

Primary osteomyelitis of sternum

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Primary sternal osteomyelitis is an uncommon entity. Since Wilensky's review of 24 published cases in 1926, only a few more cases have been reported. The condition warrants prompt recognition and surgical treatment in view of the risk of serious morbidity and mortality.

Case report

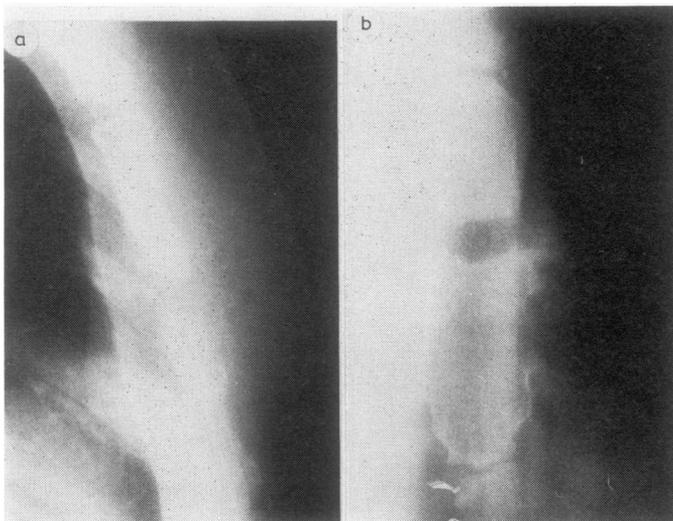
One week after bruising his left chest, a 56-year-old man was admitted to hospital complaining of fever and chest discomfort. He had tenderness over the left eighth and ninth ribs in the posterior axillary line. His white cell count was $12 \times 10^9/l$ with a shift to the left. Chest radiographs showed fractures of the left eighth and ninth ribs. The next day his temperature was 39.4°C , he was experiencing chills and prostration, and his chest radiograph suggested left basal pneumonia. He was treated with cephalothin while the result of a blood culture was awaited. *Staphylococcus aureus* was isolated, and he was started on methicillin, 2 g a day in divided doses, for two weeks. Fever persisted, and the patient then developed pain in the lower half of the sternum. In the third week he developed a 6 cm area of inflammation over the sternum. On a smear from the aspirate of this area, a few Gram-positive cocci were seen, but none grew on culture. The pain was treated by local warm compresses. Radiography and tomography confirmed the clinical impression of

osteomyelitis of the sternum (figure). A week after methicillin was stopped the abscess over the sternum ruptured. The sinus was explored, and all the necrotic tissue was curetted. The wound was packed with gauze in povidone-iodine solution. The lesion healed completely in the eighth week.

Discussion

Primary sternal osteomyelitis is very rare. The secondary variety usually follows chest trauma or thoracic operations. Costochondritis is a usual accompaniment (Culliford *et al*, 1976; Robicsek *et al*, 1977). The infecting organism is usually *S aureus* or *Pseudomonas pyocyanea*, and this reaches the sternum either from a contiguous infection or via the blood stream. Unsterile injections by heroin addicts may be responsible for a few cases of primary infection (Mandal *et al*, 1973). Untreated, the condition may become chronic and lead to mediastinitis or to empyema formation. Persistent pain and local tenderness should alert the doctor to the possibility of sternal osteomyelitis, which can be confirmed by radiography, including tomography, and radionuclide scanning with ^{67}Ga or $^{99\text{m}}\text{Tc}$.

Although in an early case antibiotic treatment may lead to resolution, surgical treatment will usually be necessary. This should consist of curettage of all the necrotic tissue, with preservation of the posterior peri-



(a) Lateral view of sternum showing destruction of lower half of body and presternal subcutaneous air bubbles and (b) tomogram showing osteolytic activity.

osteum if possible. The wound is then allowed to granulate. Irrigation with antibiotic or antiseptic solutions is useful if a sloughing cavity persists.

References

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