The Journal of Laryngology and Otology
April 1995, Vol. **109**, pp. 326–327

Nasal tuberculosis – an increasing problem?

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Abstract
Nasal tuberculosis represents a rare manifestation of infection by *Mycobacterium tuberculosis*: a case is presented together with a review of the literature. The correct management is documented, especially the need to treat the patient as if there was a generalized condition, and the problems concerning drug resistance are also considered. The incidence of this disease is rising and its importance must once again be highlighted.

Key words: Tuberculosis, nasal

Introduction

Granulomatous lesions within the nasal cavity may represent either local disease or a manifestation of a systemic disorder; in either situation the differential diagnosis must include tuberculosis. Nasal involvement of this condition was first recorded in Venice by Giovanni Morgagni in 1761 (Morgagni, 1761), but it was not until 1876 that primary nasal disease was described by Clarke in an address to the Pathological Society of London (Clarke, 1876). In the subsequent 118 years only 35 cases of primary nasal tuberculosis have been reported. A further case is presented in this paper, firstly because of its rarity and secondly, and more importantly, as a reminder of the diagnosis since despite modern chemotherapy the incidence of this disease is once again increasing.

Case report

A 71-year-old retired seaman, born in East Africa but of Asian origin, was referred to our Otolaryngology Department by the Ophthalmology Department because watering of his left eye was found to be secondary to complete nasal obstruction. The patient had had a long history of eye disease and had undergone at least two surgical procedures over the last 20 years, one in the UK and one in Australia. No record of nasal disease or of any relevant systemic problems had been recorded at these times. In the late 1980s he had suffered from nasal obstruction and a septoplasty had been performed, after which he had had no further symptoms. No abnormality of the nasal mucosa was reported at the time of surgery.

In 1994 he re-presented to the Department of Ophthalmology with watering in his left eye, having had no symptoms relating to either eye for many years. On examination the nasal cavity was found to be obstructed and inflamed. An associated enlarged cervical lymph node was also noted at the time of presentation and both were biopsied under general anaesthesia. The nasal mucosa was grossly thickened and chronically inflamed with multiple discrete and confluent epithelial granulomas with Langhans giant cells (Figure 1) and areas of caseous necrosis

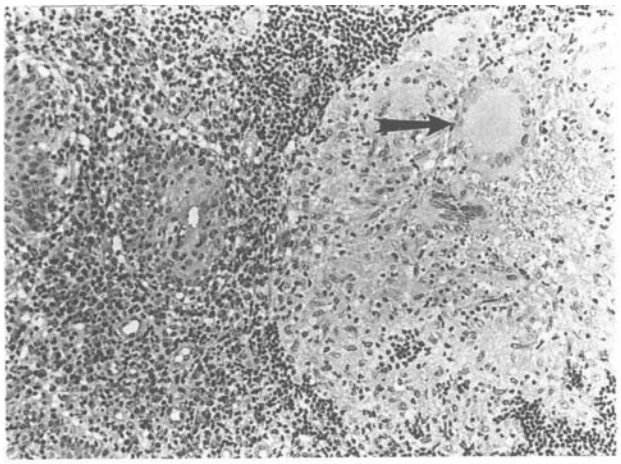


FIG. 1.
Tuberculoid granuloma showing epithelioid cells and Langhans giant cell (arrowed). (H & E: × 125).

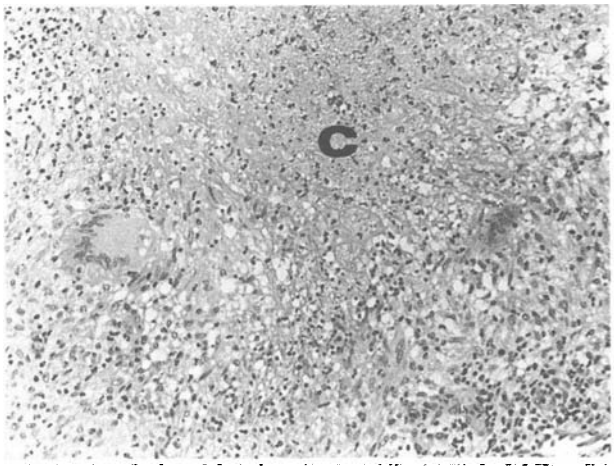


FIG. 2.
Confluent tuberculoid granulomas with caseous necrosis (C). (H & E: × 125).

