NORMAL VARIATIONS IN RADIOGRAPHS OF THE CLAVICLE:
BRIEF REPORT

N. J. TREBLE

The clavicle, being subcutaneous, is easily examined and presents a tempting target for biopsy. This may be of both diagnostic and therapeutic value, but on occasion normal anatomical variations may lead to unnecessary operations. Two such cases are presented.

Case 1. A fit 28-year-old man was seen two days after a fall, complaining of pain and tenderness in the region of the sternoclavicular joint. A plain radiograph showed an apparently loculated lytic lesion at the medial end of the clavicle; this was confirmed by tomography (Fig. 1). Pain persisted and six weeks later an open biopsy revealed normal bone. A window through rather thin cortex revealed cancellous bone which was histologically normal.

Case 2. An 11-year-old girl felt the insidious onset of pain around the left shoulder. Clinical examination was normal but radiographs demonstrated a sclerotic area with a lytic centre in the superior cortex of the middle third of the clavicle (Fig. 2). This was reported to be a normal variation and no treatment was advised. Six months later symptoms had settled and further radiographs were unchanged.

Discussion. Less than 0.5% of primary bone tumours arise in the clavicle but of these 75% are malignant (Dahlin 1978; Klein et al. 1979). Infection and metastatic deposits are relatively common, and any suspicious lesion requires a positive diagnosis. But before exploration for a sinister radiographic appearance normal variation must be considered.

In Case 1, the rhomboid fossa, an inconstant feature at the medial end of the clavicle, represents the site of attachment of the costoclavicular or rhomboid ligament. It has been described in radiological journals (Köhler and Zimmer 1968) but has received little attention in the orthopaedic literature. It is rarely obvious on radiographs but when it is well defined it can resemble a destructive bone tumour. At the lateral end of the clavicle the attachment of the coracoclavicular ligament may be evident as an elevation of the bone surface which may simulate periostitis or callus formation.

In Case 2 a supraclavicular nerve passed through the bone. Papadatos (1980) has shown that this may occur in 4% of patients, usually in the central third of the bone but occasionally towards its lateral end. These intrasosseous canals are generally not visible radiographically, but when they are obvious, the lumen of the canal is surrounded by a sclerotic cortical margin which looks like an osteoid osteoma. Only one such osteoma of the clavicle has ever been reported.

The clavicle is not an uncommon site for serious pathology but it is important to exclude normal variations before proceeding to open biopsy.

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REFERENCES


