

Reconstruction after resection of the proximal ulna

Report of a case of chondrosarcoma

Anders Rydholm

After resection of the proximal ulna for chondrosarcoma, the elbow was reconstructed by dislocating the radius posteriorly until the radial neck articulated with the trochlea. The triceps tendon was sutured to the radial head. At 9 months' follow-up, the elbow was painless and stable with 35-135° of flexion.

For 2 years, a 46-year-old, otherwise healthy woman had slowly increasing pain in her right elbow. Radiographs showed destruction with calcifications in the proximal ulna, consistent with a chondrosarcoma (Figure 1). Computed tomography showed cortical breakthrough into the joint. The cytologic diagnosis of a fine-needle aspirate was chondrosarcoma. Radiographs of the lungs were normal. The patient refused amputation. Incisional biopsy was omitted and the upper 11 cm of the ulna was resected. The proximal radius was dislocated posteriorly and medially until the radial

neck articulated with the trochlea. The triceps tendon was attached to the radial head by steel wires through drill holes (Figure 2). Posterior and anterior stability was provided by the tendinous support of the biceps and triceps. The lateral stability was good because of the bony configuration. Microscopic examination showed a chondrosarcoma of intermediate malignancy grade. The excision was marginal intraarticularly.

Postoperatively, the patient used an orthosis for 4 weeks and then resumed her former full-time work as a pharmacist. At 3 and 9 months' follow-

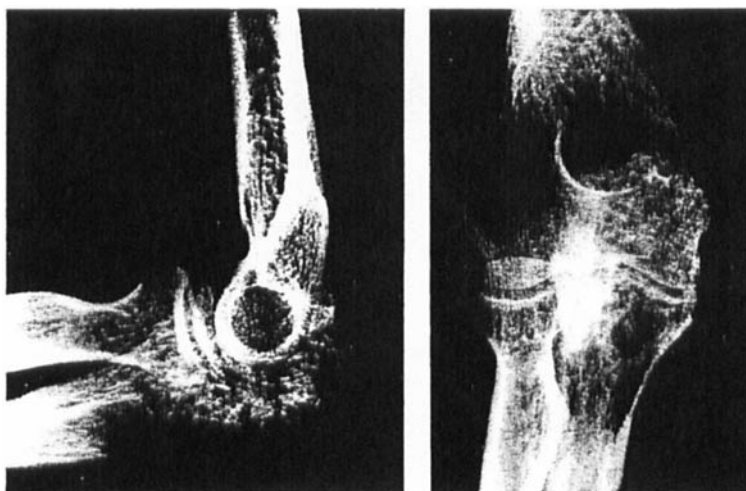


Figure 1. Chondrosarcoma that had caused pain for 2 years in the right elbow of a 46-year-old woman.



Figure 2. After resection of the proximal ulna.

A. Before dislocation. Steel wires through the radial head for fixation of the triceps tendon seen above the trochlea.

B. The radius has been dislocated posteriorly and medially. The radial neck articulates with the trochlea.

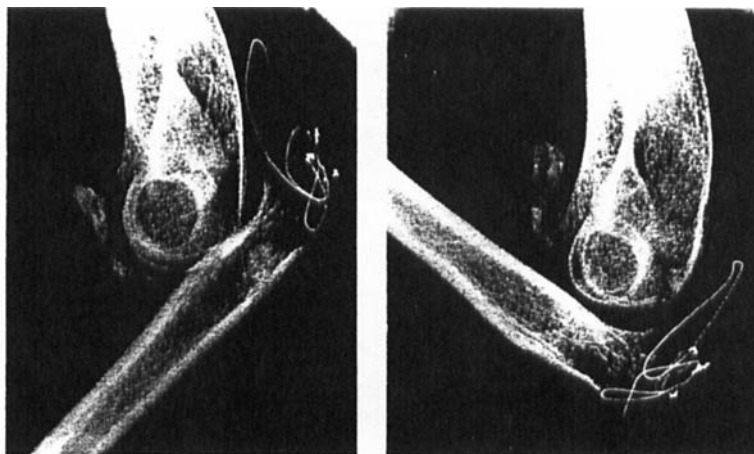


Figure 3. Active motion at 5 months.

up, she had no pain, the elbow was stable, and the flexion was 35–135° (Figure 3). The pronation was 40°, and the flexion and extension force was manually estimated as one half of the normal strength. There were no signs of local recurrence.

Discussion

The primary result as regards motion, strength,

and stability was acceptable. However, the risk of local recurrence is high because of the marginal excision. The resection arthroplasty used was described by Enneking (1983), who reported on 1 patient with flexion of 45–95°. According to Enneking (personal communication), the procedure was originally described for a case of trauma by Dr. Cable Young, Palm Beach, Florida.

Reference

Enneking W F. Musculoskeletal tumor surgery, Churchill Livingstone, New York, 1983:428–432.