

CLINICAL INVESTIGATIONS

Extensive Destruction of the Eyeball by Invasion of Basal Cell Carcinoma of the Eyelid

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Background: Eyeball destruction caused by invasion of basal cell carcinoma of the eyelid.

Case: A 100-year-old woman showed extensive eyeball destruction caused by the invasion of basal cell carcinoma of the eyelid. Complete ophthalmologic examinations, including computed tomographic (CT) scans of the orbit, were performed. The patient underwent incisional biopsy and bacteriological examination of the exudate from the lesion.

Observations: Orbital CT scan showed a mass in the extraconal space of the right orbit, with extension to the adjacent sinus cavity without brain involvement. The remnant of the eyeball was posteriorly displaced. *Pseudomonas aeruginosa* was identified by culture examination of the exudate. Histological study of the biopsy specimen showed basal cell carcinoma of the noduloulcerative type.

Conclusions: Basal cell carcinoma of the eyelid had caused severe periorbital and eyeball destruction. *Jpn J Ophthalmol* 1999;43:300–302 © 1999 Japanese Ophthalmological Society

Key Words: Basal cell carcinoma of the eyelid, eyeball destruction, orbit, invasion.

Introduction

Basal cell carcinoma (BCC) is the most common malignant skin tumor.¹ Approximately 90% of all malignancies of the eyelid and 20% of all eyelid tumors are basal cell carcinomas.² In Korea, malignant eyelid tumors have been reported, in order of frequency, as sebaceous cell carcinoma (42.2%), basal cell carcinoma (36.8%), squamous cell carcinoma (10.5%), and malignant melanoma (10.5%).³ The periocular area is a common site for skin carcinoma. Periocular skin carcinomas are of particular concern to ophthalmologists, since they frequently progress undetected by both patients and physician until they have become relatively large and more difficult to treat.

Case Report

A 100-year-old woman with the complaint of disappearance of her right eye was examined. About 3 years before, a bean-sized mass had appeared on her right upper eyelid and central ulceration with bleeding from the lesion developed. The ulcerative lesion gradually increased in size. Recently, visual loss in the right eye had become noticeable, with concomitant disappearance of the eye.

Physical examination showed that the right eye was in an anophthalmic state, with marginal irregular crusted periorbital skin externally and yellowish exudate from the remaining hyperemic swollen ocular tissue underneath (Figure 1). No abnormalities were visible in the left eye except mild cortical lens opacity. Visual acuity in the left eye with best correction was 20/40. The patient had relatively good general health and no previous history of skin cancer. Orbital CT scan showed a mass in the extraconal space of the right orbit with extension to the adjacent sinus cavity, but without brain involvement

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Figure 1. Right eye has marginal irregular crusted peri-orbital skin externally and yellowing exudate from hypere-mic ocular tissue underneath.

(Figure 2A). It was surmised that the right eyeball remained in the intraconal space (Figure 2B).

Incisional biopsy of the tissue in the right eye socket and bacteriological examination of the exudate were carried out. Histologic sections of the biopsy specimen showed basal cell carcinoma of the noduloulcerative type (Figure 3). *Pseudomonas aeruginosa* was identified by culture of the exudate. Systemic and topical antibiotic therapy were prescribed: Aminoglycoside (100 mg) twice a day; quinolone eye solution, six times a day; and tobramycin ointment (0.03%) twice a day.

Further surgical therapy was refused by the patient's family. There was some improvement in the

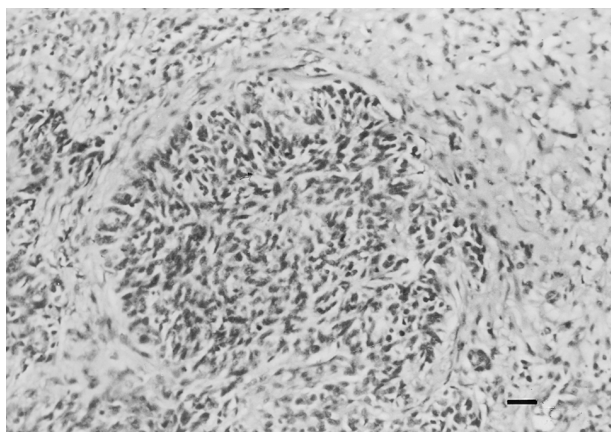


Figure 3. Biopsy specimen disclosed infiltrating tumor nests showing prominent palisading and surrounding loose fibrous stroma. Oval to spindle tumor cells had pleomorphic, hyperchromatic nuclei, prominent nucleoli, and coarse chromatic pattern. Mitotic activity and chronic inflammatory cell infiltration were also present. (Hematoxylin-eosin) Bar = 25 μ m.

