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Distal biceps tendon disorder caused by bone spur of radial tubercle : A series of eight cases

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Introduction and Background

We report eight cases of distal biceps tendon rupture or partial rupture associated with bone spurs around the radial tuberosity.

Material and Method

We reviewed eight patients who underwent surgery for distal biceps tendon rupture or partial rupture caused by a radial tubercle bone spur. Preoperative clinical findings, characteristics of the bone spur, intraoperative findings, and postoperative outcomes were evaluated. Using preoperative CT images obtained in maximum supination and maximum pronation, we measured change in the radioulnar space at the radial tuberosity and quantified the reduction in distance caused by the bone spur.

Results

The mean age at surgery was 76.9 years; three were men and five were women. All patients presented with cubital fossa pain, and one additionally reported decreased elbow flexion strength. All cases showed bone spur formation around the radial tuberosity. Preoperative CT evaluation demonstrated that the radioulnar distance at the radial tuberosity decreased to an average of 72% when moving from supination to pronation, and further decreased to 42% due to the bone spur. Intraoperatively, three cases had complete ruptures and five had partial ruptures. In all eight cases, the bone spur was observed to impinge on the distal biceps tendon during pronation. After excision of the anterior bone spur and tendon repair, postoperative outcomes were favorable. Pathological examination findings in all cases were consistent with bone spur formation.

Conclusions

In addition to the well-known mechanism typically observed in relatively young men, there is another pattern of distal biceps tendon rupture that occurs in older individuals due to radial tuberosity bone spurs. Compared with typical distal biceps tendon ruptures, spur-related ruptures tend to occur in the elderly, often present with cubital fossa pain, and show no significant sex difference. Good outcomes can be obtained by excising the bone spur and reconstructing the ruptured tendon.

