DENSE BONE ISLANDS IN RIBS

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Introduction

Small, discrete, dense shadows evident within some long bones on radiological examination are well recognized and are commonly referred to as "osteomas," "dense-bone islands" or merely "marks." The occurrence of such lesions in ribs, although less common, is recognized by radiologists (Simon 1962; Shanks and Kerley 1962). Nevertheless, we have found that chest physicians and surgeons of wide experience have not always been familiar with the condition. In these circumstances it was decided to resect a portion of rib containing one of these lesions in order to determine its exact nature.

It is the purpose of this paper to report this case together with six others that showed similar radiological appearances.

Case Details

The seven cases reported were seen in the course of three years' chest hospital practice in the Army during which time radiological examination of approximately 3,000 persons was carried out. The age of the patients ranged from 20 to 46 years; six were male and one female (the approximate sex ratio of patients referred to that hospital). One of the patients was English, one Irish, one Belgian, one Singhalese, one Cypriot, one Malay and one Gurkha.

In two instances the rib shadow was the only abnormality present, and was the reason for their referral to hospital. Of the other patients three had proved pulmonary tuberculosis, another had a pleural effusion, and the remaining patient was admitted with an empyema thoracis which had developed following surgical relief of large bowel obstruction occurring within a diaphragmatic hernia.

In no case were there symptoms referable to the rib lesion, a history of significant local trauma, or evidence of any other skeletal abnormality. In one patient previous chest radiographs showed the lesion to have been unchanged for two years.

The appearance of the rib shadow was the same in all cases; there was a dense, circumscribed elliptical shadow with its long axis in the same direction as that of the ribs involved. The rib itself otherwise appeared normal with no evidence of distortion of its contours (Fig. 1). Apart from the P.A. radiograph the investigations performed with regard to the rib shadows were screening and tomography. Of these, tomography in the postero-anterior phase was the more informative procedure and demonstrated well the abnormal shadow and its location within the rib (Fig. 2). Diagnostic artificial pneumothorax was used in only one case since the appearances on tomography were definite and characteristic. The affected portion of rib (Fig. 3) was resected from one patient. The histological appearance was that of a compact osteoma (Fig. 4).
Comment

There can be little doubt that such rib osteomas are in themselves of little consequence; their importance lies in the fact that they can be mistaken for something else. Of the cases reported here the lesion had been initially described by the referring hospital as a "pleural plaque" in one, tuberculosis of the lung in another, and as a "probable sclerosing secondary deposit" in a third.

If the condition is thought of, it may readily be confirmed by tomography and screening, and the patient thereby saved unnecessary anxiety.

Summary

Seven patients in whom there was a discrete dense shadow visible in a rib on a chest radiograph are described. In one case the affected part of the rib was resected and examined; the lesion proved to be a compact osteoma.

The only importance of the condition derives from the possibility of mistaking the radiological appearance for something more serious.

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