MAK HILL Publications Research Journal of Medical Sciences

Research Article
doi: 10.36478/makrjms.2025.3.74.77

OPEN ACCESS

**Key Words**
Spine of the scapula, osteochondroma

**Corresponding Author**
Dr. P. Radhakrishnan,
Department of Orthopaedics, Tagore Medical College Chennai, India

**Author Designation**
[1,2]Associate Professor
[3]Assistant Professor

**Received:** 10th January 2025
**Accepted:** 27th February 2025
**Published:** 07th April 2025

**Citation:** Dr. P. Radhakrishnan, Dr. E. Sathish Balaji and Dr. B. Balaji, 2025. A Rare Presentation of Solitary Osteochondroma in the Spine of the Scapula with Incidental Pilonidal Sinus. Res. J. Med. Sci., 19: 74-77, doi: 10.36478/makrjms.2025.3.74.77



# A Rare Presentation of Solitary Osteochondroma in the Spine of the Scapula with Incidental Pilonidal Sinus

[1]Dr. P. Radhakrishnan, [2]Dr. E. Sathish Balaji and [3]Dr. B. Balaji
*[1-3]Department of Orthopaedics, Tagore Medical College Chennai, India*

**Abstract**
Osteochondroma of the scapula is a rare tumor of the thorax. It constitutes 14.4% of all tumors of the scapula with the ventral surface being the most common site of presentation. The dorsal surface of the scapula is rarely seen as a potential site for the origin of osteochondroma from our review of the literature, which was the case in our patient. We report a rare case of a sessile variety of osteochondroma at an unusual site-dorsal surface of the spine of the scapula in a 19-year-old female. The tumor was excised and the patient was asymptomatic with no history of recurrence. This case is reported for its rarity and its unusual site of presentation. A solitary congenital variant of osteochondroma of the spine of the scapula has never been reported to the best of our knowledge.

## INTRODUCTION

According to the World Health Organization (WHO), Osteochondroma are bone projections enveloped by a cartilage cover that arises on the external surface of the bone[1]. Despite their predominant composition of bone, their growth takes place in the cartilaginous portion. They present two distinct clinical forms: single lesions (solitary osteochondromas) and several lesions (multiple osteochondromas). constitutes 10% of all bone tumors and, among these, 35% (20-50%) of the benign tumors. Single lesions are found in 85% of the individuals diagnosed with osteochondroma[2]. It is the most common benign bone tumor. Osteochondroma more frequently affect the appendicular skeleton (upper and lower limbs)[3]. The long bones of the lower limbs are the bones most commonly affected[4]. The knee is the region most affected (40% of the cases). After the knee, the proximal portions of the femur and the humerus are the sites preferentially affected[3]. We discuss a unique case of an osteochondroma at the spine of the scapula that highlights the fact that osteochondroma can occur in the most unlikely places, and they should be properly visualized radiologically to evaluate any extensions and compromised surrounding structures before surgical intervention.

**Case Report:** A 20 yrs old female presented to the outpatient department with complaints of pain, swelling, and discharge over the right shoulder for the past 1 year. The patient was normal at the age of 1 year, following which she developed swelling in the right shoulder (posterior aspect) and underwent I and D, following which the patient was asymptomatic. At the age of 10 patient noticed hard swelling in the right shoulder (posterior aspect). At the age of 13 patient noticed discharging sinus associated with pain (on and off) for which the patient underwent non-operative management. The pain was initially associated with discharging sinus. At present, pain is associated with swelling of the right upper limb, which is aggravated during activities and relieved on rest. Pain is radiating to the right upper limb, neck, upper back associated with numbness. The swelling was insidious in onset and gradually progressive to present size. Discharging sinus had clean/whitish fluid (on and off). There was no history of trauma, fever, difficulty in breathing, weight loss and other constitutional symptoms. On examination, healed scar (~2x2cm) with discharging sinus present in the superomedial aspect of the spine of the scapula. An immobile swelling (3x2cm) with pinchable overlying skin in the superomedial border of the spine of the scapula, with diffuse tenderness, was present. Muscle wasting present, No dilated veins/ visible pulsations, No winging of the scapula. There was a full range of motion in the right shoulder associated with pain. There was no sensory or motor deficit. X ray of the Right Shoulder AP and Scapular Y view was inconclusive. CT scan showed sessile bony growth with no cartilaginous cap. A provisional diagnosis of Sessile osteochondroma of the spine of the scapula with pilonidal sinus was made. The patient underwent an excision biopsy.

