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Case Report

Recurrent sebaceous carcinoma with wide intraepithelial spread to the nasal cavity: Report of two cases

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Background: Sebaceous carcinoma (SC) is a relatively rare tumor that usually arises from the eyelid. Local extension down the nasolacrimal duct is relatively rare event for SC.

Method: We herein report two cases of recurrent SC in the nasal cavity. Both patients had previously received primary treatment for SC of the eyelid. Seven years after the initial treatment, the first patient presented with a mass on the left medial canthus of the eyelid. Sixteen months after the initial treatment, the second patient presented with a large mass in the right nasal cavity.

Results: The wide intraepithelial spread of SC over 30 mm from the initial surgical margin was beyond our expectations. The first patient is currently alive with local recurrence following the administration of chemoradiotherapy 46 months after treatment, while the second patient died of distant metastasis.

Conclusion: This report focuses on the unique clinical features of intranasal recurrence of SC after treatment.

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Key words: sebaceous carcinoma, HER-2, nasolacrimal duct, pagetoid spread, nasal cavity

Introduction

Sebaceous carcinoma (SC), which originates from sebaceous gland cells, is a relatively rare tumor that comprises 1% of all eye lid tumors.[1] Although its clinical behavior is aggressive, SC is sometimes misdiagnosed as blepharoconjunctivitis or a chalazion at the initial stage. Surgical excision is performed as the primary treatment for SC. The fact that SC often exhibits intraepithelial spreading or skip lesions makes it difficult to evaluate the surgical margin. Due to the rarity of the condition, no generalized strategy has yet been established to treat advanced cases.

The human epidermal growth factor receptor 2 (HER-2) proto-oncogene plays an important role in the development and progression of breast and gastric cancer originating from gland cells. Monitoring of the HER-2 status was performed initially in breast cancer, and the expression of HER-2 is now routinely used as a prognostic factor. However, to our knowledge, the HER-2 status of SC in the head and neck region has not been investigated. We herein report two cases of SC in the nasal cavity that displayed unique clinical features of intranasal recurrence, and the immunohistochemical findings of HER-2.

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Case Report

Case 1. A 61-year-old female was referred with a one-year history of a mass in the left medial canthus of the eyelid. She had received primary treatment for SC of the eyelid from a dermatologist seven years earlier. The initial treatment included radiotherapy following local excision of the left upper eyelid and skin grafting. Fiberoptic rhinoscopy revealed a white submucosal mass in the left inferior nasal meatus. The remainder of the nasal cavity and nasopharynx appeared normal. A CT scan with contrast demonstrated a mass in the left orbit extending into the ipsilateral nasolacrimal duct with slight enhancement (Figure 1 A). A CT scan with contrast also demonstrated a mass located close to the ipsilateral orbital apex (Figure 1 B). A malignant tumor was highly suspected based on a biopsy of the submucosal mass. We performed left extended maxillectomy, left orbital exenteration and reconstructive surgery. The first frozen sections used to evaluate the surgical margins revealed positive findings at the left choana and right nasal-side surface of the soft palate. We performed excision and submitted further slivers of tissue for a frozen section analysis. After performing ten additional excisions, we finally confirmed a negative surgical margin at the right Rosenmüller fossa. The distance from the initial macroscopic margin to the final microscopic margin was over 30 mm. The histologic features of the tumor were consistent with those of SC. Pathologically, the surgical margin was negative. The patient then underwent concurrent chemoradiotherapy (a total dose of 60 Gy with 212 mg of cisplatin and 5,625 mg of 5-FU) after the surgery. After three years of follow-up, the tumor recurred at the apex of the left orbit. The patient remains alive following the administration of additional radiotherapy.

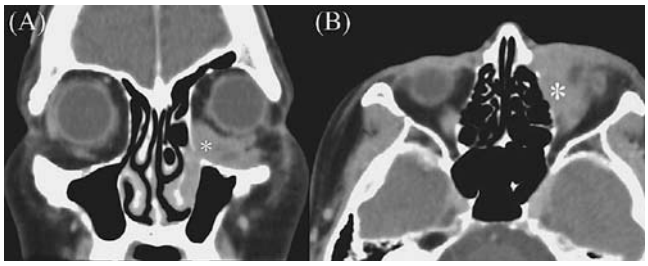

Figure 1. The Computed tomographic image of case 1. (A) Contrast-enhanced coronal computed tomographic image of a mass located in the left orbit extending into the ipsilateral nasolacrimal duct with slight enhancement (asterisk). (B) A contrast-enhanced axial computed tomographic image of a mass located close to the ipsilateral orbital apex with slight enhancement (asterisk).

