

A Case of Metastatic Nasopharyngeal Carcinoma in Benign Nasal Polyps

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Abstract

An unusual case of recurrent nasopharyngeal carcinoma occurring within the stroma of benign nasal polyps is described. The patient was primarily treated with radiotherapy at first diagnosis. Two years later, he was diagnosed to have benign nasal polyps and had endoscopic sinus surgery. The recurrence was only diagnosed from histological examination of the polyps.

The necessity for preoperative histological examination of any nasal polyp in patients with a past history of nasopharyngeal carcinoma and the importance of histological examination of all nasal polyps removed at surgery are emphasized.

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Case Report

Our patient was a 39-year-old Chinese man with nasopharyngeal carcinoma (NPC) presenting initially with right upper cervical lymphadenopathy. He was treated primarily with a course of radiotherapy, following which he was examined three monthly and was found to be free of disease in the nasopharynx and the neck. While he was undergoing radiotherapy, he experienced crusting and a chronic thick, yellowish discharge from his nose and nasopharynx. He also experienced numbness on his left cheek, a blocked left ear and left tinnitus. These symptoms persisted even after the course of radiotherapy was completed and never resolved except for the chronic discharge which gradually diminished with daily douching of his nose.

Twenty-four months after his tumour was first diagnosed, the patient experienced a recurrence of his nasal discharge. On endoscopic examination, there was no evidence of recurrence in the nasopharynx. Inspection of both middle meati revealed bilateral nasal polyposis. The polyps were pale, small, and multiple and there was mucopurulent discharge bilaterally. The endoscopic appearances were typical of nasal polyposis with secondary sinusitis. There were no palpable neck nodes.

A diagnosis of nasal polyposis and sinusitis was made and a computed tomographic (CT) scan of the sinuses ordered as part of the preoperative work up for endoscopic sinus surgery (Fig. 1). It showed disease in all sinuses except the left sphenoid. The surgery was per-

formed as in any case of benign polyposis.

Histological examination of the polyps showed multiple fragments of respiratory mucosa with marked stromal oedema associated with a mixed chronic inflammatory infiltrate and eosinophils typical of benign nasal polyps (Fig. 2). Some of the fragments however contained foci of an undifferentiated nasopharyngeal type carcinoma within the oedematous stroma (Figs. 3 & 4).

It therefore became necessary to re-examine the nasopharynx to exclude a recurrence in the primary site. A CT scan of the nasopharynx showed no evidence of a tumour in the nasopharynx (Fig. 5) and "blind" biopsies of both fossae of Rosenmueller were negative for NPC.

The patient was treated with a second course of radiotherapy with an extended field to include both nasal cavities. Six months following the second course of radiotherapy, the nasal polyps recurred and were again, histologically proven to contain NPC. The primary site was still free tumour but, by then, a bone scan showed multiple bony metastases in the thoracic spine and right hip. For this, the patient was treated with a course of chemotherapy.

Discussion

The presence of recurrent NPC in this patient was not considered preoperatively because of the unusual mode of presentation. The endoscopic sinus surgery was done as for benign nasal polyposis. If it had been diagnosed preoperatively, the patient would have been treated

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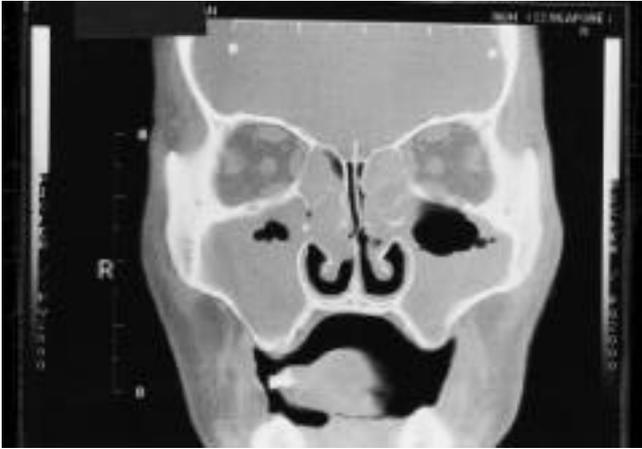


Fig. 1. Preoperative CT scan of the patient showing bilateral ethmoidal and maxillary sinus disease. No bony destruction is present.

