

**Pseudo Winging of Scapula Due To Sub Scapular Osteochondroma-A Case Report**

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Abstract

Osteochondroma or exostosis is most common primary benign bone tumor and comprising of more than one third of primary bone tumor. Osteochondroma originate mainly from the metaphysis of long bone with more than 35% of cases affecting the bone around the knee. It is rarely found in flat bones like scapula, that may cause abnormal scapulothoracic movement leading to pain, snapping scapula and pseudowinging of scapula. This article present a case of Osteochondroma on anterior aspect of scapula in a 10 years old in an otherwise healthy male causing pseudo winging and snapping of right scapula and pain in affected area. X-ray demonstrated a exophytic mass on anterior aspect of right scapula. Computed Tomography and Magnetic Resonance Imaging showed an abnormal bony mass arising from scapula. Surgical en block resection was performed and patient symptoms resolved dramatically. The histopathological diagnosis was osteochondroma. So in a patient with pseudowinging of scapula one should be aware of rare diagnosis osteochondroma along with other more common aetiology.

Keywords: Osteochondroma, Scapula, Snapping Scapula, Pseudo Winging

Introduction

Osteochondroma most common primary bone tumor usually occurring near the end of long bone Osteochondroma may be solitary (90%) or multiple in the form of hereditary multiple exostosis (HME) in about 10% of cases. Most of the osteochondroma are asymptomatic depending on their size and location. Osteochondroma originate frequently from end of long bone and rarely involves flat bone such as scapula and spine^{1,2}. Winging of scapula is defined as prominence of medial border of scapula^{3,4}. It clinically presents decreased range of active shoulder movement, upper girdle muscular weakness pain or cosmetic appearance. The classic etiology of winging of scapula is paralysis of serratus anterior muscle secondary to long thoracic nerve palsy. However bone, muscle, various nerve and shoulder joint pathology may cause winging of scapula^{5,6}. Tumor of scapula such as Osteochondroma rarely associated with winging of scapula. ventral Osteochondroma of scapula may lead to snapping scapula, pain full crepitus and pseudo winging and mass effect. This article report a 10

10 years boy presented with snapping, winging of right scapula as a result of scapular Osteochondroma treated with en block surgical excision.

Case Report

Ten year old, right hand dominant, student of class sixth presented in our orthopaedic OPD complaining a painful crepitus of the right shoulder. He also complains of audible and palpable grating sensation of 3 month duration, prior to his presentation there was no antecedent history of trauma and fever. There was no significant family history. Physical examination revealed otherwise healthy boy with full active range of movement of his bilateral shoulder. A grating sensation from his right scapulothoracic region with movement. The vertebral border of right scapula was more prominent than left. (Fig1). Winging of right scapula was apparent at rest also and was not increased as patient pushing the arm against the wall. Muscle strength, Deep Tendon Reflexes and sensory examination were all normal. There were no overlying skin changes or erythema. Plain radiograph and Computed Tomogram revealed a large bony protuberance on costal aspect of right scapula about 3×5cm in measurement (Fig 2). Magnetic Resonance Imaging revealed this mass was extending anteriorly and medially against the ribs and had a characteristic mushroom shaped appearance with some marrow signal centrally with no obvious soft tissue component. A diagnosis of costal scapular exostosis was made and patient was offered for surgical treatment. Preoperative routine blood investigations blood cell count, differential leucocyte count, Erythrocyte Sedimentation Rate, C-Reactive protein were within normal limits. Surgical en block excision was performed under general anesthesia in prone position. The shoulder was rotated internally, thereby lifting the medial border of scapula away from thoracic cage. The approach was dorsally based parallel to medial

border of scapula. Trapezius muscle was split in line with its fibers. The Rhomboidus major and Levator scapulae muscles were detached. The scapula was retracted from the chest wall subperiosteally. A mushroom shaped mass measured 3.5×6 was excised from the costal surface of scapula. No bursa was demonstrated. Grossly no malignant transformation was noticed in cartilaginous cap (figure 4). Histologic examination was suggestive for Osteochondroma (figure 5). The arm was immobilized in sling for four weeks and during this period only pendulum exercise was allowed. After four weeks this patient was sends to a physiotherapist for appropriate rehabilitation programme. He felt no abnormal movement in follow up and his symptoms resolved.



