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Pseudarthrosis of the spine of the scapula—case report of a minimally invasive osteosynthesis technique

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A 40-year-old man with a chronically painful right shoulder was referred to the orthopedic outpatient department. As a 10-year-old child, he had fallen from a height of about 1 meter onto his right shoulder. Since that time he had continually suffered from moderate pain over the spine of his right scapula. For about 1.5 years he had also a painful subacromial impingement at the right shoulder. Clinical examination revealed a hard tender tumor at the spine of the scapula. Impingement tests were positive and there was atrophy of the supraspinatus muscle on the right side. Ultrasonography of the shoulder showed an intact rotator cuff. An injury of the suprascapular nerve was excluded

by electromyography. Radiographs showed pseudarthrosis of the spine of the scapula (Figure 1). A technetium bone scan revealed a thin cold area along the pseudarthrosis, sandwiched between increased uptake of the isotope.

Using a short incision of about 3 cm parallel to the spine of the scapula, without detaching the muscles, an AO small fragment cancellous bone lag screw was implanted (Figure 2). High compression could be achieved because the thread was fixed very well between the two laminae of the spine of the scapula. Intraoperatively, the image intensifier showed a narrowing of the upper part of the pseudarthrosis, where it

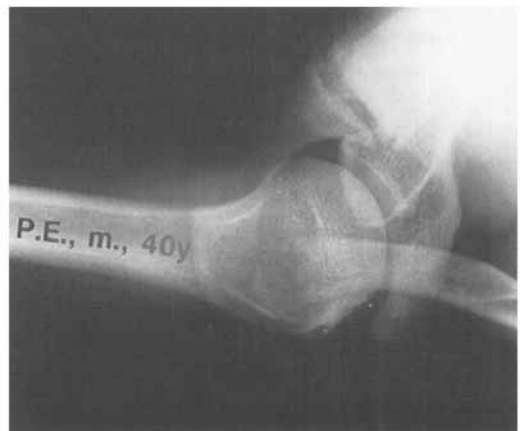


Figure 1. The anteroposterior radiograph with a 30° caudal tilt of the beam and the axial radiograph show pseudarthrosis of the spine of the scapula of a 40-year-old man.

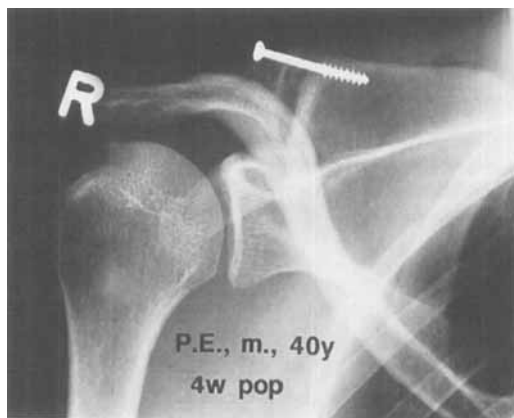


Figure 2. 4 weeks after implantation of a lag screw showing early bony bridging of the pseudarthrosis.

was crossed by the screw. The shoulder was immobilized in a Gilchrist dressing for 1 week and then in a shoulder-spica cast for 3 weeks. 4 weeks postoperatively, active-assisted, and 1 week later, active range-of-motion exercises were started. 9 weeks postoperatively, CT showed bony healing of the pseudarthrosis. The lag screw was removed 6 months after the operation under local anesthesia. At that time, this very active patient was free of pain, and had regained full motion and muscle strength. At the follow-up examination 1 year postoperatively, the patient was still painfree and took part in various sports activities (Figure 3).

