

Solitary Cervical Spine Osteochondroma Presenting as a Hard-Left Lateral Neck Mass in a Young Lady in a Low Resource Setting: A Case Report

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Abstract: Spinal osteochondroma are basically of two forms, these are spinal osteochondromas in patients with multiple osteochondromas and solitary osteochondromas occurring in the spine. Osteochondromas are more prevalent among the male gender and has an age of onset between 20-30 years. This is a 27-year-old lady that was referred for plain radiograph of the cervical region on account of a hard mass on the left aspect of the neck that was slowly growing for two years duration. He patient also complained of occasional left shoulder, forearm, wrist and hand pain with occasional numbness. The plain radiography was done in both anterior-posterior and lateral projection, showed a soft tissue density fullness and an expansile mixed sclerotic and lucent lesion/mass involving the spinous processes of the second to sixth cervical vertebrae. The expansile, and mixed sclerotic and lucent appearance of this area proffered the differential of a solitary cervical spinal osteochondroma. The patient had surgical excision of the tumor, and histopathologic assessment of the tumor confirmed osteochondroma. We report the radiologic finding of a case of Solitary cervical spine osteochondroma in a 27-year-old lady due to its rare nature and presentation.

Keywords: Spinous process, Cervical spine, Solitary. Osteochondroma.

INTRODUCTION

Osteochondroma also referred to as osteocartilagenous exostosis, and happens to be the most common skeletal neoplasm and comprises about 20-50% of all benign bone tumors and 10-15% of all bone tumors [1-3].

Osteochondromas usually affect the long bones either in a solitary form or in multiple form and referred to as multiple exostosis or osteochondromatosis [4-6]. When osteochondromas occur in the spine, they are rare lesions and constitute less than 4% of spinal neoplasms [4, 7-9]. Almost 50% of spinal osteochondromas occur in the cervical region [10].

Osteochondromas have an age of onset between 20-30 years and shows a male preponderance, it however rarely causes spinal cord compression and neurological symptoms like radiculopathy and myelopathy [4-7, 11].

Osteochondromas can occur as a solitary lesion or as part of an inherited condition referred to as multiple hereditary exostosis (MHE) [12, 13]. Solitary osteochondromas are however more common in the

spine than osteochondroma associated with MHE [12, 14-16]. Solitary cervical spine osteochondromas are most often seen in the neural arch or vertebral body [4].

Spinal osteochondromas can be located at different areas within the cervical spine: a; as solitary osteochondromas; they may appear as confluent of the marrow of the C6 articular pillar, or seen originating from the spinous processes of C1, C2, C6 and C7 vertebra, from the neural arch of C2, from the anterior aspect of the body of C2 and, b; as hereditary multiple exostoses [7, 17-20].

Osteochondromas may be associated with varying signs and symptoms, these may be from spinal cord or spinal root compression, compressive myelopathy from intraspinal osteochondroma, radiculopathy, dysphagia from compression by anterior solitary hyperostosis of cervical spine or MHE with ventral protuberance. Acute cervical myelopathy, tetraplegia, apnea, sporadic quadriplegia or tetraparesis are also observed signs associated with MHE [7, 21-24].

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Osteochondroma also comes with some forms of complication other than spinal cord compression, the most dreadful is the tendency for malignant transformation noted in about 1-5% for solitary forms and about 10-25% for the multiple forms of osteochondroma [4, 25].

Imaging plays role in the demonstration of osteochondromas, the main imaging modalities are plain radiography, computed tomography (CT) and magnetic resonance imaging (MRI) [4, 7].

Osteochondromas often do have a recurrence rate after surgical excision, this has been reported to be about 1.3% for all cases and about 0% for solitary spinal osteochondroma with myelopathic symptoms, these values were lower than that of about 4% previously reported [9, 12].

CASE REPORT

This is a 27-year-old lady referred to the radiology department from a health care facility for cervical spine radiography on account of a hard-left lateral cervical mass for two years duration of onset.

The patient denied history of similar occurrence in the family, and no history of any bone tumor within siblings and relations.

This is a young lady, not pale, not dehydrated, not jaundiced, not in obvious respiratory or painful distress, has a left lateral neck mass that appear hard to touch, not pulsatile with an overlying intact skin devoid of ulcerations.

The pulse rate was 72 beats/minute, blood pressure was 110/65mmHg, respiratory rate was about 14 cycles per minute. The pack cell volume was about

38%, the white cell count was 4500 cells per microliter and a normal erythrocyte sedimentation rate of about 12mm/hr.