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Accepted for publication: 18 November 1994.

https://doi.org/10.1017/S002221510013004X Published online by Cambridge University Press

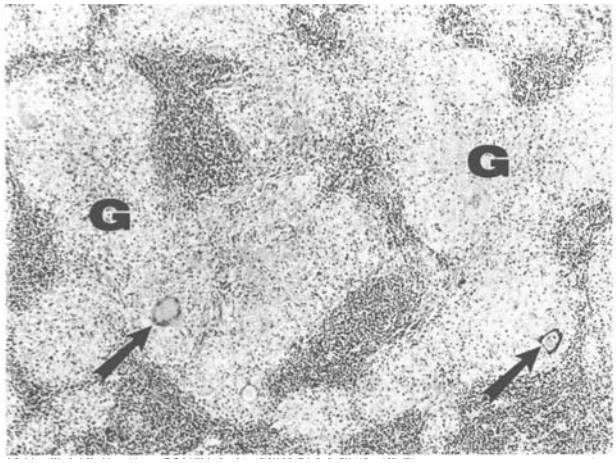


FIG. 3.
Confluent tuberculoid granulomas (G) in cervical lymph node. Langhans giant cells (arrowed). (H & E; × 50).

(Figure 2). Similar features were seen in the enlarged node which was extensively replaced by confluent granulomas showing early caseous necrosis (Figure 3). In both the nasal mucosa and node small numbers of isolated, widely scattered, acid-fast bacilli were identified consistent with a diagnosis of mycobacterial infection, highly suggestive of tuberculosis. The diagnosis was confirmed when *Mycobacteria tuberculosis* was cultured from both these sites. Based on the histological reports a full and formal screening for tuberculosis including chest X-rays and microbiological examination of sputum and urine was undertaken but at no other sites were acid-fast bacilli isolated. Family contact tracing was also carried out but no positive results were obtained. The patient was referred to a chest physician and was commenced on rifampicin and pyrizinamide (the range and dose of these drugs was limited by an idiopathically raised alanine aminotransferase (ALT) enzyme shown by his liver function test).

He has been followed up as an outpatient in the chest clinic and good progress has been made.

Discussion

Primary nasal tuberculosis is extremely rare; indeed any nasal involvement is uncommon but in over 75 per cent of cases represents a manifestation of generalized disease (Waldman *et al.*, 1981). It is seen predominantly in females and usually in the elderly (Friedmann, 1971) and these lesions tend to occur on the lateral nasal wall. Primary nasal disease is not thought to be particularly contagious, but contact tracing is undertaken as part of the routine management. The drug therapy for nasal disease is the same as for the generalized condition. This follows the guidelines of the Joint Tuberculosis Committee (Ormerod, 1994) and should be undertaken by, or at least in conjunction with, a chest physician. This is especially relevant as the rate of drug-resistant mycobacteria is rising. In New York for example, 33 per cent of new isolates are resistant to at least one drug (Frieden *et al.*, 1993). In the UK, however, the level is much lower and only approximately two per cent of new cases are resistant, but the potential for future problems exists.

Tuberculosis has featured prominently in medical history, but it was not until this century that significant inroads into its treatment were finally successful. As a result of better living conditions and drug therapy the incidence has declined in the UK by 10 per cent per annum in the 60s and early 70s, falling to five per cent per annum in the late 70s and 80s. In 1987, however, the decrease stopped and since that date the incidence has risen (Springett *et al.*, 1988). Initially the rise was blamed on the emerging problems relating to human immunodeficiency virus (HIV) infection, but it is now recognized to be multifactorial in origin, including socioeconomic deprivation, immigation and previous under reporting (Ormerod, 1994). HIV must however be considered in all cases of tuberculosis as between five and 10 per cent of immunocompromised patients are infected by *Mycobacteria spp.* (Helbert *et al.*, 1990).

Conclusions

An extremely rare manifestation of tuberculosis has been presented. The case highlights the need for vigilance in order to make the diagnosis as the incidence is once again increasing. The need for a multispeciality approach is recommended in order that any generalized disease can be managed and that the correct combination drug therapy commenced in view of the emergence of drug-resistant mycobacteria.

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https://doi.org/10.1017/S002221510013004X Published online by Cambridge University Press