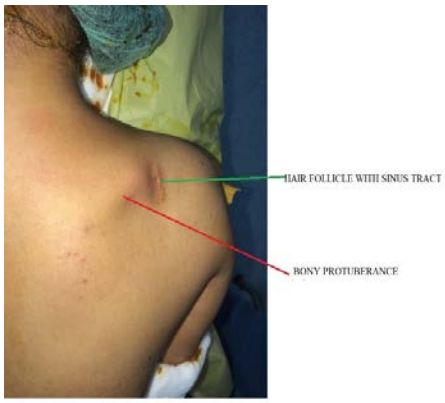


Fig. 1: Pre-Op Clinical Picture

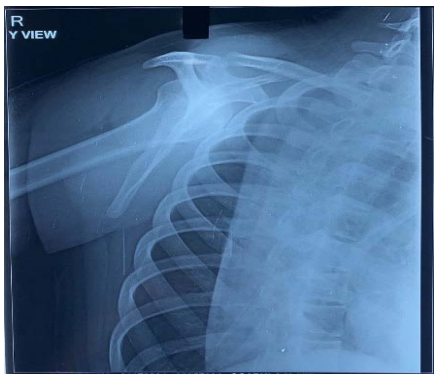


Fig. 2: X-Ray Right Shoulder Y View

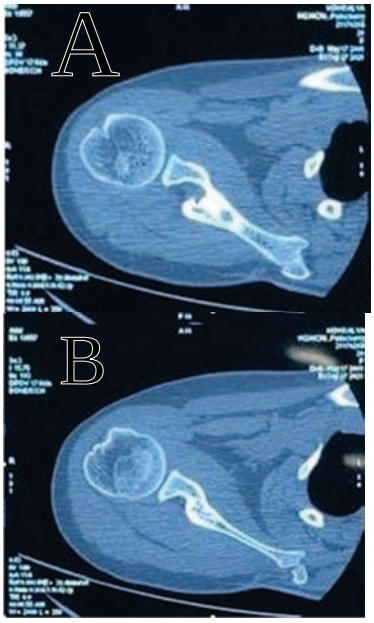


Fig. 3a,b: CT Right Shoulder Shows Sessile Bony Growth

**Procedure:** Under general anaesthesia and nerve block, patient in Prone position, parts painted and draped sterile. A 3cm incision was made over bony

prominence over the right spine of the scapula, an interval between supraspinatus and infraspinatus was used. Found to have inward growth of hair follicle. The hair follicle was removed along with the base and sent for biopsy. Protruding bone mass from the spine of the scapula was marked and extraperiosteally resected and sent for biopsy. The raw area over the bone was covered with bone wax after a thorough wash. Wound closed in layers. Dressing done. The patient tolerated the procedure well.

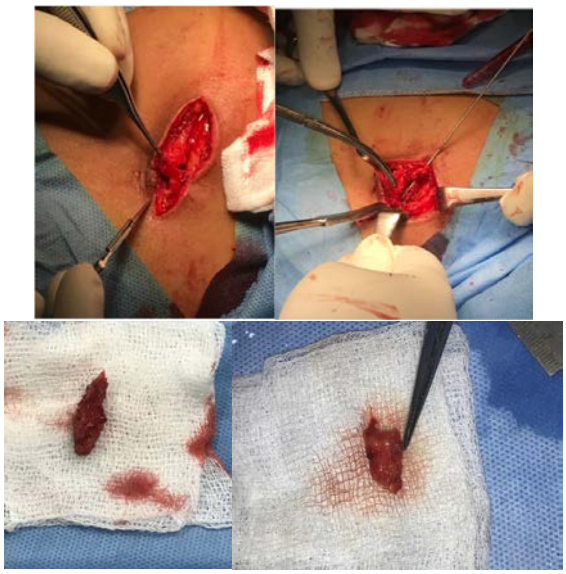

Fig. 4: Intra-Op Picture: Sinus Tract Excised and Extra Periosteal Resection of Bony Mass Done

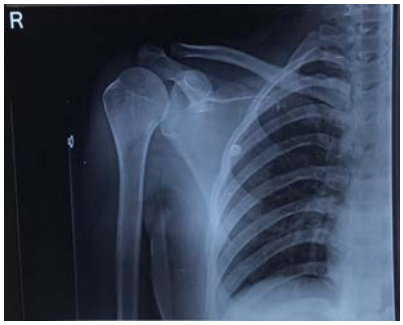


Fig. 5: Post-Op Right Shoulder Ap View

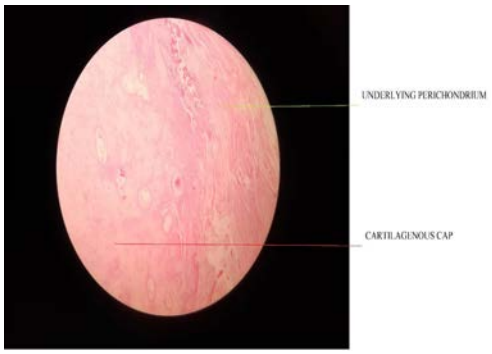


Fig. 6: Histopathology of Bone: Bony Fragments with Cap Composed of Mature Hyaline Cartilage with Overlying Fibrous Perichondrium with Surrounding Areas of Fibro Collagenous Tissue and Hemorrhage