The blood electrolyte, urea nitrogen (12mg/dl), and creatinine (0.8 mg/dl), uric acid(2.8mg/dl), calcium (8.8mg/dl) and phosphate(3.0mg/dl) levels were also normal.

The plain cervical and neck radiography done in the anterior-posterior (figure 1) and lateral projection (Figure-2) showed soft tissue fullness and an expansile mixed sclerotic and lucent mass in the left lateral neck on the AP projection and demonstrated to involve the spinous processes of the 2nd to 6th cervical vertebrae (Figure-2), a differential of solitary cervical spine osteochondroma was proffered. However, the patient had no computed tomography (CT) scan nor magnetic resonance imaging (MRI) done.

The patient had no any other exostosis in the remaining bones ruling out the possibility of multiple form of osteochondroma.

The patient had surgical excision and total resection of the tumor through a posterior approach in the referring health care centre, did better on admission and eventually discharged home. The histopathologic assessment of the tumor confirmed the diagnosis of osteochondroma with no malignant features. This information was gotten from the patient's relation.

This is a case of a 27-year-old lady, not married and not gainfully employed. She presented with a hard-left lateral neck mass that turned out to be solitary cervical spine osteochondroma, she had successful excision and got better.



Fig-1: An anterior-posterior view of the plain radiograph of cervical spine showing a left lateral soft tissue fullness with an expansile mixed sclerotic and lucent mass spanning to involve almost all the demonstrated left lateral aspect of the cervical spine; the solitary cervical spine osteochondroma



Fig-2: A lateral cervical radiograph showing an expansile mixed sclerotic and lucent area demonstrated to involve the spinous processes of the 2nd to 6th cervical vertebrae. There is straightening of the cervical curvature with normal cervical bodies anteriorly. The prevertebral soft tissue shadow/plane with the demonstrated air-column show normal appearances

DISCUSSION

Osteochondromas have an age of onset between 20-30 years and shows a male preponderance, it however rarely causes spinal cord compression and neurological symptoms like radiculopathy and myelopathy [4-7, 11], the index case falls within the age of onset but happens to be of the female gender.

Osteochondromas usually affect the long bones either in a solitary form or in multiple form and referred to as multiple exostosis or osteochondromatosis [4-6]. The index case had a cervical osteochondroma, no any bony exostoses was demonstrated in any region of the body excluding the multiple form of osteochondroma.

Osteochondromas may occur in the spine, these are rare lesions and constitute less than 4% of spinal neoplasms, and about 50% of spinal osteochondromas occur in the cervical region [4, 7-10]. The index case belongs to the rare 4% of spinal neoplasm and 50% of those within the cervical region, thereby conforming to these literatures.

Solitary spinal osteochondromas can be located at different areas within the cervical spine; they may appear as confluent of the marrow of the C6 articular pillar, or seen originating from the spinous processes of C1, C2, C6 and C7 vertebra [7, 17-20], the case under review showed solitary osteochondroma spanning between the spinous processes of the 2nd to 6th cervical vertebrae, thereby conforming to these literatures.

Osteochondromas may be associated with varying signs and symptoms, these may be from spinal cord or spinal root compression, compressive

myelopathy from intraspinal osteochondroma and radiculopathy to mention but a few [7, 21-24], the index case had no features of cord compression but suspected radiculopathy with complaints of mild pain and numbness in the left lower limb conforming to some of these literatures.

Osteochondroma also comes with some forms of complication other than spinal cord compression, the most dreadful is the tendency for malignant transformation noted in about 1-5% for solitary forms [4, 25], the index case had no feature of cord compression since the osteochondroma affected the spinous processes and following histopathologic assessment, no feature of malignant transformation was detected, invariance to these literatures.

Osteochondromas are best detected following Imaging, these are plain radiography, computed tomography (CT) and magnetic resonance imaging (MRI) [4, 7]. The case under review had plain radiography of the cervical spine that demonstrated the presence of an expansile mixed sclerotic and lucent mass in the region of the cervical spinous process, thereby conforming to these literatures.

Surgical excision of the osteochondroma may often be warranted especially with associated compressive myelopathy, radiculopathy or vascular compression, the surgical treatment may comprise insitu marginal or wide excision through a posterior, anterior or combined approach with or without instrumentation. The case under review had a complete surgical excision of the tumor with complete resection of the cartilage cap through a posterior approach and also to prevent tumor recurrence in conformity to this literature [12].

CONCLUSION

Hard-soft tissue cervical masses should be adequately imaged by radiologic modalities like plain radiography, CT and MRI to rule out osteochondromas in order to establish treatment early and to avoid anticipated complications like spinal cord compression and malignant transformation.

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