



## CASE OF SOLITARY OSTEOCHONDROMA CERVICAL SPINE

**Rahul Pushpendra Mehta**

Professor

**Achyut Ravi**

Assistant Professor

**Chayan Jain\***

Junior Resident \*Corresponding Author

**ABSTRACT** **Background:-** Osteochondroma is described as a capped benign bony neoplasm that forms on the outer surface of bone. osteochondromas of the cervical spine are rare. They typically occur in the long bones of the body, and approximately 4% of all lesions occur in the spine.<sup>1,2</sup> Almost 50% of spinal osteochondromas occur in the cervical region. Most are asymptomatic, but the most common symptoms are a painless cosmetic deformity or a slowly enlarging exophytic mass. Most cervical osteochondromas are solitary. The risk of malignant transformation remains low (1–2% in solitary osteochondromas). **Clinical Data:-** 8-year male presented with complain of swelling over posterior aspect of neck since birth. Swelling was gradual in onset, progressing in size, non-tender, firm, hard, non-pulsatile, immobile with respect to underlying structure associated with mild pain with on neck movement and no neurological symptoms. **Investigations:** Xray and CECT was suggestive of pedunculated bony mass arising from left lamina of C3 vertebrae directed towards posterior aspect suggestive of solitary osteochondroma. **Treatment:** On discussion with the parents of child call was taken to excise the mass and which was further send for histopathology analysis which confirmed the diagnosis of osteochondroma with no malignant features.

**KEYWORDS :** Cervical spine, osteochondromas, malignant, neoplasm, Tumour

### INTRODUCTION

Osteochondroma is described as a capped benign bone neoplasm that forms on the outer surface of bone. They typically occur in the long bones of the body and constitute around 20-50% of all benign tumours of bones. Osteochondromas of the spine are rare and constitute approximately 4% of all lesions occurring in the spine. almost 50% of spinal osteochondromas occur in the cervical region [1].

Most of the cervical osteochondroma are solitary, but some are multiple which are usually associated with hereditary multiple exostosis(hme). The risk of malignant transformation in this lesions remain very low (1-2% in solitary osteochondromas and 5-25% in hme)[2].

In cervical C2 remain the most common location for these lesions, followed by C3 and C6, where it usually involves the posterior elements [4].

This tumour generally does not grow once bone maturation is complete, so if it clinically appears, it does so in young patients.

Most of these lesions remain asymptomatic, but the most common symptom is a painless cosmetic deformity or a slowly enlarging exophytic mass but can also present with complaints of pain, restricted movements, or neurological deficit.

### Case Presentation

As narrated by parents, patient was an 8-year-old male who had complained of swelling over the posterior aspect of the neck since 3 years. swelling was gradual in onset, progressive in size, associated with mild pain, and the patient had no neurological symptoms.

On examination swelling was present over the left paraspinal area of size 4 \* 4 cm. It was non tender, hard, non-pulsatile, and immobile with respect to underlying structure, and skin over swelling appeared normal; it had no dilated veins.



Fig 1- Clinical Images

Patient was advised x-ray and was found to have radio-opaque pedunculated mass originating from C3 vertebrae directed towards posterior aspect.

On CECT neck swelling was found to be of size 24\*23\*22mm originating from the left lamina of C3 vertebrae.



Fig 2- Pre-operative Cervical Spine XRAY AP and LATERAL Views

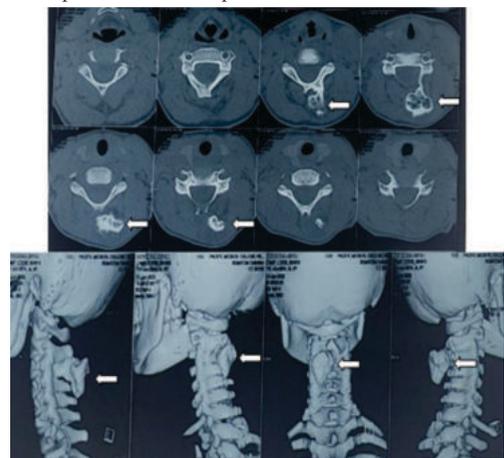


Fig 3- Pre-operative CT-scan Including 3D CT Reconstruction

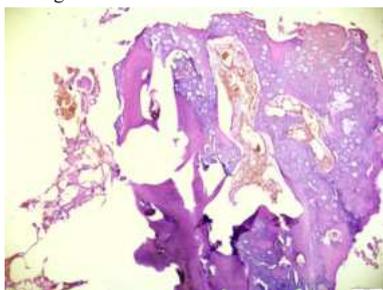
findings on Xray and CECT neck were suggestive of osteochondroma and hence, after discussion with parents, patient was planned for en-mass excision.

Patient was taken in a prone position under general anaesthesia with a midline incision. the whole tumour was removed with intact periosteum, and the base of the stalk was buried.



**Fig 4** – Intra operative clinical images

excised mass was sent for histopathological examination post-operatively, which was suggestive of osteochondroma (exostosis) with no malignant changes.



**Fig 5** – Image Of Histopathological Slide

A post-operatively soft collar was provided to the patient for 1 week, followed by physiotherapy.

On 1 year follow up of patient, there were no signs of recurrence, and patient has a complete range of movement at cervical spine.

#### DISCUSSION

Spinal exostosis most commonly occurs in the cervical spine due to greater mobility in the cervical region compared to other parts of the vertebral column.

This greater mobility leads to microtrauma in this region, which can further lead to displacement of a portion of physal cartilage, subsequently leading to formation of exostosis [2].

These lesions are usually asymptomatic; the majority of the patients present with cosmetic deformity, but they can also present with painful tender swelling, neurological symptoms, and sometimes rarely with restricted movements at the cervical region depending on the site of origin and direction of growth [3]. Our patient presented with cosmetic deformity, which was observed by parents.

A pathognomonic feature of osteochondroma is cortical and medullary continuity of the lesion with the host bone [2]. These typical findings can be seen in the pre-operative x-ray and CT-scan of our patient.

CT-scans not only reveal the cartilaginous and osseous components of the tumour but also provide information about its extent and connection to the vertebra. This imaging technique is crucial for preoperative planning and surgical treatment [3]. Typical findings of osteochondroma can be seen in the CT-scan of our patient.

Asymptomatic lesions can be managed conservatively and should be followed up regularly due to the low rate of malignant transformation, whereas in symptomatic individuals, the plan should be to excise the complete lesion, as incomplete excision of the cartilaginous cap can lead to tumour recurrence. whereas spinal osteochondromas presenting with cord compression are treated with laminectomy or hemi-laminectomy owing to their posterior origin. most operations include in situ marginal or wide excision with or without instrumentation [5]. Our patient came with a complaint of swelling for which En-mass excision with cartilaginous cap followed by burring of its attachment site at lamina with posterior approach was performed on 1 year follow-up patient had no signs of recurrence and had a complete range of movements.

#### CONCLUSION

Patients with cervical exostosis can present with a wide range of symptoms ranging from asymptomatic to neurological involvement depending on the site of origin and extent of lesion. Patients with this type of lesion should be evaluated thoroughly clinically, followed by radiologically with the help of X-ray, CT-scan, and MRI to look for classical characteristics of these lesions, their extent, and to rule out if features any malignant transformation present.

This lesion should be excised completely with cartilaginous cap with or without instrumentation depending on the location and extent of excision.

A sample should be sent for histopathological examination to confirm the diagnosis. regular follow-up should be done for these patients to look for signs of recurrence till skeleton maturity.

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