Case 2. A 77-year-old female was referred with a three-month history of nasal obstruction. She had received primary treatment for SC of the eyelids by a plastic surgeon 16 months earlier. The initial treatment had been local excision of the right eyelid, right orbital exenteration and reconstructive surgery. Her right nasal cavity was completely obstructed by a tumor. Fiberoptic rhinoscopy via the left nose revealed the posterior edge of the tumor. The remainder of the nasal cavity and nasopharynx appeared normal. A serial T1-weighted MRI scan with contrast for a follow-up study demonstrated chronological growth of a mass in the right orbit extending into the ipsilateral nasolacrimal duct after the initial treatment (Figure 2). The tumor was biopsied and diagnosed as a recurrent lesion of SC. We performed right extended maxillectomy and reconstructive surgery. As observed in the first case, the first examination of frozen sections of the surgical margins revealed positive findings at the margin of the right torus tubarius and left nasal-side surface of the soft palate. We performed additional excision and submitted the tissue for a further examination. After performing six additional excisions, we finally confirmed the presence of a negative surgical margin at the right side of the nasopharyngeal mucosa and left nasal-side surface of the soft palate. The distance from the initial macroscopic margin of the tumor

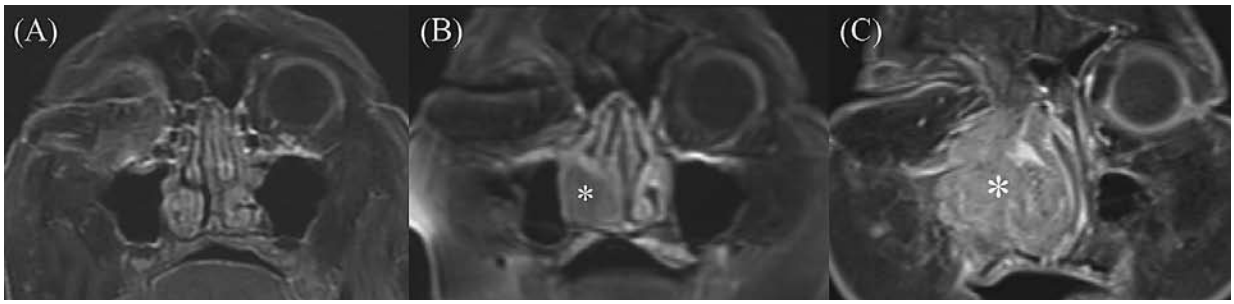

Figure 2. (A) One year before the initial consultation at our institution. Four months after the primary treatment for sebaceous carcinoma of the eyelids. No distinct masses were detected. (B) Six months before the initial consultation at our institution. A small mass was detected at the inferior nasal meatus (asterisk). (C) At the time of the initial consultation at our institution. The right maxillary sinus was filled with a recurrent tumor (asterisk).

to the final microscopic margin was over 20 mm. The histologic features of the tumor were consistent with those of SC (Figure 3). Although we confirmed the presence of a negative surgical margin on the frozen sections, the surgical margin was positive in the cartilage of the right Eustachian tube according to the permanent pathological section. Adjuvant chemoradiotherapy was refused by the patient. After 14 months of follow-up, the patient died of distant metastasis.

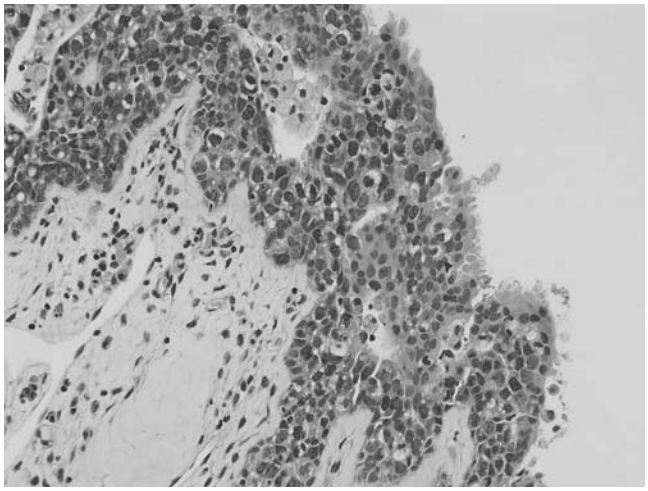

Figure 3. Histology of the mucous membrane at the right maxillary sinus revealed intraepithelial pagetoid spread of the sebaceous carcinoma in case 2 (H&E; × 200). All densely stained cells with a greater nucleus/cytoplasmic (N/C) ratio in the epithelial layer are tumor cells.

