

Case reports

A proximal humeral fracture, complicated by a pseudo-aneurysm—a case report

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A 76-year-old man sustained a comminuted displaced fracture of the left proximal humerus (Figure 1). There was no neurological deficit nor was there any pulsation of the radial artery at the left wrist. He was admitted for reduction of the fracture and perioperative angiography. Under general anesthesia, closed reduction was performed. Immediately after reduction, the radial artery pulsations became palpable and PO₂-saturation, monitored with a pulsoximeter on the index finger, became normal. Therefore, no angiography was performed. Postoperatively, he had a velpeau-bandage for 3 weeks, followed by passive and active exercises.

5 months later, his left shoulder was painful and stiff. There was no neurological deficit, radial pulsations and capillary refill were normal. Plain radiographs revealed no signs of healing. A CT showed a normal glenoid and no signs of arthritis. Unexpectedly, on the CT, a mass, suggestive of a pseudo-aneurysm of the axillary artery, was found distal to the

fracture. Angiography revealed an aneurysm of the axillary artery at the origin of the humeral circumflex artery (Figure 2). On a second physical examination, an aneurysm was palpable in the left axilla.

6 months after the trauma, the patient was operated on again. First, the vascular surgeon closed the pseudo-aneurysm by stitching. In the same procedure, resection of the humeral head was performed. During the operation, there was a significant drainage of clear fluid, suggestive of a possible infection and therefore only the humeral head was resected. Cultures were taken and a string of 60 gentamicin beads was put in place. Postoperatively, erythrocyte sedimentation rate, hemoglobin concentration, white cell count and C-reactive protein were all normal. Cultures for tuberculosis, as well as aerobic and anaerobic cultures, were negative. 2 weeks later, the second procedure followed. The beads were removed and an isoelastic hemiarthroplasty was inserted.



Figure 1. Comminute fracture of the surgical neck. The pectoralis major muscle is pulling the shaft medially.



Figure 2. Angiogram showing a pseudo-aneurysm of the axillary artery at the origin of the humeral circumflex artery. The pseudoarthrosis of the surgical neck fracture is also shown.

Postoperatively, there were no complications. After 3 weeks in a velpeau-bandage, active and passive exercises were started under the direction of a physiotherapist. 6 weeks postoperatively, the patient had no pain. At 3 months, he was self-reliant in daily living and satisfied with the result.

Discussion

There are many reports on vascular injury after proximal humerus fracture (Neer 1970, Tanner and Cofield 1983, Stableforth 1984). Although rare (< 5%), the commonest injuries are axillary artery and brachial plexus injuries (Bigliani 1991). No pseudo-aneurysm has been described.

In our case, the radial pulse after trauma was absent. After closed reduction under general anesthesia, the radial pulse was palpable again, oxygenation and capillary refill of the hand became normal. These 3 parameters were misleading. If a perioperative an-

giography had been done after reduction, the arterial lesion would have been identified immediately, and an adequate vascular repair could have been performed, combined with a stable fixation of the fracture or a hemiarthroplasty, resulting in a better function.

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Spontaneous bilateral hip fractures in a patient with steroid-induced osteoporosis—a case report

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A 44-year-old man was referred to us because of pain in both hips for 3 preceding months. He had received daily doses of flucortolone (ULTRALAN ORAL®, Schering Turkey equivalent oral dose 5 mg) 100 mg for 3 days, 80 mg for 3 days, 60 mg for 3 days, 40 mg for 3 days and 20 mg for 18 days—1200 mg in 30 days—after a cataract operation, because of cystic macular edema 9 months before. 6 months after steroid therapy, he felt pain in his left hip which was aggravated by weight bearing and sometimes kept him awake at night. Radiographs of the hips 1 month later were reported to be normal. The patient had to use walking aids and 1 month later he developed pain in the right hip too and was referred to us.

A detailed history excluded any previous illness, except the cataract operation and steroid therapy. There was no evidence of injury to the hip, epileptic disease or any convulsion, renal disease, fluoride

treatment, alcohol abuse or any strenuous exercise. He was a smoker. The general physical examination was unremarkable, except for the hips, which had normal movement on both sides, but discomfort in full extension and flexion.

Complete blood count, erythrocyte sedimentation rate, alkaline phosphatase and calcium and phosphorus levels were all normal. Parathyroid hormone assay was normal, as also were serum thyroxine, T3 and T4 levels, and 24-hour urinary excretion of calcium and phosphorus. Serum creatinine, creatinine clearance and serum testosterone levels were also normal.

Radiographs revealed a transcervical fracture of the left hip with surrounding bony sclerosis and an undisplaced fracture at the base of the right femoral neck. Osteopenia was noted throughout the pelvis. A CT confirmed the presence of bilateral femoral neck fractures (Figure).