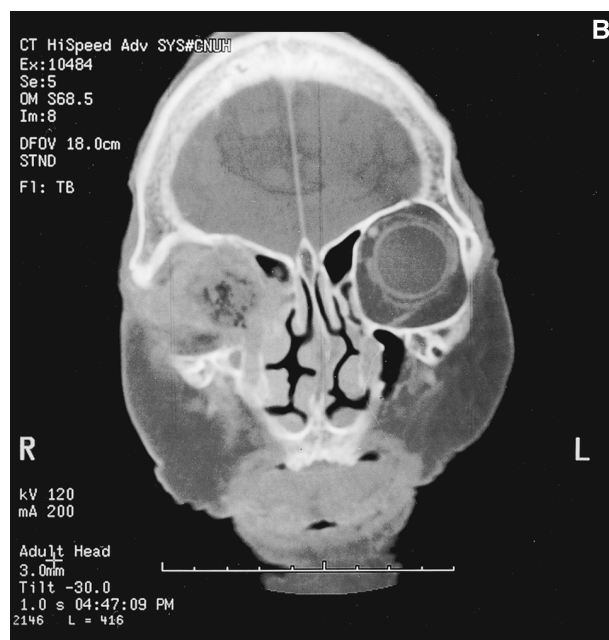
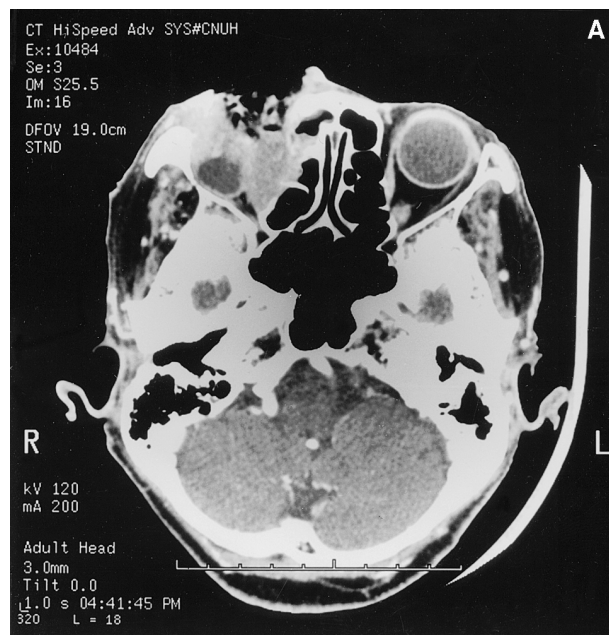


Figure 2. (A) Orbital sagittal computed tomographic scan showed mass in extraconal space of right orbit with extension to adjacent sinus cavity without brain involvement. It was surmised that remnant of eyeball remained in intraconal space. (B) Orbital coronal scan showed homogeneous mass, with extension to adjacent sinus cavity, had displaced remaining eyeball posteriorly.

condition of the lesion and antibiotic therapy was continued. Several months later, a member of the patient's family phoned the hospital to inform us that the patient had died.

Discussion

Basal cell carcinoma is an indolent tumor that rarely metastasizes, but BCC of the eyelid poses a serious threat because of its proximity to the globe, brain, and paranasal sinuses. Most eyelid cancers are now diagnosed when small and are cured by a surgical incision. However, a threat to vision and life remains in patients who have orbital invasion. In these cases, despite definite surgical intervention, such as exenteration, cure is difficult and there is a threat to life if cranial extension occurs and bleeding continues.⁴ The present case illustrates the extensive local spread of periocular BCC for several years. This unusual case should be a warning to all ophthalmolo-

gists that periocular BCC can cause severe eyeball destruction.

References

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