## RESULTS AND DISCUSSIONS

Osteochondroma of the scapula is a rare tumor of the thorax. It constitutes 14.4% of all tumors of the scapula with the ventral surface being the most common site of presentation. The dorsal surface of the scapula is rarely seen as a potential site for the origin of osteochondroma from our review of the literature, which was the case in our patient. Osteochondroma commonly occurs at the age of <30 years, with a male-to-female ratio of >1.5:1. Our patient was a female of 19 years of age, presented with a painful bony mass, deformity and discharging sinus from the right scapula. A wide range of other presentations includes a decreased range of motion, nerve impingement, underlying bursitis and "pseudo-winging" of the scapula. Snapping scapula syndrome, which is a syndrome of painful, audible and/or palpable abnormal scapula thoracic motion, can develop when the osteochondroma is presented on the anterior surface of the scapula, especially in adolescence or early adulthood. Osteochondroma are usually not difficult to diagnose clinically, but confirmation is a must by histopathological studies of the biopsy taken. Radiographic studies such as X-ray and CT scans are essential for isolating the location of the mass and planning surgical approaches[5]. In our patient, a CT scan with a three-dimensional reconstruction of the shoulder was done and it revealed the mass to be a sessile osteochondroma. Magnetic resonance imaging is usually reserved for cases in which malignancy is suspected. Histopathology of bone and Soft tissue biopsy sent showed features consistent with osteochondroma and pilonidal sinus respectively. A cartilaginous cap thickness of <1 cm indicates a benign condition, whereas a cap thicker than 2 cm should raise concern for malignant transformation[6]. The only definitive treatment of osteochondroma is en-bloc excision of the tumor[7,8]. After narrowing down the location of the mass with the aid of a CT scan, we planned a surgical approach through the intervals between supraspinatus and infraspinatus. In our patient, the incision made was only 4 cm and we wanted to give importance to resecting the tumor completely. The overall prognosis is good with relapse being very rare, usually occurring when tumor margins are not cleared completely and residual fragments of cartilage cap or periosteum remain following excision[6]. Endoscopic resection is gaining popularity due to claims of earlier functional recovery, better results in terms of pain relief, post-operative performance and cosmetic outcome due to a smaller incision[8]. Incomplete excisions lead to a 2% recurrence risk[9]. The decision for surgery was taken because of the increasing size and discomfort for the patient for the past 1 year. Solitary Osteochondroma of the spine of the scapula are rare and most of the time present on the ventral surface of

the scapula causing snapping shoulder syndrome. Unusual site of presentation such as the spine of scapula must also be thought of while clinically examining the patient. Surgeons must strive to completely resect the tumor to negate the risk of recurrence. Surgical excision should be done at the earliest for symptomatic cases to reduce the risk of malignant transformation.

## CONCLUSION

The purpose of this study is to report a rare presentation of a solitary osteochondroma on the dorsal surface of the spine of the scapula. This unusual, rare form of presentation of a solitary osteochondroma has not been reported before in the literature and hence poses a diagnostic challenge while managing such patients.

## REFERENCES

1. Khurana J., F. Abdul-Karim and J.V.M. Bovée., 2002. Osteochondroma. In: Pathology and genetics of tumors of the soft tissues and bones., In: Fletcher C.D., K.K. Unni. and F. Mertens., editors., (Eds.)., IARC Press., Lyon., 0 pp: 234-237.
2. de Souza A.M.G. and R.Z.B. Júnior., 2014. Osteochondroma: Ignore or investigate. Rev. Bras. Ortopedia, Vol. 49: 10.1016/j.rboe.2013.10.002.
3. Dorfman H.D. and B. Czerniak., 1998. Bone tumors In: Osteochondroma., Mosby., St. Louis., 0 pp: 331-346.
4. Resnick D., M. Kyriakos. and G.D. Greenway., 1995. Osteochondroma. In: Diagnosis of bone and joint disorders., In: Resnick D., editor., (Ed.)., Saunders, Philadelphia., 0 pp: 3725-3746.
5. Nekkanti S., A. Moogali, A. Meka and M. Nair., 2018. An Unusual Presentation of Osteochondroma on the Dorsal Surface of the Scapula: A Review of Two Patients. Journal of Orthopaedic Case Reports., Vol. 8: 10.13107/jocr.2250-0685.1098.
6. Frank R.M., J. Ramirez, P.N. Chalmers, F.M. McCormick and A.A. Romeo., 2012. Delayed presentation of osteochondroma on the ventral surface of the scapula. Int. J. Shoulder Surg., Vol. 6: 10.4103/0973-6042.96996.
7. Mahajan S., N. Mahajan, P. Singh, A.B. Shikari and R. Sharma., 2008. Scapula, a rare localization of osteochondroma:A case report. Internet J Orthop Surg., Vol.
8. Chillemi C., V. Franceschini, G. Ippolito, R. Pasquali, R. Diotallevi, V. Petrozza and C.D. Rocca., 2013. Osteochondroma as a cause of scapular winging in an adolescent. J. Med. Case Rep., Vol. 7. 10.1186/1752-1947-7-220.
9. Ceberut K,. M. Korkmaz, I. Ergin and A. Müslehiddinoglu., 2013. Bursa formation with scapular osteochondroma in hereditary multiple exostoses. J Coll Physicians Surg Pak., 23: 512-514.