

Solitary osteochondroma of the Scapula: an uncommon localization

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Introduction

Osteochondroma or exostosis is the most common benign bone tumors. They are usually located in long bones metaphysis. Location in flat bone like scapula is thus very uncommon, we report a new case with literature review.

Case presentation

A 16-year-old female patient who had been suffering from pain in her right shoulder for 4 years, with “clunking” during active movements. No antecedent history of trauma or similar family cases were reported. Physical examination revealed winging of scapula’s inferior and medial part in both static position and dynamic movements abduction and antepulsion. It did not increase as the patient did push against the wall implying that the thoracic long nerve was not damaged. No bony mass was felt. Glenohumeral joint movement was respected with neither signs of acromial conflict nor amyotrophy of the supra-spinatus and infra-spinatus muscles. Radiographs of profile shoulder showed a large bony outgrowth arising from the medial side of scapula at the height of the 4th right rib causing 3rd intercostal space enlargement (figure 1). Scapula profil radiograph highlighted the pedunculated aspect of the bony lesion (Figure 2). The CT scan confirmed that the lesion started from the ventral scapula in continuity with the cortical without signs of ruptures or invasion of soft tissues (Figure 3). Total surgical resection was performed and led to relief of symptoms. Anatomopathological examination confirmed the diagnosis of osteochondroma. At 6 months follow-up, there was no tumor recurrence, scapular winging regressed as well as pain (Figures 4, 5, 6).

Discussion

Osteochondroma or solitary exostosis is an hamartoma that develops during growth by enchondral ossification covered with a cartilaginous cap. It represents 20 to 50% of benign bone tumors and 10 to 15% of all bone tumors. Commonly located in long bones metaphysis around the knee of children and young adults with a male predilection [1].

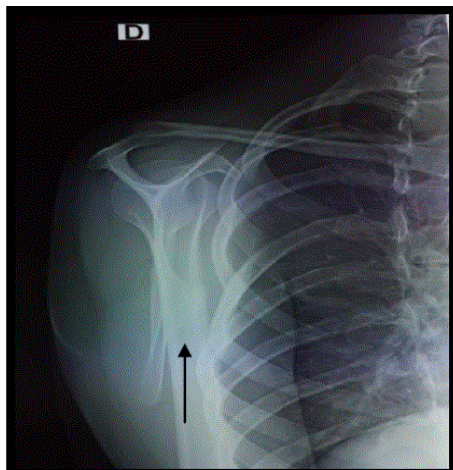


Figure 1. Shoulder profile, osteochondroma of the scapula.



Figure 2. Profile of scapula showing exostosis of ventral side of scapula.

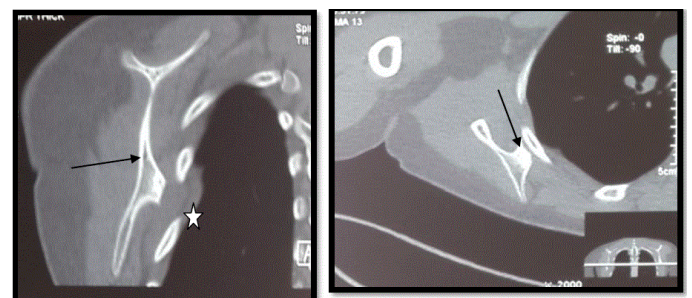


Figure 3. CT scan of scapula showing the exostosis of ventral side of scapula beneath the 4th rib with reactive pleural infusion.

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Figure 4. Shoulder profile after surgery, complete regression of the osteochondroma.



Figure 5. Before surgery: winging of right scapula at static position.



Figure 6. After surgery: regression of scapula winging.

Scapula location is uncommon, in approximately 3% of osteochondromas [2]. Mrad-Dali *et al.*, reported 7 cases out of 95 cases [3]. About 45 cases were also published separately by different authors [4-18]. Ventral localization like our case was reported in two cases [19].

Winging of the scapula can be either dynamic or static. Dynamic winging is due to neuromuscular disorders. The deformity is produced by active shoulder movements and is often absent at rest. Static winging is due to a fixed deformity in the shoulder girdle, spine, or ribs and is characteristically present at rest with the arm at the side [20-23]. The osteochondroma in this case report expanded the deep

surface of the right scapula, showing the scapula away from the chest wall and producing static winging. Carlson *et al.* in a review of 89 cases of snapping scapula syndrome reported skeletal abnormalities in 11 cases. 27 cases were idiopathic and osteochondromas were seen in 3 cases [11]. Pseudo-winging of the scapula and scapular snapping are two clinical signs of upper girdle insufficiency. The association of these two signs is highly suggestive of exostosis of the ventral aspect of the scapula [24]. The radiological aspect of bone continuity between the exostosis and the cortical is pathognomonic of osteochondroma. Size increasing may lead to sarcomatous degeneration frequently observed in multiple exostosis disease with autosomal dominant transmission compared to solitary osteochondromas [25]. Surgical resection of the tumor is a reliable treatment for symptomatic forms [26-27]. The post-operative evolution is generally satisfactory, as shown by Ermis *et al.* and Sreenivas *et al.* [28-29].

Conclusion

Scapula is a rare localization of solitary osteochondroma. The diagnosis is based on the radiological and CT scan if possible. Surgical excision makes it possible to avoid the sarcomatous transformation. Long-term follow-up is advised to identify rare event of local recurrence or appearance of lesions in other sites.

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