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PROMINENT RADIAL TUBERCLE CAUSING LIMITED PRONATION: BRIEF REPORT

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We describe a patient whose symptoms mimicked those of tennis elbow (radial epicondylitis). She remained undiagnosed and unsuccessfully treated for many years, but once the correct diagnosis of enlargement of the radial tuberosity was established a simple operation relieved her symptoms.

Case report. In 1973 a 42-year-old woman sought help for a slowly progressing ache in her right elbow. There was

no history of trauma. The pain was aggravated by exercise but absent at rest. There was slight tenderness over the lateral epicondyle but movements were full. Pain could be provoked by forced pronation and palmarflexion of the wrist. She was thought to have a tennis elbow (radial epicondylitis) and was treated with analgesics and periods of rest which proved adequate for a time.

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Figure 1 - The right radial tubercle is enlarged and irregular. Figures 2 and 3 - CT scans of the affected right elbow and the normal left elbow in pronation. Figure 4 - Three years after operation there is solid union.

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Over the years, however, her symptoms grew worse and pronation became increasingly restricted so that, by 1982, it was only 5°. She was a post-office clerk but it was almost impossible for her to write or even to use an ordinary calculator. Her pronation was not improved by local anaesthetic injection. Her radiographs had been considered normal, but new films taken a year later

showed that the right radial tubercle was larger than the left and looked irregular (Fig. 1). A CT scan revealed bony contact between the radial tubercle and the ulna when the forearm was brought into a few degrees of pronation (Fig. 2) and further pronation was impossible; in the left elbow (Fig. 3) pronation was unimpeded.

An osteotomy of the biceps insertion was performed and a 5 mm thick slice of the radial tubercle removed. The biceps tendon insertion was then re-attached with a small screw. This relieved the pain but pronation was still restricted until a little more bone was excised three months later. Since then she has been followed up for three years and has had no symptoms of any sort. She has a full range of pronation and the radiographs show solid

union of the former osteotomy (Fig. 4). A fresh CT scan showed no contact between the radial tuberosity and the ulna.

Discussion. As far as we know, the condition described has not been reported previously and we can only speculate as to the cause of the enlargement of the radial tubercle. It was clearly not congenital, microscopically there was no suspicion of neoplasia, and she denied any trauma. Her job, however, puts great demands on forearm rotation, which may be repeated several hundred or even thousands of times a day. It could be that this repeated movement induced a stress reaction of the biceps tendon insertion with resulting hyperplasia.