

Inflammatory pseudotumour of the maxillary sinus mimicking malignancy

T. Takimoto, T. Kathoh, T. Ohmura, M. Kamide, T. Nishimura and R. Umeda

Dept. of O.R.L., School of Medicine, Kanazawa University, Japan

INTRODUCTION

Several inflammatory lesions with a dominant vascular component may develop in the maxillary sinus mucosa. If the lesion of the maxillary sinus is extensive, radiological examination may show resorption of the maxillary bone. It may be clinically mistaken for a more serious condition, particularly a malignancy.

We report a patient with an unusual inflammatory pseudotumour of the maxillary sinus.

CASE REPORT

An 83-year-old man complained of intermittent nasal bleeding and nasal obstruction on the right side for one year.

The past medical history was negative. There was no history of trauma or previous surgery to the right side of the face at any time.

The patient's maxilla was edentulous. Clinical examination revealed a polypoid mass in the middle meatus. There was no cervical lymphadenopathy. Other signs were normal. His blood pressure was 126/90 mmHg; pulse 80/min and regular; body temperature 36.2°C. The following laboratory tests were performed before or after operation, and their results were within normal limits: bleeding time, haemoglobin, total white blood cell count, erythrocyte-sedimentation rate, urinalysis, and complete blood testing (including serum concentrations of immunoglobulin classes G, A, and M). Chest X-ray was also normal. Both the serologic test for syphilis and a Mantoux test (1 : 1000) were negative. Sinus X-ray and CT scan revealed a tumour mass occupying the nasal cavity, maxillary sinus, and pterygoid fossa with extensive destruction of the maxillary bone (Figure 1). Our primary clinical diagnosis was maxillary cancer, but a biopsy of the nasal cavity lesion showed no evidence of a malignant tumour but a massive haematoma and necrosis with a partly haemangiomatous structure (Figure 2), as did repeated biopsies of the maxillary sinus obtained after exploratory

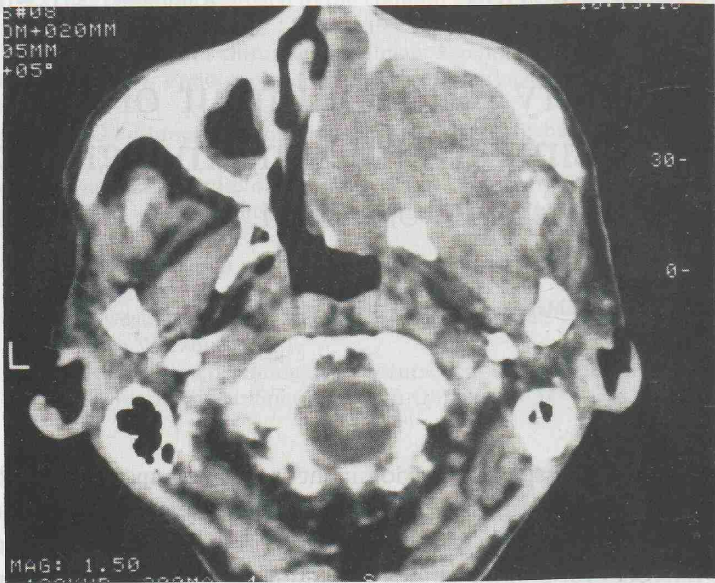


Figure 1. CT scan showing a pseudotumour filling the right antrum and nasal cavity with extensive bone destruction.



Figure 2. Photomicrograph of the pseudotumour showing haematoma and haemangioma-like structure (Hematoxylin and Eosin, $\times 40$).

