



# Cervical spine Exostosis in a Boy with Multiple Exostoses

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## BACKGROUND

Multiple osteocartilaginous exostoses (Osteochondromatosis) is a genetically transmitted benign bone disorder consisting of multiple sessile or pedunculated skeletal outgrowths comprising of marrow and cortical bone. Osteochondroma of the Cervical spine is rare but well recognized. Solitary osteochondromas are common benign long bone tumors originating from cartilage. They may produce a wide variety of symptoms and complications depending on their spinal location. These may include compressive myelopathy, nerve root compression, pathologic fracture and malignant degeneration, or in some cases only pain. Solitary cervical spine osteochondromas have been reported mostly in the neural arch or vertebral body. This report describes a patient presenting with neck pain, with a benign osteochondroma arising at the C4-C5 level.

## CASE REPORT

A 12-year-old boy presented to our Out-Patient Department (OPD) with difficulty in squatting and restricted overhead movements of the left arm. His parents first noticed multiple hard swellings around both the knees and shoulders at the age of 5 years. The swellings have gradually increased in size since then and now he complains of bilateral knee, left arm and neck pain with no neurological deficits. X rays revealed bony hard pedunculated multiple swellings around the knee joints, left arm and cervical spine (C4-C5 level). Our patient was surgically treated (wide surgical excision was performed) for multiple exostoses of bilateral knees. At serial Post-Operative follow ups the boy had no residual deformity and neurological deficits.

## CLINICO RADIOGRAPHIC PICTURE



## X RAY OF THE LEFT ARM



## X RAY BOTH LOWER LIMBS POST SURGICAL EXCISION



## DISCUSSION:

Solitary osteochondromas are common lesions and account for 30–40% of all benign bone tumors [1]. Osteochondromas typically affect the long bones either in a solitary form or in multiple form known as multiple exostosis or Osteochondromatosis [2, 3]. Spinal osteochondromas are rare lesions that make up less than 4% of spinal neoplasms [4–7]. Spinal osteochondroma rarely causes spinal cord compression and neurological symptoms such as radiculopathy and myelopathy [2, 3, 5]. The age of onset for spinal osteochondromas is 20–30 years with predominance in males [5, 6]. Solitary spinal osteochondromas may produce a wide variety of symptoms and complications depending on their location and relationship to associated structures. These may include compressive myelopathy, nerve root compression, pathologic fracture and malignant degeneration, or in some cases only pain. Spinal osteochondroma is an uncommon entity; its frequency varies between 1 and 4% for the solitary form and 7 and 9% for the multiple form [8]. A spinal osteochondroma (exostosis) is a protrusion of a well-circumscribed, protruding mass of the neural arch [9]. This mass has a bony stalk that is pedunculated or sessile, and it is covered by a cartilaginous cap [9]. Cartilaginous cap increases in size with the active growing during normal bone growth, both in childhood and adolescence [10, 11]. Spinal osteochondromas are generally seen at the cervical and thoracic regions [1, 3, 8]. All levels of vertebral column can be involved, but the site most affected by isolated osteochondromas is C1 and for the multiple forms C2 [12, 13]. Spinal osteochondromas usually arise from the posterior elements that are the secondary ossification centers, and most commonly near the tips of the spinous processes [10]. Spinal cord compression due to a solitary or multiple exostosis is rare [11]. They are mostly asymptomatic; for that reason, the diagnosis is generally delayed. The symptoms occur when the tumor compresses the spinal cord, nerve roots, or surrounding structures [3]. The detection of spinal osteochondromas is difficult on plain radiographs because of the complex image formed by the spinal bony elements [10, 13]. CT is the choice for diagnosis due to its convenience in revealing the cartilaginous and osseous structures of the lesion [3, 10, 13]. MRI is more useful than CT to define the relationship between tumor and the neighbouring structures like Dural sheath and it also shows the spinal cord compression [10, 13]. The main complication of osteochondroma is malignant transformation, not the local spinal cord compression. The risk for this is 1–5% for solitary forms and 10–25% for multiple forms [15]. For that reason, a detailed clinical and radiological investigation must be done for all patients with osteochondromas. In our case, we diagnosed the osteochondroma of the patient with radiography. In case progressive neurological symptoms develop, the treatment of choice for spinal osteochondroma is surgical removal of the tumor [3].

# CONCLUSION:

Spinal osteochondromas are rare entities and clinical manifestations due to spinal cord compression by the tumor are rarely seen. Total removal of the tumor is the choice of treatment and it is a must for avoiding the recurrence of the tumor.

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