Axillary aneurysm after shoulder injury

A report of 2 cases

Manjit Bhamra[1], Barry D. Ferris[2] and David F. Paton[3]

Two cases of false aneurysm of the axillary artery occurred after closed shoulder injuries. One was a dislocation of the shoulder, and the other was a fracture of the lesser tuberosity. In both cases the diagnosis was delayed, and only became apparent after excessive bruising was seen.

Damage to the axillary artery following closed shoulder injuries is uncommon. We are reporting 2 cases of a very rare complication, false aneurysm of the axillary artery, which presented late and seems to affect elderly patients.

Case reports

Case 1. An 87-year-old man fell on to his left shoulder and sustained an anterior dislocation. Although this was accompanied by extensive axillary and chest wall bruising, there was no neurologic damage, and he had a good radial pulse.

The dislocation was reduced with ease, and he was treated in a sling. Two weeks later, he developed weakness of finger extension with a poor radial pulse, and a thrill was palpable in the axilla. A digital subtraction angiogram showed a false aneurysm of the axillary artery (Figure 1). This was explored and a tear in the third part of the axillary artery was found with an unstable shoulder joint. The aneurysm was excised and an end-to-end arterial anastomosis was performed. The shoulder instability was treated by a Putti-Platt procedure. By 6 months, the radial pulse was good; but weakness of finger extension persisted for over a year.

Departments of Orthopedics, St. Mary's Hospital[1], Westminter Hospital[2] and Whittington Hospital[3], London, England

Correspondence: Mr. Barry Ferris, 119 Green Lane, Edgware, Middlesex HA8 8EL, England

Case 2. A 72-year-old man fell on to his left shoulder and fractured the lesser tuberosity of his humerus. Bruising around the pectoralis major was present; there was no neurovascular damage. The bruising resolved after 2 weeks. Six weeks later, he noticed a large swelling underneath the latissimus dorsi muscle while putting on a coat. The radial pulse was present, and there was no neurologic deficit. Digital subtraction angiography showed a leaking false aneurysm of the axillary artery (Figure 2). This was explored, and an avulsed subscapular artery was found, which was ligated. Two and a half liters of hematoma were evacuated. He made an uneventful recovery.

Discussion

The two cases described were at an age when atherosclerosis is common. In both, there was no evidence of neurologic or vascular injury immediately following the injury, but bruising in the axilla and the anterior chest wall was present. There was a significant delay between the injury to the shoulder and the vessel damage manifesting itself, which almost certainly allowed the formation of a false aneurysm. This may have stretched branches of the brachial plexus in Case 1.

In previous reports of this rare injury to the axillary artery, it was immediately apparent that there was either an abnormality of the radial pulse[1–4], nerve damage[5,6], or both[7,8]. The injury was hyperextension in a patient with recurrent shoulder dislocations[7], anterior shoulder dislocations[1,2,5,8], recurrent anterior dislocation[1,3,6,8], and luxatio erecta.

In three previous cases in which a false aneurysm developed, the delay between the injury and presentation was 1 month[1], 2 months[6], and 6 months[2]; but in contrast to our cases, all of them had vascular[2] or neu-

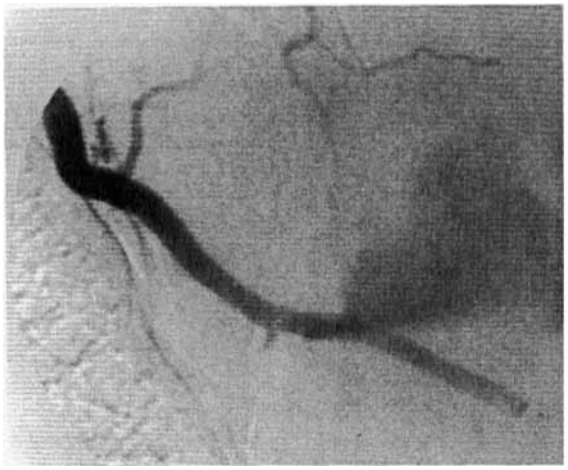

Figure 1. Digital subtraction angiogram of Case 1 showing a leaking axillary aneurysm.

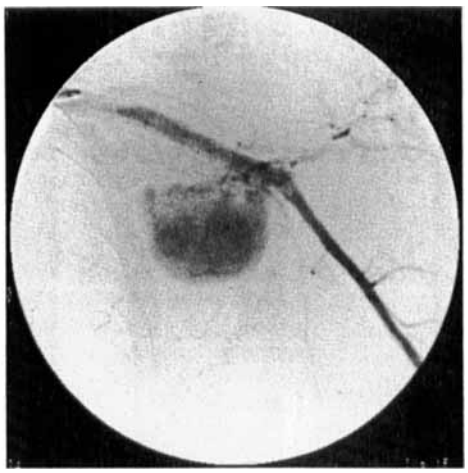

Figure 2. Digital subtraction angiogram of Case 2 showing the false aneurysm of the axillary artery.

rologic[1, 6] deficits at presentation. Our 2 cases had none of these features. The most common site of injury seems to be an avulsion at the junction of the subscapular artery[2, 5–7] or a thrombosis at this site[4, 8].

The vessel damage should be treated on its merits. In the 3 cases of false aneurysm previously reported, the aneurysm was resected and direct anastomosis was performed[1, 2] or the subscapular artery was ligated[4].

Drury and Scullion[1] considered that tethering of the artery by the subscapular and circumflex humeral arteries accounted for this being the site of most lesions. They suggested previous dislocations may cause fibrosis and tether the vessel, rendering it more liable to injury. Preexisting atherosclerosis may have a similar effect. In the case of the late presentation of vessel damage with false aneurysm formation, only 1 previous case had had recurrent shoulder dislocation[6], and none of the previously reported cases were elderly (aged 20, 57, and 63 years). The 2 cases we report had no previous injury to the shoulder and were both elderly.

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