Results of immunohistochemistry (HER-2)

No immunoreaction was observed in case 1. However, a positive reaction for HER-2 was observed in the tumor cells from case 2 (Figure 4).

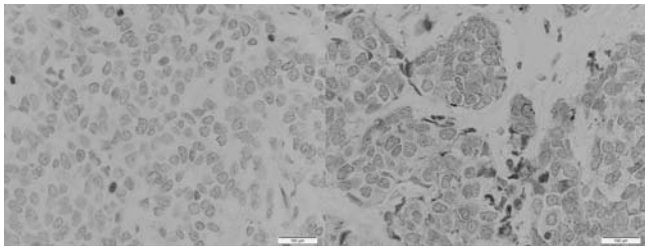

Figure 4. The findings of HER-2 staining for the tumor. (A) No immunostaining for HER-2 was observed in case 1 (x400). (B) The dark stained cell membrane was considered to be immunopositive. Therefore overexpression of HER-2 was observed in more than 10% of the tumor cells in case 2 (x400).

Discussion

Extraocular SC is an uncommon malignancy. Since primary SC of the eyelid is primarily treated by dermatologists, plastic surgeons and ophthalmologists, it is sometimes difficult to make an early diagnosis of recurrence within the nasal cavity.

SC tends to spread within the epithelium (pagetoid invasion)[2] and to manifest as skip lesions. In the current cases, recurrent SC had spread along the nasolacrimal duct in a pagetoid manner. To date, only one case of nasal SC spreading along the nasolacrimal duct has been described in the literature.[3] As only a small number of nasal SC cases have been reported in the literature, the optimal management strategy has not yet been established. The extremely extensive intraepithelial spread of SC observed in the current cases was beyond our expectations, particularly in the first case. The distance from the initial macroscopic margin to the final microscopic margin was quite different in each case. To date, no related reports have focused on this issue.

Dogru et al.[4] suggested that a surgical margin of at least 5 mm should be obtained in patients with eyelid SC. However, this was not adequate in our cases. Erovic et al.[5] reported a high rate of positive resection margins in 46 cases of SC. A possible explanation for these results is that pagetoid invasion may be more extensive than expected with considerable variation among cases.

With respect to surgical resection, an important point of discussion is how to achieve complete resection of the tumor. Preoperative wide margin biopsies may therefore be useful for making an accurate clinical assessment of the extent of the tumor.

In the second case, we were unable to achieve a negative surgical margin using frozen sections. We hypothesize that there may have been a skip lesion close to the surgical margin, which indicates that performing a preoperative wide margin biopsy may not be adequate to evaluate the presence of skip lesions in patients with SC. Clinicians should therefore keep in mind the existence of skip lesions when performing surgery for SC.

It is difficult to detect SC that spreads along the nasolacrimal duct without manifesting mass lesions using imaging modalities. We believe that head and neck surgeons can play an important role in detecting the unique recurrent features of this tumor earlier by conducting follow-up endoscopic studies. In our experience, white submucosal masses should be biopsied to confirm recurrence in such cases. In the current cases, pagetoid invasion spread toward the nasopharynx. There is no reasonable explanation as to why pagetoid

invasion does not spread toward the nares. It was difficult to resect the tumors completely in both of the patients reported in this study. We suggest that the optimal treatment of SC of the nasal cavity can be accomplished by consistently performing preoperative wide margin biopsies and intraoperative examinations of frozen sections and obtaining wide surgical margins of over 20 mm. In addition, since SC is a rare but aggressive form of skin cancer, careful observation is required after surgery.

The paucity of clinical samples has precluded the detailed immunohistochemical analysis of SC. El Sheikh[6] reported that two cases of SC of the skin showed immunopositivity for HER-2. HER-2 is associated with a poor prognosis in some cancers.[7] In our case, the first case was immunonegative. However, case 2, who showed aggressive mucosal invasion and a poor prognosis, had a positive reaction for HER-2. Because our sample size was so small, we could not draw any conclusions regarding whether the expression of HER-2 in SC of the head and neck region is associated with poor prognosis. However, HER-2-positive SC in the head and neck region is likely to exhibit aggressive invasion. A further study on the relationship between HER-2 in the head and neck region and prognosis should be conducted.

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Nothing

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