Squamous Cell Carcinoma Presumably Originating from the Lacrimal Sac

— Report of a Case —

TETSUJI YOSHIDA, KAZUTO NAGATA AND SHIGENOBU MIHASHI

*Department of Otolaryngology, Kurume University, School of Medicine,
Kurume, 830 Japan*

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Summary: A case of squamous cell carcinoma presumably originating from the lacrimal sac of a 59-year-old female was reported. The first symptom was pain of the left orbit region and epiphora. Exophthalmus and swelling of the left orbit region followed. The patient was surgically treated with pre- and post-operative radiation. Additional surgeries, i.e. ophthalmectomy with partial maxillectomy and radical neck dissection were demanded for local and neck recurrences. The patient is currently alive 4 years after the final operation with no evidence of any recurrent tumor.

Key words: carcinoma — lacrimal sac — carcinoma of lacrimal sac

Introduction

Squamous cell carcinoma of the lacrimal sac is a very rare condition. This paper presents a report of a case of squamous cell carcinoma presumably arising from the lacrimal sac of a 59-year-old female treated in Kurume University Hospital.

Case Report

A 59-year-old female noticed epiphora and pain of the orbit region on the left side in 1972. She visited a private clinic but nothing particular was noted. In December 1975, she developed exophthalmus and swelling of the upper and lower eyelids on the left side. She visited an ophthalmologist and was referred to the Department of Otolaryngology, Kurume University Hospital on December 12. We suggested to her to be hospitalized for an exploratory sinus operation, but she rejected

to do so. Seven months later, the symptoms became severer and she was admitted in our hospital on July 30, 1976.

On physical examination, a mass, 2 cm × 1 cm in size, was palpated at the inner margin of the left orbit. There was tenderness on the swelling and the bone of the orbital edge was partly destroyed. The fundus of the eye was normal, and eye movement and visual acuity were not disturbed. The nasal cavity and epipharynx were normal.

X-ray studies revealed cloudiness in the left frontal sinus and a partial bone destruction of the medial wall of the left orbit. On the basis of the findings described above, malignant tumor of the left frontal sinus with intraorbital invasion was suspected. A biopsy specimen was taken from the subcutaneous mass on July 30, 1976, and was diagnosed as squamous cell carcinoma.

Treatment was begun with irradiation on August 3, 1976. There was little re-

gression of the tumor when 4000 rad had been irradiated. On August 26, the tumor was removed surgically with a Killian incision. The tumor was located chiefly in the subcutaneous tissue and the frontal sinus was not involved. We thought the lesion had originated from the lacrimal sac.

Post-operative irradiation, 2000 rad in total, and intravenous Bleomycin, 105 mg in total, were given. On October 7, ophthalmectomy and partial maxillectomy were carried out. Histologically, the tissue at the medial wall of the orbit was positive while the mucosa of the frontal sinus, ethmoid sinus, sphenoid sinus and nasal cavity were negative.

Twelve days after the radical operation, tumor-like granulation was found at the fundus of the eye. Cryosurgery and radium needle irradiation (11880 rad in total) were performed immediately. But this granulation did not show carcinoma histologically. Three months later, the wound healed without any recurrent tumor. The orbit was covered with a deltopectoral flap.

On routine follow up examination, a cervical lymphnode was palpable on February 14, 1978. On February 27, radical neck dissection was performed. Jugulodigastric lymphnode presented metastatic carcinoma on histological examination. The patient is currently alive more than 4 years after radical neck dissection with no evidence of any recurrent tumor.

Discussion

Squamous cell carcinoma originating from the lacrimal sac is a very rare condition. Only one case was reported by Nandate (1973) in Japanese otolaryngological journals during the past 10 years. Mitsuo et al. (1977) reviewed 107 cases of carcinoma of the lacrimal sac reported in journal of ophthalmology in the world. Of these 107 cases, 21 were squamous cell carcinoma, and of these 21 cases, 4 were reported in

Japan. (Kitajima et al. 1955; Yonetani et al. 1960; Suda et al. 1961; Mitsuo et al. 1977).

Jones (1956) reported various features which was associated with the clinical course of lacrimal sac tumors:

Stage I : Tearing is the only symptom.

Stage II : Simulated dacryocystitis.

Stage III: Painless, nonreducible swelling in lacrimal sac region.

Stage IV: Extension of tumor outside sac.

Spratt (1957) reported that all writers agree that in the first stage, epiphora being the only symptom, diagnosis is not possible and, in the third stage of swelling of tumor, diagnosis could be made. Our case falls in stage III of Jones at the time of admission. Before that, she had had epiphora for about 3 years.

Spaeth (1940) described that there is no doubt whatsoever that malignancy occurs as a result of chronic irritation. He also stated that the etiological possibility was that a chronic dacryocystitis of long standing might be the "Precursor" and tumor cells might be of a squamous- or of a basal-cell type. Hany et al. (1969) reported a classification of malignant epithelial neoplasms originating from the lacrimal sac by condition of squamous metaplasia, pleomorphism, mitosis, arrangement of basal cell layer;

Type I : Transitional cell papilloma.

Type II : Intermedial transitional cell tumor.

Type III: Transitional cell carcinoma.

Spratt (1940) reported that complete removal with safety margin followed by subsequent radiation treatment yielded the best result. Jones (1956) reported that complete excision before extension outside the sac was curative, and generally radiation was employed as an adjunct after excision. Spaeth (1957) reported that extensive primary surgery, including removal of

the prelacrimal region, the inner canthal angle of the lids, and the bony and membranous lacrimal-nasal canal is essential to the treatment of lacrimal sac carcinoma and also described that radiation therapy was a necessary adjunct for proper treatment.

Spratt (1940) reported that these tumors were extremely malignant, and recurrence was the rule and few patients had been under observation long enough to give any information as to the ultimate results. Mitsuo et al. (1977) studied 5-year survival rate in 5 cases of squamous cell carcinoma of the lacrimal sac. Only one case was alive for 5 years.

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