

Recurrent Ventral Scapular Osteochondroma Presenting with Pseudo-winging in an Adolescent: A Case Report and Follow-up of a Previously Published Case

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Learning Point of the Article:

In a skeletally immature patient previously operated on for ventral scapular osteochondroma, recurrent static pseudo-winging suggests tumor recurrence rather than neuromuscular winging, warranting imaging and complete re-excision.

Abstract

Introduction: Osteochondroma is the most common benign bone tumor, but involvement of the scapula is uncommon. Lesions arising from the ventral surface of the scapula may remain clinically occult until they produce pain, crepitus, snapping, or static scapular pseudo-winging. Recurrence after surgical excision is rare and is generally related to residual cartilage cap or incomplete resection, particularly in skeletally immature patients. We report a recurrent ventral scapular osteochondroma in an adolescent previously treated for pseudo-winging, emphasizing diagnostic vigilance and complete excision.

Case Report: A male adolescent previously underwent excision of a symptomatic ventral osteochondroma of the left scapula at 11 years of age. The index episode had presented as painful static scapular pseudo-winging with normal neurovascular examination and imaging demonstrating an osteochondroma arising from the ventral inferior scapular region. After an initially favorable outcome, he re-presented at 14 years of age with recurrent pain and deformity of the scapular region. Clinical examination again demonstrated static pseudo-winging rather than dynamic neuromuscular winging. Imaging confirmed recurrence of a ventral scapular osteochondroma. Complete surgical excision was performed through a posterior parascapular approach. The post-operative course was uneventful, with resolution of pain and restoration of normal scapular contour and scapulothoracic motion.

Conclusion: Recurrent ventral scapular osteochondroma is rare but should be considered when pseudo-winging reappears after previous excision. This case underlines the importance of distinguishing static pseudo-winging from true dynamic scapular winging, obtaining appropriate cross-sectional imaging, and achieving complete resection at the base of the lesion to minimize recurrence risk.

Keywords: Osteochondroma, scapula, pseudo-winging, scapula alata, recurrence, adolescent, case report.

Introduction

Osteochondroma is a cartilage-capped bony projection that shows continuity of cortical and medullary bone with the parent bone. It is the most frequent benign bone tumor and typically arises from the metaphyseal region of long bones. Flat bone

involvement is less common, but among scapular tumors, osteochondroma remains an important diagnosis because it may produce mechanical symptoms due to the close relationship between the scapula and the thoracic wall [1,2,3,4].

Ventral scapular lesions are particularly challenging. Because

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they grow toward the thoracic cage, the mass may be poorly visible on routine clinical inspection and sometimes on plain radiographs. Symptoms are usually caused by mass effect and include pain, crepitus, snapping, scapulothoracic bursitis, limitation of shoulder motion, or a static scapular deformity that mimics winging [5,6,7,8,9,10,11,12,13].

True scapular winging is usually dynamic and related to neuromuscular dysfunction, such as long thoracic nerve or spinal accessory nerve involvement. In contrast, pseudo-winged caused by a ventral scapular mass is typically static, may be present at rest, and does not necessarily increase with resisted forward elevation [5,6,7,8]. This distinction is essential because misdiagnosis can delay appropriate imaging and surgical treatment.

The index presentation of this patient was previously reported in an 11-year-old boy with painful pseudo scapula alata caused by a ventral scapular osteochondroma [1]. The present manuscript reports the clinically relevant subsequent recurrence of the same pathology in adolescence, after an initially successful excision, and discusses practical lessons for diagnosis, surgical technique, and follow-up.

Case Report

Index episode

The patient was an 11-year-old boy who initially presented with progressive pain along the medial border of the left scapular region and a static scapular deformity. There was no history of trauma, and neurovascular examination of the left upper limb was normal. Clinical assessment demonstrated pseudo-winged of the scapula rather than a dynamic neuromuscular scapular winging pattern. The clinical timeline of both the index and the

recurrent episodes is summarized in Table 1.

