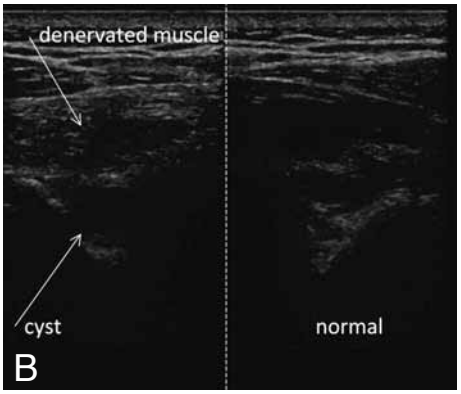
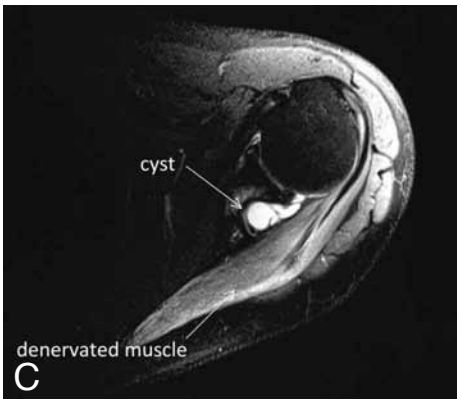
JBR–BTR, 2012, 95: 104.

IMAGES IN CLINICAL RADIOLOGY





Supralabral air on plain radiography of the shoulder: first sign of an air-containing paralabral cyst

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A forty-one-year-old male patient was referred to our department of Radiology for left shoulder pain and reduced mobility. There was no history of trauma, infection nor therapeutic intervention. A plain radiograph (Fig. A) of the left shoulder showed the presence of two small round-shaped lucent bubbles in the soft tissue above the glenoid. An additional ultrasound examination revealed the presence of a cyst in the suprascapular notch (Fig. B), slight atrophy and increased echogenicity of the infraspinatus muscle. Further investigation with T1 and T2 weighted pulse-sequences on MRI revealed a loculated fluid-filled collection in the suprascapular notch, causing an impression on the suprascapular nerve and vessels. This fluid collection contained diminished signal intensity spots caused by the air collections. The infraspinatus muscle, innerved by the suprascapular nerve, showed on T2 weighted MR image a diffuse slightly increased intensity and thickening. Axial T2-weighted MR image (Fig. C) demonstrated communication between the paralabral fluid collection and the glenohumeral joint trough a tear in the superior and posterior glenoid labrum. Based on the imaging findings, the diagnosis of a large locular paralabral cyst, caused by a glenoid labral tear, was made. As a consequence, in this case, the suprascapular nerve was compressed and the infraspinatus muscle showed denervation signs. After arthroscopic decompression of the paralabral cyst, the patient complaints improved.

Comment

Paralabral cysts in the shoulder (located in the suprascapular or spinoglenoid notch) are well known to cause suprascapular nerve impingement and are a risk for atrophy and denervation of the infraspinatus muscle. It is conceivable that cysts usually arise from a defect in the delineation of the shoulder joint, such as glenoid labral tears. Common complaints are shoulder pain and reduced functionality. Treatment of symptomatic paralabral cysts varies from observation, ultrasound-guided percutaneous aspiration, open excision, to arthroscopic decompression with or without labral repair. Ultrasound as a first diagnostic investigation tool can reveal the presence of a paralabral cyst. The additional value of MRI is that it mostly depicts the underlaying cause, such as a labral tear. MR arthrography or CT-artrography in our experience is the most sensitive investigation tool to demonstrate ruptures or fissures in the glenoid labrum. Most of the time, the initially plain radiography is negative for paralabral cysts. Though, the presence of air in the shoulder can be caused by trauma, degeneration, infections or iatrogenic by punctures, one should always consider supralabral air as a first sign of paralabral air-filled cyst, as shown in the present article.

Reference

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