Figure: 1 Clinical photograph showing winging of right scapula.



Figure 2: CT scan showing Protuberant mass on costal surface of right scapula



Figure : 3 CT scan Showing protuberant mass on costal surface of right scapula

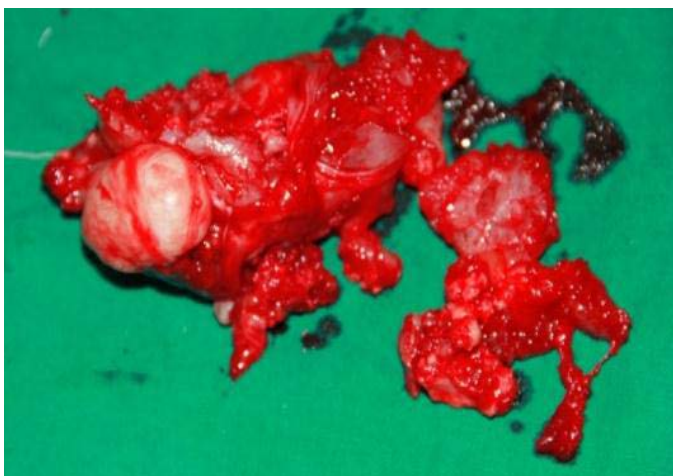


Figure: 4 Tumor Mass removed from Costal surface of right scapula

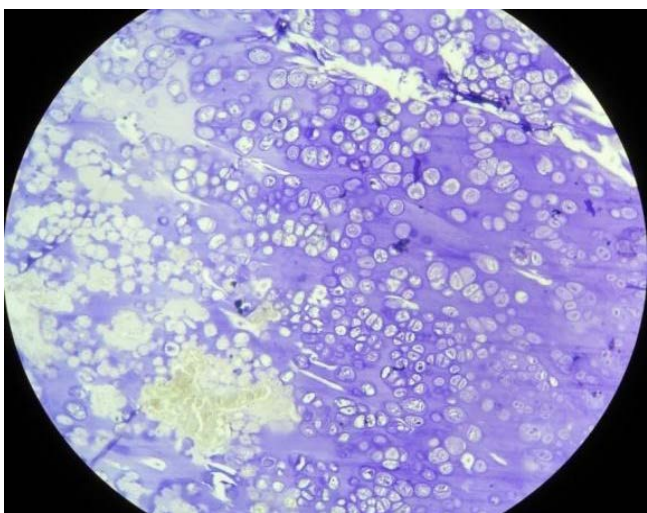


Figure: 5 Histological microscopic view showing tumor mass composed of bony trabeculae intervened by fatty

and marrow tissue and cartilage cap with columnar pattern of cells with minimal pleomorphism

Discussion

Though winging of the scapula is generally considered to be synonymous with serratus anterior palsy. There are many causes other than serratus anterior palsy of winging of the scapula. A number of these cases have been described as pseudowinging^{8,9}.

Winging of the scapula can be either dynamic or static. Dynamic winging is due to neuromuscular disorders and because of the resulting muscular imbalance. The deformity is produced by active and resisted 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. Active or resisted shoulder movements do not increase the deformity. Solitary exostosis or osteochondroma of the underside of the scapula may produce static winging. Osteochondroma is the most common primary benign tumor of the scapula with an incidence of 3%-4.6%. Usually, it is a single lesion located on the anterior side of the scapular body. Surgical resection of the tumor is the treatment of choice for osteochondroma¹⁰⁻¹³. 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. Total surgical resection was performed. Scapular Osteochondroma causes snapping usually in adolescence or early adulthood This “pseudowinging” is indicative of a sub scapular mass with neurologically intact serratus anterior. 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. Total surgical resection was performed.

Conclusion

To conclude, Pseudo winging of Scapula may be a clinical manifestation of a sub scapular Osteochondroma. Surgical resection of the tumors is a reliable treatment which results in resolution of the crepitus and pain.

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