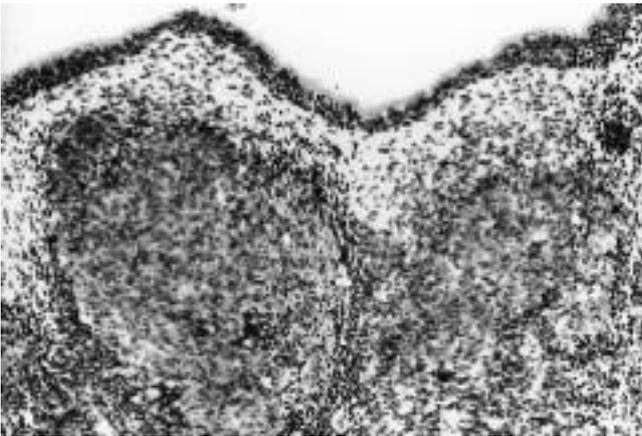


Fig. 3. Foci of an undifferentiated carcinoma are seen within the oedematous stroma. (H & E x 100)

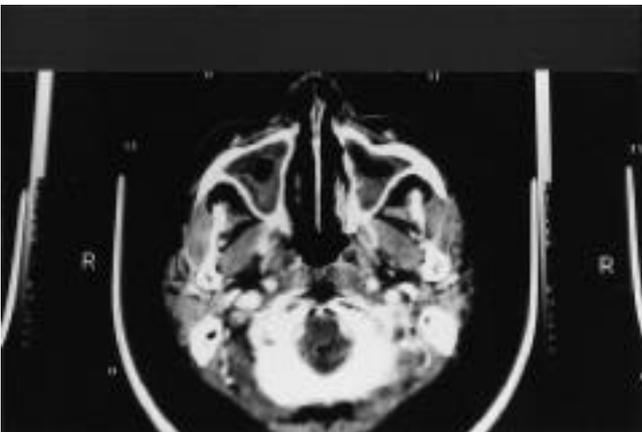


Fig. 5. Postoperative CT scan showing a normal nasopharynx.

with a second course of radiotherapy rather than endoscopic sinus surgery. At most, the patient would have had a polypectomy to obtain tissue for histology. Any residual polyps after radiotherapy could then be removed surgically.

Sham et al¹ in a study of three hundred and seventy-nine patients with NPC, found that forty-seven had

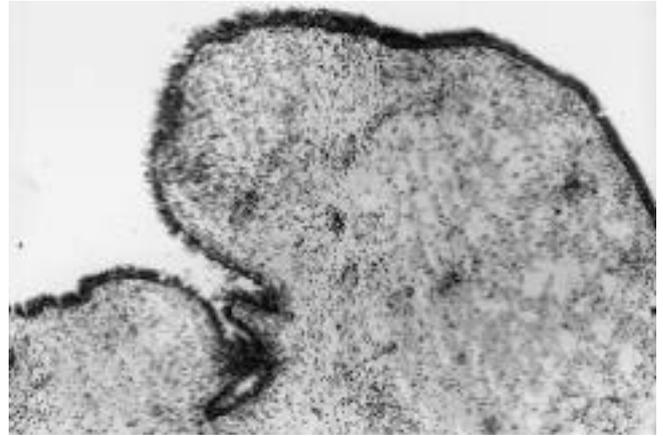


Fig. 2. Nasal polyp: showing marked submucosal oedema with a mixed inflammatory infiltrate. (H & E x 100)

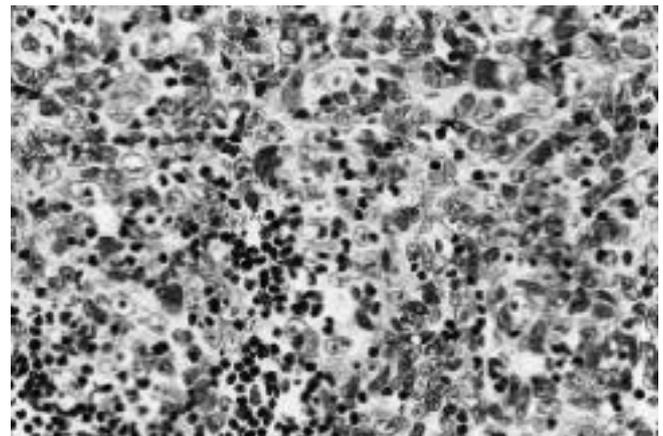


Fig. 4. A high powered detail to show tumour cells with indistinct cell margins, pale vesicular nuclei with prominent nucleoli. The tumour has a syncytial pattern closely admixed with the lymphocytes. (H & E x 400)

