TENDINITIS OF THE PECTORALIS MAJOR INSERTION WITH HUMERAL LESIONS

A REPORT OF TWO CASES

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Two patients presented with pain in the arm and a radiographic lesion of the upper humerus which warranted surgical exploration and excision biopsy. In both cases the pathology was inflammatory and involved the insertion of pectoralis major. Tendinitis of the pectoralis major with an associated lesion of the humerus has not previously been described.

Two patients presented with radiological appearances in the upper humeral shaft which raised the possibility of malignancy. Both lesions were explored and found to be benign. They occurred at the site of insertion of the pectoralis major tendon and were associated with subperiosteal new bone formation. The first patient had a large calcific deposit at the site, whilst the second had degenerative tendinitis with rupture of some fibres. This had produced reaction within the tendon and adjacent bone. Neither tendinitis of pectoralis major nor reactive humeral lesions in association with the insertion of this muscle have, to my knowledge, been previously reported.

CASE REPORTS

Case 1. A 48-year-old woman presented with pain in the right upper arm and shoulder of two weeks duration. She appeared well but was mildly pyrexial (37.5°C). Systemic examination was negative, but there was some restriction of shoulder movements by pain and she had a diffuse, firm and tender swelling of the upper arm.

Radiographs revealed a disturbing appearance suggestive of a parosteal osteosarcoma (Fig. 1). Her sedimentation rate was 25 mm/hour, her white cell count was 12.1 × 10⁹ and blood biochemistry was normal. A bone scan showed increased uptake in the upper third of the right humerus but was otherwise normal. A CT scan confirmed a calcifying mass extending out from the anteromedial aspect of the humerus.

During investigation the shoulder pain resolved and a full range of movement returned. Exploration was performed through a Henry approach, revealing a fleshy, partly cystic swelling involving the insertion of pectoralis major. Wide excision was performed including the pectoralis major tendon and some anterior fibres of deltoid together with a large block of cortical bone. The medullary canal was thought to contain mucinous material which was curetted and sent separately for investigation.

Histological examination revealed no evidence of malignancy and no organisms were identified or cultured. Within the tendinous insertion was a multilocular cyst with a wall of fibroblastic tissue. This was lined by macrophages and many multinucleate foreign-body type giant cells which appeared to be reacting to non-refractile, granular, calcified debris and laminated, calcified nodules resembling psammoma bodies (Fig. 2). This tissue extended a short distance into the superficial humeral cortex where it had produced a small area of bone resorption. Reactive subperiosteal new bone had formed on the surface of the adjacent cortex. The medullary specimen consisted of normal haemopoietic marrow.

Case 2. This patient was a 35-year-old woman who played tennis and golf. For many years she had intermittent discomfort in her right arm during physical activity such as sport and knitting. When, on one occasion, it failed to settle, she was referred for a radiograph which showed the lesion seen in Figure 3. She had a full range of shoulder movement.

Investigations, including sedimentation rate, full blood count, blood biochemistry and protein electropho-
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Case 1. Figure 1 - Radiograph showing juxta-cortical soft tissue calcification with subperiosteal new bone formation at the insertion of the tendon of pectoralis major. Figure 2a - Calcified granules are seen in the lumen of the cyst-like lesion. The fibrous wall contains a marked foreign-body giant cell reaction around larger calcified deposits (×100). Figure 2b - Higher magnification shows (arrow) a laminated focus of calcification (psammoma body) with some adjacent granulation tissue containing giant cells (×200).

Case 2. Figure 3 - Radiograph showing the lytic lesion in the humeral cortex. Figure 4a - Granulation tissue with giant cells abuts on strands of poorly cellular chondroid tendon (×150). Figure 4b - Normal tendon on the right is adjacent to a reactive, hypercellular and vascular area of degeneration (×150).

Histology revealed severe degeneration in one part of the tendon with hyaline and metaplastic chondroid change. In some places, practically acellular fibres appeared to have ruptured; these were surrounded by giant cells and granulation tissue (Fig. 4a). In the more normal part of the tendon there were focal areas of reactive fibroblastic proliferation with increased cellularity and vascularity (Fig. 4b). The cortical fragment showed reactive proliferation of subperiosteal woven bone with some cartilage. The biopsy included a tiny piece of dead muscle with a little powdering of calcification. These appearances suggested that a degenerative tendinitis had been followed by rupture of tendon and muscle fibres. The reparative reaction had elicited subperiosteal new bone formation.
DISCUSSION

Although its exact pathogenesis is uncertain it is generally considered that in most cases of calcific tendinitis, calcification follows local degenerative changes within the tendon. Such changes may occur in any tendon, but are seen most often in supraspinatus, giving a clinical picture which varies considerably in its severity, and a characteristic radiographic appearance. In some cases there is local rarefaction of the bone of the greater tuberosity; this may occasionally cause concern as to its pathogenesis.

The two cases reported here show changes at the pectoralis major insertion which are similar to those sometimes seen in supraspinatus tendinitis. The first case was more florid than the second in respect of clinical presentation, radiographs and histology. In neither case did radiographic changes extend deep to the cortex. The differences in histological appearance (Figs 2 and 4) did not appear to indicate differences in underlying aetiology.

These two cases are reported to draw attention to the syndrome of pectoralis major tendinitis and its accompanying reactive bony lesion. This may be useful in managing similar cases, but biopsy may still be appropriate if there is suspicion of malignancy on clinical or radiographic grounds.

The author is indebted to Dr M. E. Catto for her advice on the pathological aspects of this paper and would also like to thank Mr James McLauchlan and Mr I. C. M. Gray for permission to report their cases.

No benefits in any form have been received or will be received from a commercial party related directly or indirectly to the subject of this article.