Discussion

Fractures of the scapula are uncommon. They constitute only about 1% of all osseous injuries (Hardegger et al. 1984, Bauer et al. 1995). Fractures of the spine of the scapula constitute only about 0.1% of all osseous injuries (Russe 1976, Wilber and Evans 1977,

McGahan et al. 1980, Armstrong and Van der Spuy 1984, Nordqvist and Petersson 1992). In most cases, closed or no treatment is sufficient for fractures of the scapula and especially for fractures of the spine of the scapula (Rowe 1963, Izadpanah 1975, Tscherne and Christ 1975, Russe 1976, Wilber and Evans 1977, McGahan et al. 1980, Armstrong and Van der Spuy 1984, Hardegger et al. 1984). In painful pseudarthroses of the spine of the scapula operative treatment is indicated (Gördes and Hessert 1970, Robinson and Court-Brown 1993). From the mechanical point of view, the fracture of the spine of the scapula shown here resembles a type IB fracture of the acromion, according to the classification system of Kuhn and co-workers (1994). Pseudarthrosis of the acromion or the spine of the scapula may, like the os acromiale, predispose to subacromial impingement (Féry and Sommelet 1988, Næsted et al. 1995). The pull of the deltoid muscle can tilt the fragment inferiorly, which compromises the function of the rotator cuff (Hardegger et al. 1984). A pseudarthrosis of the spine of the scapula is extremely rare (Gördes and Hessert 1970, Robinson and Court-Brown 1993) and there is no information about subacromial impingement in such a case. The few published cases of pseudarthrosis of the spine of the scapula were treated by resection of the fibrous tissue, bone grafting of the fracture site and rigid fixation (Gördes and Hessert 1970, Robinson and Court-Brown 1993). The technique used in my case—that is, compression of the pseudarthrosis, with one cancellous lag screw, without exposure, debriding or grafting, was sufficient for this old pseudarthrosis. Interestingly, the painful impingement syndrome disappeared immediately after the operation. Perhaps the eccentric localization of the screw in the upper part of the pseudarthrosis resulted in a superior tilt of the acromion which could explain the good clinical result. The main advantage of this method is that the procedure is minimally invasive.

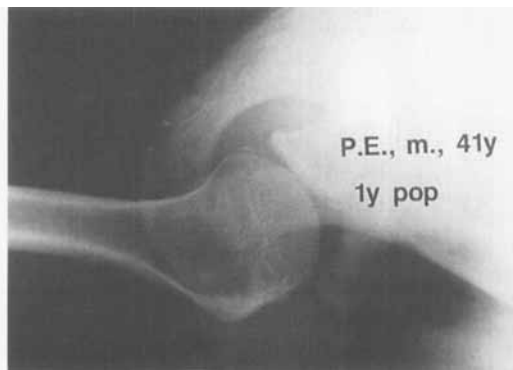
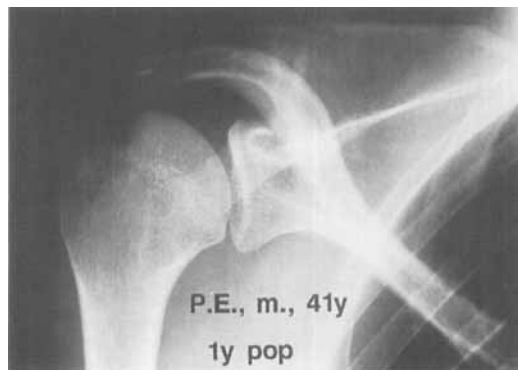


Figure 3. 1 year postoperatively and 6 months after removal of the lag screw: the anteroposterior radiograph with a 30° caudal tilt of the beam and the axial radiograph show bony healing of the pseudarthrosis and applanation of the hypertrophied callus.

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Sclerotic hip medullary lesion evolving into a simple bone cyst—a case report

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A 13.5-year-old boy complained for 2 weeks of a dull pain in his upper right thigh. There was no history of trauma or infection. Radiographs showed a sclerotic lesion in the neck of the femur (Figure 1). At that time, this finding was not appreciated and no treatment was given. After a month, the symptoms disappeared.



Figure 1. Anteroposterior hip radiograph, demonstrating a sclerotic bone lesion.

1.5 years later, a dull right-hip ache recurred. Radiographs then showed a large cystic lesion in the neck of the femur. In the cystic lesion, there was a small sclerotic lesion, with bony spicules radiating from it (Figure 2). A technetium-99 scan showed increased uptake in this region. CT and MRI with gado-



Figure 2. 1.5 years later, a lytic lesion surrounds the sclerotic one.