tumour recurrence. They presented in three ways: the first group had progressive symptoms, the commonest of which were cranial nerve palsies involving the third to sixth nerves, and ear symptoms. The recurrence in the second group of patients was diagnosed because there was a visible tumour in the nasopharynx on indirect mirror examination. In the third group, the recurrence was detected during the investigation for neck node recurrence.

Our patient did not fall into any of the above categories. Although he experienced paraesthesia of his left cheek, suggesting involvement of the fifth nerve, and a blocked left ear due to middle ear effusion, these symptoms were already present at first diagnosis and were most likely due to his radiotherapy.

The gross appearance of the polyps was deceptively benign and preoperative CT scans did not show any features of malignancy. If NPC is present in the nasal cavity, it is usually from direct extension of a locally advanced tumour. Although preoperative “screening” scans of the sinuses for endoscopic sinus surgery are not

designed to assess the extent of a nasopharyngeal tumour, an advanced tumour should produce some radiological changes in the posterior cuts. Kreel² described the radiological changes of a gradually invading NPC. Superior extension of the tumour results in bony erosion of the skull base, eventually invading the cavernous sinus, producing palsies of the third, fourth and fifth cranial nerves. Such an extensive tumour would have been detected in the more posterior coronal cuts of a "screening" CT scan of the sinuses.

A tumour extending laterally into the parapharyngeal space will result in invasion of the pterygoid muscles and erosion of the pterygoid plates. There may also be destruction of the posterior wall of the maxillary sinus. Posterior extension can involve the great vessels of the neck in the carotid space, destroy the styloid process, the condyles of the atlas and axis. Anteriorly, the tumour can extend into the optic canal, the foramina spinosum and ovale, eventually reaching the middle fossa and temporal lobe.

Since our patient did not show any of the above radiological findings, the presence of NPC in the benign polyps could not have been from direct invasion but were true metastases, probably via small lymphatic or blood vessels.

The commonest site of metastases in NPC is the regional lymph nodes in the neck. Khor et al,³ in an analysis of 352 patients, found that 28.1% developed distant metastases subsequently. Of these 48.5% were bony deposits, 30.3% pulmonary and 29.3% hepatic.

Unusual sites of metastases of NPC have been reported. Khor et al reported 1 patient who had a meta-

static skin nodule on the anterior chest wall. Ghaffarian and Alagheband⁴ reported 4 cases of NPC that involved the soft tissue of the forehead. Allen and Duckworth⁵ reported a case of NPC that metastasized to the periodontium. Their patient also had involvement of the nasal cavity.

Histological examination of the polyps removed in our patient showed features of benign polyps with foci of NPC in the stroma. We believe that our patient is the first reported case of NPC metastasizing to benign nasal polyps bilaterally.

This case illustrates the necessity of obtaining a histological diagnosis of any nasal polyp in patients with a past history of NPC before proceeding with surgery. It also illustrates the importance of histological examination of polyps removed during endoscopic sinus surgery. There is some tissue destruction during removal of nasal polyps with a "hammer" microdebrider and this may make histological examination difficult. Caution should be exercised when using this instrument.

REFERENCES

1. Sham J S, Choy D, Wei W I, Yau C C. The value of clinical follow-up for local nasopharyngeal carcinoma relapse. *Head Neck* 1992; 14:208-17.
2. Kreel L. Imaging. In: van Hasselt C A, Gibb A G, editors. *Nasopharyngeal Carcinoma*. Hong Kong: The Chinese University Press, 1991:105-18.
3. Khor T H, Tan B C, Chua E J, Chia K B. Distant metastases in nasopharyngeal carcinoma. *Clin Radiol* 1978; 29:27-30.
4. Ghaffarian A, Alagheband H. Metastases from nasopharyngeal carcinoma in an unusual site. *Clin Radiol* 1980; 31:359-60.
5. Allen C M, Duckworth J. An unusual presentation of metastatic carcinoma involving the periodontium. *J Periodontol* 1985; 56:422-5.