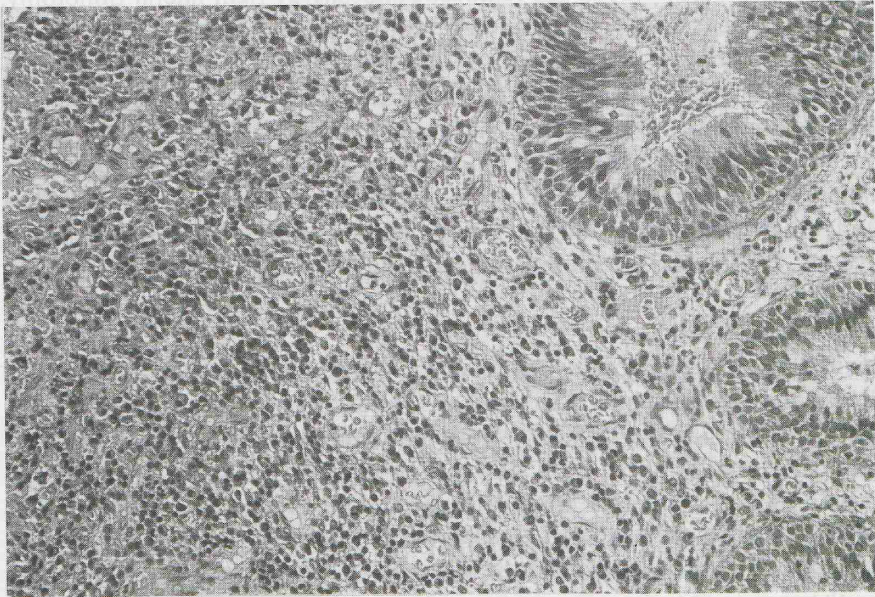


Figure 3. Photomicrograph of the pseudotumour showing proliferating capillaries and chronic inflammatory cells in a partly haemangiomatous structure (Hematoxylin and Eosin, $\times 200$).

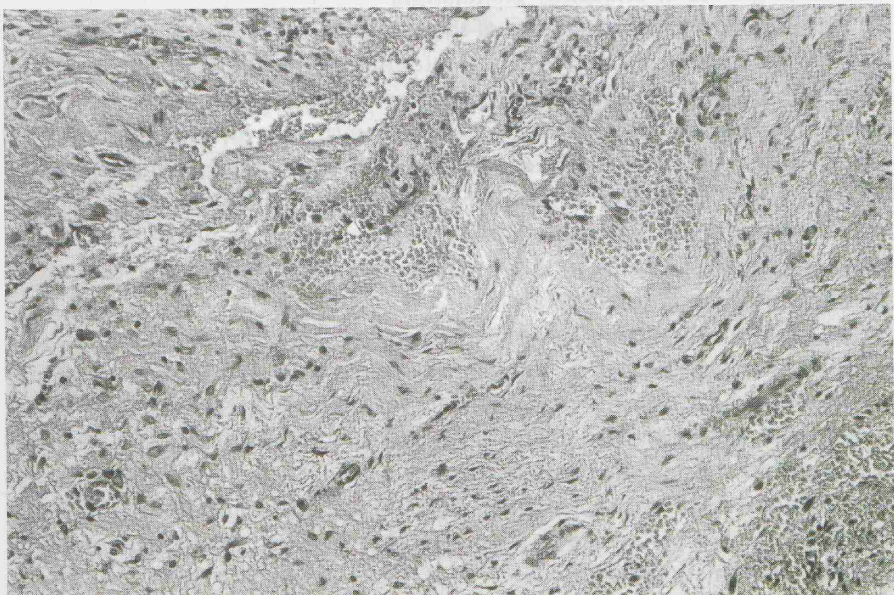


Figure 4. Photomicrograph of a pseudotumour showing accumulation of erythrocytes and hemosiderin, and hyalinization (Hematoxylin and Eosin, $\times 200$).

antrotomy. So, the tumour was removed surgically by right lateral rhinotomy, using a Denker's approach under general anaesthesia. The histopathological examination showed massive necrosis, hyalinization, and proliferating capillaries and chronic inflammatory cells beneath the maxillary sinus mucosa (Figures 3 and 4). No malignant changes could be found. No specific granulomatous changes could also be found. Silver, periodic acid-Schiff or Gram-staining for indication of fungi or bacteria proved negative. Mycotic culture of the fluid, which was taken by antral irrigation, and the necrotic debris did not reveal mycosis. There has been no recurrence for 26 months.

DISCUSSION

An inflammatory pseudotumour of the maxillary sinus with a haemangiomatic picture, massive haematoma and necrosis is described.