Radiographs showed a bone-forming lesion arising from the ventral aspect of the scapula near the inferior angle. Computed tomography (CT) demonstrated a sessile exostosis measuring approximately 3×1.2 cm with a cartilage cap of approximately 4 mm, projecting toward the thoracic wall [1]. Surgical excision was performed through a posterior parascapular, muscle-sparing approach. Histopathology confirmed osteochondroma without malignant transformation. The early post-operative period was uneventful, with disappearance of pseudo-winged, restoration of painless scapulothoracic motion, and no evidence of recurrence during the early follow-up reported in the original publication [1].

Recurrent presentation

At 14 years of age, after an initially favorable course following the first operation, the patient returned with recurrent pain and renewed prominence of the left scapular region. The deformity was again clinically static and compatible with recurrent pseudo-winged (Fig. 1). Shoulder movement was preserved, and there were no neurological complaints or neurovascular abnormalities in the ipsilateral upper limb.

Given the previous history, recurrence of ventral scapular osteochondroma was suspected. Plain radiographs were obtained, followed by cross-sectional imaging, which confirmed a recurrent osteocartilaginous lesion arising from the ventral surface of the scapula. The imaging appearance was consistent with recurrent osteochondroma, and no features suggesting malignant transformation were identified clinically or radiologically.

Treatment

Surgical re-excision was indicated because of pain, recurrent static deformity, and mechanical scapulothoracic conflict. The patient was positioned prone under general anesthesia. A posterior parascapular approach was used, with careful soft-tissue handling and avoidance of unnecessary muscle detachment. The scapula was mobilized to expose the ventral lesion (Fig. 2a). The recurrent osteochondroma was excised flush with its base, aiming to remove the complete cartilage-capped exostosis and any residual cartilaginous tissue.

The specimen was sent for histopathological examination (Fig. 2b), which confirmed benign osteochondroma. There was no evidence of malignant transformation. The wound was closed



Figure 1: Pre-operative prone views obtained after induction of anesthesia, demonstrating recurrent asymmetric prominence of the left scapula. (a) Posterior overview. (b) Closer oblique view.

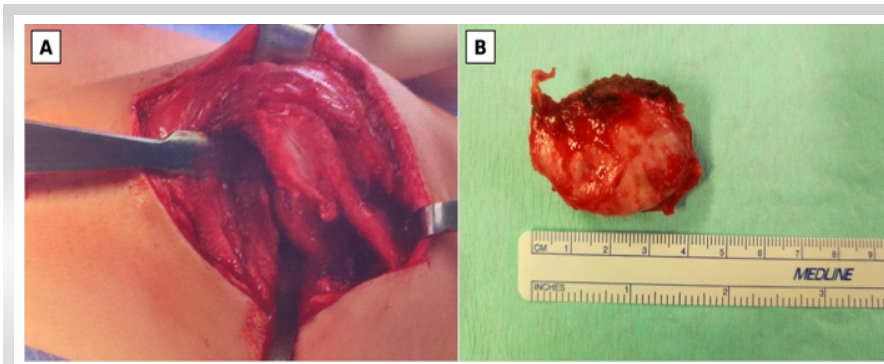


Figure 2: Revision surgery. (a) Exposure of the recurrent ventral scapular osteochondroma through a posterior parascapular approach. (b) Resected specimen displayed alongside a metric scale.

in layers. Postoperatively, the arm was protected initially, followed by progressive rehabilitation with pendular exercises and gradual restoration of shoulder and scapulothoracic motion.

Outcome and follow-up

The post-operative course was uneventful. The patient had progressive resolution of pain and improvement in the scapular contour. At the most recent follow-up, he had painless shoulder mobility, normal scapulothoracic motion, and no clinically evident pseudo-winging. The patient and family were satisfied with the functional and cosmetic outcome. Ongoing surveillance until skeletal maturity was recommended because the recurrence occurred while the patient was still skeletally immature.

Discussion

This case is relevant for three reasons. First, it documents the recurrence of a previously published ventral scapular osteochondroma that had initially produced pseudo scapula alata. Second, it illustrates the importance of distinguishing static pseudo-winging caused by a mechanical mass effect from true dynamic scapular winging caused by neuromuscular dysfunction. Third, it emphasizes that complete surgical resection, including the cartilage cap and base of the lesion, is essential when treating symptomatic osteochondroma in a skeletally immature patient.

