Chest wall tuberculosis involving the second rib in a young Ethiopian woman

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CASE REPORT

A 20-year-old Ethiopian woman presented to the orthopaedic clinic with a 6-week history of a painful mass on the anterior aspect of her chest wall above the left breast. It appeared suddenly and increased in size. There was a history of anorexia and weight loss but no cough, haemoptysis, night sweats nor fever. There was no past medical history or family history. She had been resident in the UK for 2 years.

On examination the patient appeared well. She was apyrexial with a normal pulse rate and blood pressure. There was a 6 cm x 4 cm swelling on the anterior chest wall at the level of the first and second ribs. It was firm, warm and tender. It was fixed deeply; the overlying skin was normal although it was hot. There was no associated lymphadenopathy. She had a mild hypochromic microcytic anaemia, normal white cell count and differential but the erythrocyte sedimentation rate was elevated to 54 mm/hr and C-reactive protein was 27 mg/litre. Her chest X-ray was reported as normal. Ultrasound showed an echo-poor septated area within which there were echogenic areas. In addition, there was destruction of the anterior quarter of the first rib with erosion of the superior border of the second rib. A computed tomography scan revealed a soft tissue mass with associated rib involvement (*Figure 1*). In addition, there was a subcarinal calcified lymph node but there was no parenchymal pathology.

In view of the rapid progression, she was admitted for urgent biopsy. Following incisional biopsy, tissue was taken for histopathology and microbiology. Histology confirmed the diagnosis of tuberculosis. Culture grew a light growth of *Mycobacterium tuberculosis* that was sensitive. She was commenced on quadruple therapy.

At 6-month follow up, symptoms had settled, the swelling had subsided and her inflammatory markers were all normal.

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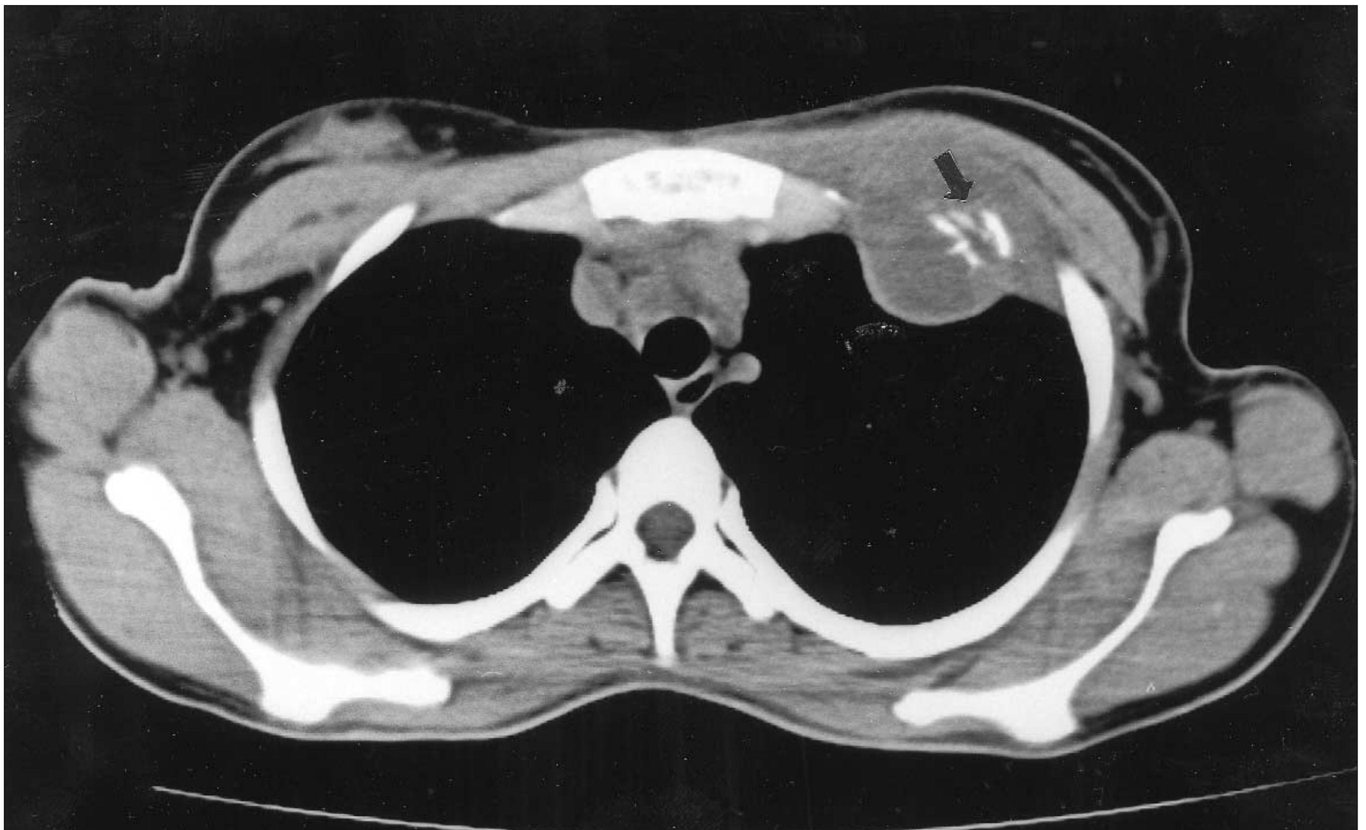
INTRODUCTION