The bones forming the maxillary sinus differ completely from the bone structures of other parts of the body. The bony wall surrounding the air spaces and covered by a thin mucosal lining are exposed directly to the outside air. The maxillary bone and mucous membrane act in concert to maintain the physiological state of the sinus wall without this harmonious balance (Taylor, 1988). It would be reasonable to assume that osseous tissue would be affected in various ways by pathologic changes of the mucosal lining. The progression of this process might cause the morbid changes in the bone which easily dispose the bone to erosion or growth of unhealthy granulation.

The etiology and pathophysiology of the maxillary pseudotumour is unknown. However, it suggests a relationship to intermittent bleeding into the maxillary sinus with resultant angiohypotonia, necrosis, fibrosis, and abnormal vascularization following minor trauma or inflammation (Figure 5). The lesion may be either similar or identical to an inflammatory haemangioma. Inflammatory vascular masses may occur in the nasal cavity and paranasal sinuses. In particular, an inflammatory pseudotumour of the maxillary sinus may be larger (Batsakis, 1984). A large and longstanding pseudotumour may induce the erosion or destruction of the maxillary bone wall.

It may be difficult to distinguish such a lesion from a malignant tumour, specific granulomatous diseases (e.g. tuberculosis, sarcoidosis, and Wegener's granuloma), and fungal sinusitis preoperatively because of massive maxillary bone erosion (Noyek and Zizmor, 1980; Washburn et al., 1988). A diagnosis of pseudo-maxillary tumour must be based on histological evidence of haematoma, hyalin degeneration, capillary haemangioma, etc., by exploratory antrotomy after some specific tests are performed to exclude other diseases (malignant tumours, specific inflammations etc.).

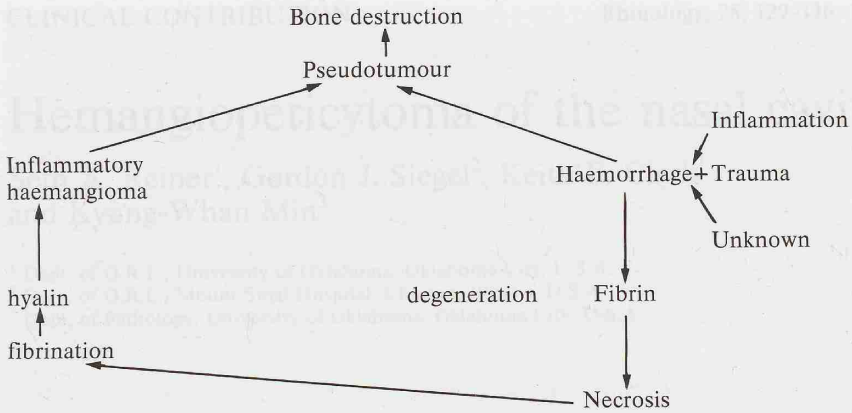


Figure 5. Assumption of maxillary pseudotumour formation.

CONCLUSION

A case of maxillary pseudotumour with massive bone erosion is reported. Histological examination revealed a massive haematoma and necrosis with a partly haemangiomatous picture without any evidence of malignant changes. It was difficult to distinguish such a lesion from malignant tumour.

REFERENCES

1. Batsakis JG. Tumors of the Head and Neck. 2nd edition, Baltimore: Williams and Wilkins Co, 1984; 293-294.
2. Noyek Am, Zizmor J. Radiology of the nose and paranasal sinuses. In: Otolaryngology. English GM ed. vol. 2, chapter 9, Philadelphia; JB Lippincott Co, 1980; 6-10.
3. Taylor M. Physiology of the nose, paranasal sinuses, and nasopharynx. In: Otolaryngology. English GM ed. vol. 2, chapter 3, Philadelphia; JB Lippincott Co, 1988; 44-45.
4. Washburn RG, Kennedy DW, Begley MG, Henderson DK, Bennett JE. Chronic fungal sinusitis in apparently normal hosts. Medicine 1988; 67: 231-247.

T. Takimoto, M.D.
 Department of O.R.L.
 School of Medicine
 Kanazawa University
 13-1 Takaramachi
 Kanazawa 920
 Japan