The scapula is an uncommon site for osteochondroma, but when these lesions arise from the ventral surface, even a relatively small mass may cause symptoms due to scapulothoracic conflict. Several authors have described patients presenting with pseudo-winging, snapping scapula, pain, or rib irritation from ventral scapular osteochondromas [6,7,8,9,10,11,12,13,14,15,16,17,18]. In the original

episode of the present patient, the lesion was located on the ventral side of the scapula and produced static deformity and pain, leading to surgical excision [1].

The diagnostic challenge lies in the clinical resemblance between pseudo-winging and true scapular winging. Dynamic winging is classically associated with neuromuscular pathology, whereas pseudo-winging caused by osteochondroma is often fixed or static. This distinction is more than semantic: management differs substantially. A suspected static deformity should prompt careful

palpation, comparison of scapular contour, plain radiographs, and, when needed, CT to identify the exact location, morphology, and relationship of the lesion to the thoracic wall [5,6,7,8,10]. Magnetic resonance imaging may be useful when cartilage cap thickness, bursal formation, soft-tissue involvement, or malignant transformation is a concern [2,3].

Recurrence after osteochondroma excision is unusual when the lesion is completely removed. When recurrence occurs, incomplete removal of the cartilage cap or persistent growth potential before skeletal maturity should be considered. In this patient, recurrence in adolescence suggests that long-term follow-up is advisable after excision of symptomatic lesions in children, even when the early clinical and radiographic outcome is excellent. The recurrent presentation was recognized promptly because the previous diagnosis was known and the clinical deformity was static.

Surgical treatment remains the preferred option for

Table 1: Clinical timeline

Time point	Clinical event	Key findings/Management
Age 11 years	Initial presentation	Painful static pseudo-winging of the left scapula; normal neurovascular examination.
Age 11 years	Diagnostic work-up	Radiographs and computed tomography demonstrated a ventral scapular osteochondroma near the inferior scapular region.
Age 11 years	Index surgery	Posterior parascapular excision; histology confirmed benign osteochondroma.
Early follow-up	Initial outcome	Resolution of pain and pseudo-winging with restoration of scapulothoracic motion.
Age 14 years	Recurrent symptoms	Recurrent pain and static scapular prominence; recurrence suspected clinically.
Age 14 years	Repeat imaging	Cross-sectional imaging confirmed recurrent ventral scapular osteochondroma.
Age 14 years	Revision surgery	Complete re-excision through posterior parascapular approach.
Latest follow-up	Outcome	Pain-free shoulder motion, restored scapular contour, and no clinical pseudo-winging.

symptomatic scapular osteochondromas causing pain, deformity, pseudo-winging, or mechanical conflict [7,8,9,10,11,12,13,14,15,16,17,18]. Both open and arthroscopic techniques have been described, but open posterior parascapular approaches remain reliable for ventral lesions requiring direct visualization and complete excision. Muscle-sparing exposure is particularly attractive in pediatric and adolescent patients because it may reduce morbidity and accelerate functional recovery. In revision surgery, careful exposure is required to avoid residual cartilage and to protect the surrounding soft tissues.

The main limitation of this report is that it is based on a single patient and relies on clinical follow-up after revision excision. Nevertheless, the case adds value because it represents a rare recurrent presentation of a previously reported ventral scapular osteochondroma and highlights a practical message: apparent cure after excision should not preclude follow-up until skeletal maturity, when the original lesion occurred in childhood.

Conclusion

Recurrent ventral scapular osteochondroma is rare but clinically important. In adolescents with a recurrent static scapular deformity after previous excision, recurrent osteochondroma should be considered. Accurate differentiation between pseudo-winging and true neuromuscular winging, appropriate cross-sectional imaging, complete excision of the lesion including the cartilage cap, and follow-up until skeletal maturity are key elements for successful management.

Clinical Message

A static scapular deformity is not always neurological winging. In a child or adolescent, particularly after previous excision of a ventral scapular osteochondroma, recurrent pain and pseudo-winging should raise suspicion of recurrence. Complete resection and continued follow-up are essential to prevent persistent symptoms and delayed diagnosis.

Ethics approval: Formal ethics committee approval was not required for this single-patient case report according to institutional practice. The manuscript was prepared in accordance with the principles of the Declaration of Helsinki and with patient confidentiality preserved.

Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given the consent for his images and other clinical information to be reported in the journal. The patient understands that his names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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