

## Clinical Records

# Two cases of otolaryngeal tuberculosis in a Danish married couple

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### Abstract

Two cases of otolaryngeal tuberculosis which appeared in a married couple are described.

**Key words:** Tuberculosis; Larynx; Otitis media

### Introduction

In Western Europe pulmonary tuberculosis has declined dramatically during the last three decades. When a disease becomes rare the danger that it will be overlooked becomes greater. Extrapulmonary tuberculosis can be particularly difficult to diagnose. Manifestations can simulate a multitude of disease processes and can involve potentially every organ system (Baydur, 1977). A few years ago when tuberculosis was a common disease, routine contact tracing was performed in the majority of cases. Contact tracing may not now be carried out in every case but it should still be borne in mind that tuberculosis is an infectious disease that could affect several people in the same household.

We report two unusual manifestations of tuberculosis that appeared in a Danish married couple i.e. laryngeal tuberculosis and tuberculosis of the middle ear.

### Case reports

#### Case 1

The patient was an 86-year-old man with a two-month history of hoarseness and dysphagia. He had had chronic bronchitis for several years with a productive cough which was no worse than usual. His past medical history was otherwise unremarkable: in particular he had never had tuberculosis.

Routine blood tests revealed anaemia (Hb: 7.6 mmol/l) whilst white blood cell count, erythrocyte sedimentation rate and chest X-ray were normal.

On physical examination his voice was almost aphonic and hoarse. Indirect laryngoscopy revealed oedema of the supraglottic regions and over the vocal folds, and there was mucopus in the subglottic region and trachea. Laryngo-tracheitis was suspected and the patient was treated with antibiotics and inhalation of acetylcystein. As this treatment had only a limited effect, laryngoscopy was repeated after two months. The oedema had disappeared and the mucosa over the vocal folds showed numerous fine

granules. Biopsies were taken and histological examination was suspicious of carcinoma. There were a few granuloma-like formations, and giant cells were seen. No acid-fast organisms were found and it was concluded that the pathological findings were probably due to carcinoma and nonspecific inflammation.

The patient was informed of the cancer diagnosis and referred to an oncology department. Since the histological examination was not definite a new diagnostic laryngoscopy was planned, but only carried out after some delay due to a cerebral attack. Laryngoscopy now revealed tumour-like formations over both vocal folds and in the anterior commissure. Histological examination was strongly suspicious of tuberculosis with several partly caseous epitheloid granulomas with Langhans giant cells. Ziehl-Nielsen staining showed no acid-fast bacilli. Sputum showed acid-fast bacilli. After treatment with antituberculous drugs was started his general condition quickly improved and five weeks later all pathological findings had disappeared on laryngoscopy.

During the next six months his general condition became poor and antituberculous treatment was stopped. A few days later the patient died due to gangrene of the left leg.

#### Case 2

A 78-year-old woman (married to the patient in *Case 1*) presented with a three-month history of discharge from her left ear. She had been treated with several courses of oral antibiotics without response. Two months before referral, her husband had started treatment for laryngeal tuberculosis. Her general condition was good, routine blood tests and her chest X-ray were normal. Otoscopy led to suspicion of a cholesteatoma and an operation (combined approach) was planned.

Three weeks later the patient underwent surgery. An abundance of granulation and necrotic tissue was found within the middle ear. There were no signs of a cholesteatoma. There was almost a total collapse of the

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eardrum but no tympanoplasty was undertaken. During the following months the patient was treated with HTP-swabs (swabs containing hydrocortisone, terramycin and polymyxin-B) with only a small effect. A CT scan led to the suspicion of a cholesteatoma or chronic inflammatory disease in the left mastoid cavity. A second operation (combined approach) revealed granulation and necrotic tissue throughout the middle ear and in the mastoid. There was a total collapse of the pars tensa of the tympanic membrane. A canal-down operation was performed without tympanoplasty. Histological examination of biopsies revealed granulomas with caseous necrosis and giant cells. No acid-fast bacilli were found either by direct microscopy or culture.

The treatment with swabs continued and all swabs were sent for culture. Eventually there was a positive culture from a swab and the patient was started on the usual antituberculous treatment. A month later there was no longer any drainage from the ear. The treatment was continued for eight months. Two years after treatment finished there was no sign of any relapse.

### Discussion

In the pre-chemotherapy era tuberculosis of the larynx was strongly associated with advanced pulmonary tuberculosis probably due to direct spread of the tubercle bacilli via the airway (Bailey and Windle-Taylor, 1981; Hunter and Millar, 1981). Laryngeal tuberculosis is still almost invariably associated with pulmonary tuberculosis but the spread of the bacilli is now supposed to be mainly via lymphatic and haematogeneous routes (Levenson *et al.*, 1984; Soda *et al.*, 1989). In most previously reported cases concurrent pulmonary tuberculosis is reported and in the great majority of cases there are chest X-rays suggestive of tuberculosis (Soda *et al.*, 1989). It is not unusual for the laryngoscopic findings to suggest the diagnosis of laryngeal carcinoma (Held *et al.*, 1991). Apart from the normal chest X-ray the clinical presentation of the patients described here is typical (Soda *et al.*, 1989). Laryngeal tuberculosis used to be considered as highly infective. This may no longer be the case, but still many authors suggest that patients should be isolated in hospital or at home once the diagnosis is made and treatment is started (Bailey and Windle-Taylor, 1981; Kempf, 1991).

In contrast to laryngeal tuberculosis, tuberculous otitis media appears without any sign of concomitant pulmonary disease in about 60 per cent of cases (Skolnik *et al.*, 1986). The most frequent symptom is painless otorrhoea. Peripheral facial palsy has been reported in about 20 per cent of previously reported cases (Skolnik *et al.*, 1986). The

frequency of peripheral facial palsy in non-tuberculous chronic otitis media is about one per cent (Chandler and May, 1986). Diagnostic delay seems to be a feature of many cases (Skolnik *et al.*, 1986). This is not surprising in view of the nonspecific symptoms. The possibility of tuberculous otitis media should however be borne in mind since the prognosis with treatment is very good. On the other hand, overlooking the diagnosis can lead to complete hearing loss (Anderson and Stevens, 1981).

The appearance of two unusual manifestations of tuberculosis in a Danish married couple is extraordinary. We can only guess at the infectious routes. Since laryngeal tuberculosis is considered highly infective we suppose that *Case 1* infected *Case 2*, possibly via direct spread through the eustachian tube.

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