rare case of an extensive conjunctival–corneal invasive squamous cell carcinoma.

Methods: A healthy 68-year-old man referred to our department with a moderately elevated hyperemic nodular mass on his right ocular surface. The lesion was completely covering the corneal surface and involved the temporal limbus with bulbar conjunctiva. Surgical excision was performed with 2-mm tumor-free margins documented histologically and double-freeze cryotherapy was applied 360° for inhibition of tumor recurrence.

Results: Histopathologic examination showed a moderately differentiated squamous cell carcinoma. The patient achieved a complete excision with no evidence of recurrence during the follow-up period of 12 months.

Conclusions: This case points out the potential for a total covering of the cornea by squamous cell carcinoma. Wide surgical excision and double freeze–thaw cryotherapy may decrease the recurrence.

Key Words: conjunctiva, cornea, excision, invasive, squamous carcinoma

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Invasive squamous cell carcinoma occurs less frequently than conjunctival intraepithelial neoplasia (CIN). CIN is often the precursor of invasive squamous cell carcinoma, occurring when dysplastic epithelial cells penetrate the underlying basement membrane. Because of the resistance of the Bowman membrane, invasion occurs virtually exclusively within the conjunctival portion of the lesion.[1] However, most carcinomas are minimally invasive and can be treated with wide local excision and aggressive cryotherapy.[1–3]

CASE REPORT

A healthy 68-year-old man reported to our department in June 2006 with a moderately elevated hyperemic nodular mass on his right eye. The lesion was covering the entire corneal surface and was extending to the temporal bulbar conjunctiva. He had first noticed a lesion near the limbus in the temporal interpalpebral area 8 years previously. He complained of irritation, itching, and tearing with a 3-year history of severe decreased vision in his right eye. The patient had no medical history, and he had no history of ocular trauma, toxin exposure, or surgery. Systemic health history was negative. His occupation was a rural worker.

An ophthalmic examination showed a visual acuity of light perception in the right eye and a best-corrected visual acuity of 20/25 in the left eye. Biomicroscopy of the right eye showed an elevated velvety papilloform lesion covering the total corneal surface with temporal limbal involvement. The lesion was supported by a neoplastic pannus consisting of hairpin vessels. Anterior segment evaluation and dilated fundus examination were impossible (Fig. 1). Biomicroscopy of the left eye showed an arcus senilis and posterior subcapsular cataract. Intraocular pressure in the left eye was measured at 12 mm Hg.

A total excision of the mass was performed under local anesthesia and sent for histopathologic examination. Before excision 2 mm of clinically healthy conjunctiva was labeled around the lesion to ensure clear margins. Consequently, the labeled conjunctiva was excised 360° and the tumor was easily dissected free from the cornea with an angled bevel-up crescent knife. Double freeze–thaw cryotherapy was applied to the tissue surrounding the excision.

Histologic examination showed the presence of squamous cell carcinoma at the corneal–conjunctival junction. Corneal involvement was confined to the epithelium (carcinoma in situ), whereas conjunctival involvement showed invasion into the lamina propria with moderate differentiation (Figs. 2 and 3). Surgical margins were free of tumor.

Postoperatively, the cornea remained clear, and the patient was treated with topical antibiotic with steroid 4 times a day and cyclopentolate hydrochloride 1% 2 times a day. At 12 months

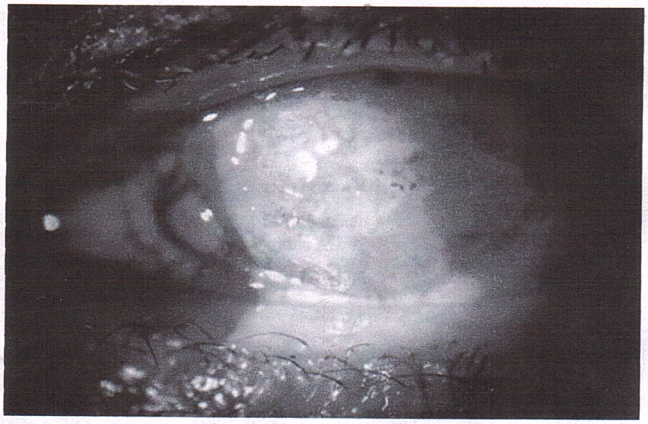

FIGURE 1. Biomicroscopy of the right eye showed an elevated velvety papilloform lesion covering the total corneal surface with temporal limbal involvement. The lesion was supported by a neoplastic pannus consisting of hairpin vessels.

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