In recent years there has been a significant increase in the incidence of tuberculosis in the UK. In the decade 1983–1992 the notification rate doubled in the London borough of Lambeth from 30:100 000 to 51:100 000 (Barkham et al, 1995). Extrapulmonary tuberculosis is less common; skeletal involvement occurs rarely and accounts for only 2.6% of all

Figure 1. Computed tomography scan showing a soft tissue mass involving and destroying the anterior aspect of the second rib. The mass can be seen to extend subpleurally and into the subcutaneous tissues deep to and displacing the pectoralis major muscle.



cases (Enarson et al, 1980) and the rib is a particularly rare site (Newton et al, 1983; Ip et al, 1989). This article presents a case and reviews the literature.

DISCUSSION

Tuberculosis of the rib accounts for less than 0.1% of hospital admissions for tuberculosis and even then rib destruction is seldom seen (Tatelman and Drouillard, 1953). Most cases presenting with rib involvement have a history of tuberculosis and a large proportion have concomitant active pulmonary involvement (Lee et al, 1993; Faure et al, 1998). In this case, there was no history of tuberculosis, nor were there signs of active pulmonary involvement. Although tuberculosis was a differential diagnosis, in view of the patient's sub-Saharan origins, the signs and symptoms were suggestive of a malignant bone or possibly soft tissue tumour.

Review of the literature showed that in the few cases where there was tuberculosis with rib involvement, the patients presented with a history of fever, haemoptysis and weight loss (Ip et al, 1989; Chang et al, 1992; Hanania and Hoffstein, 1993) and had signs on chest radiographs or computed tomography scan indicative of tuberculosis. The only positive finding in this case was the calcified subcarinal lymph node.

Biopsy confirmed the diagnosis. It is worth emphasizing that in cases where the diagnosis is in doubt, tissue must be taken for both histology and microbiology. Interestingly, she had an incisional biopsy. Needle biopsy in cases of tuberculosis have been reported as positive in as few as 27% of cases (Faure et al, 1998), making this investigation a less reliable option. HM

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In the Public's View...

From awake and screaming to awake and cooing

Earlier in the year, Channel Five showed us a live caesarean section. The operation was the central feature of a programme about modern surgical techniques. In 2000, the presenter of the programme, Sheena MacDonald, was hit by a police car and horrifically injured. She owes her life to the NHS, and owes the fact that you can scarcely tell she had such an accident to the skill of her surgeon. She was not the right person to present a programme about surgery at a time when we are trying to demystify medicine and take doctors off pedestals.

'Some surgeons can earn up to £250 000 a year', she bubbled confusingly: even an A+ doesn't net that much, and private practice can net much more. 'And they're worth every penny!' she continued, although I don't suppose Rodney Ledward's patients would have agreed. The programme, with its breathless skip through subspecialties, was superficial and poor.

Dr Phil Hammond, on the other hand, is adept at demystifying medicine and not so much knocking doctors off pedestals as trampling them in the dirt. He was not the right person to present a serious history of anaesthesia (*Scream! The history of anaesthetics*. Channel Five, 9 June), although the programme worked pretty well.

We started in the days of 28-second amputations, with patients awake in unbelievable agony. Hammond's cynical delivery suited these early days of surgery but, as anaesthetist Dr David Wilkinson said, Liston must have been an extremely skilled surgeon to operate as quickly as he did. Wilkinson, who has an interest in the history of anaesthesia, made a large and excellent contribution to the programme. Perhaps he should have presented it.

From ether and nitrous oxide, via Queen Victoria using chloroform in childbirth, we came to the more modern inhalational agents; and from wireframe masks we came to electronic anaesthetic machines. These progressions were well described; so was the introduction of arrow poisons as neuromuscular blocking agents. The development of local anaesthesia was dealt with less well: not enough distinction was made between the two forms of anaesthesia.

The most startling omission was thiopentone, which brought quick and easy intravenous induction to replace slow and sometimes fraught inhalational induction. Coming more up to date, the problem of awareness under anaesthesia was introduced with the obligatory personal horror story, a poor explanation of how this might happen, and the incorrect solution that every hospital should monitor brain function.

The programme finished as it had begun: a patient having an operation while fully conscious. This time it was a caesarean section (not the one previously broadcast live), and the mother did not feel a thing. There is no doubt that a section under effective spinal anaesthesia is one of the most rewarding aspects of anaesthetic practice (although, as obstetric anaesthetist Dr Wyn Davies said, 'They don't always go so smoothly'). Even Phil Hammond couldn't be cynical. It's true: every baby born is a thing of wonder, and everyone smiles. HM

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