

Manoj Bohara, MD, PhD

Department of Neurosurgery,
Nepalgunj Medical College Teaching Hospital,
Nepalgunj, Nepal

Prasanna Karki Bohara, MD, PhD

Department of Neurosurgery,
Nepalgunj Medical College Teaching Hospital,
Nepalgunj, Nepal

Subarna Acharya, MD

Department of Pathology
Nepalgunj Medical College Teaching Hospital,
Nepalgunj, Nepal

Address for correspondence:

Manoj Bohara, MD, PhD
Department of Neurosurgery,
Nepalgunj Medical College Teaching Hospital,
Nepalgunj, Nepal

Email: boharamanoj111@gmail.com

Received: 2/1/2018

Accepted: 10/1/2018

Pediatric Low-grade Chondrosarcoma of Upper Cervical Spine

Head and neck region chondrosarcomas are very rare accounting for 1-12 % of all chondrosarcomas.¹ Thoracic spine is commonly affected. We here present a rare case of upper cervical spine chondrosarcoma in a pediatric patient.

A 7-year-old boy presented with painless and slow-growing mass in the left posterior cervical region. He had no neurological deficits. Computed tomographic scan showed hypodense, non-enhancing lesion in left posterior cervical region abutting posterior arch of C1. It also contained calcification. Magnetic resonance imaging revealed hypointense lesion on T1- and hyperintense on T2-weighted and STIR images, with slight extension into the neural foramina without widening it (**Figure 1**). Peripheral nerve sheath tumor was suspected and the patient underwent total resection of the lesion. Left vertebral artery was abutting the lesion anteriorly without encasement. The nodular, grayish to whitish, 3.8 cm x 2.4 cm mass was removed (**Figure 2**), which contained central cystic space. Histopathological study revealed that it comprised chondrocytes in ill-defined lobules

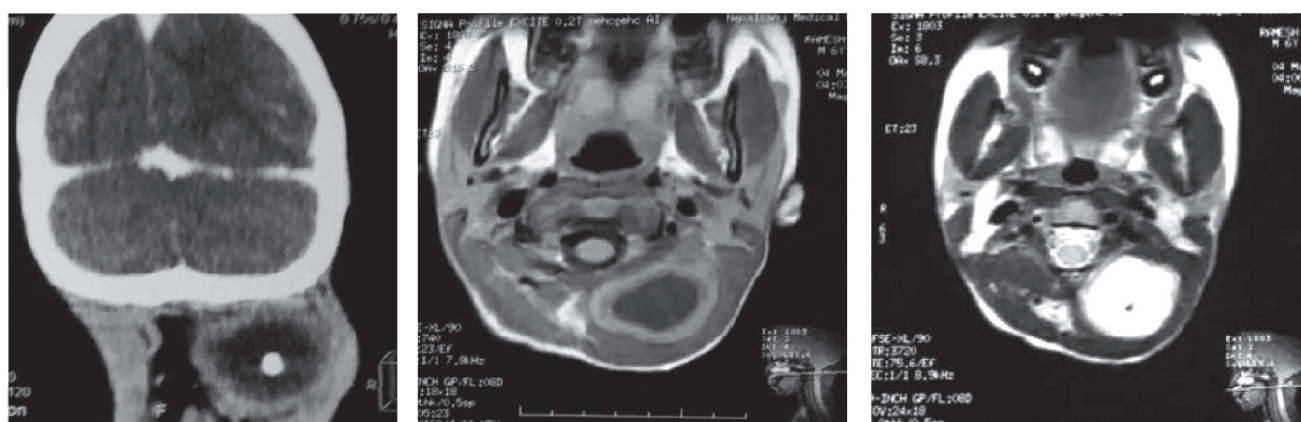


Figure 1: CT scan (A) showed hypodense, non-enhancing lesion with calcification in left posterior cervical region abutting posterior arch of C1. MRI revealed hypointense lesion on T1- (B) and hyperintense on T2-weighted (C) images.

with hyaline matrix. Chondrocytes were hypercellular with rare binucleate chondrocytes with mild nuclear pleomorphism (**Figure 3**). These findings are suggestive of low-grade (grade I) chondrosarcoma. The patient had no postoperative deficits and regular follow-up was advised considering high recurrence rate.

En-bloc resection remains the choice for chondrosarcomas. Local recurrence is very common.²

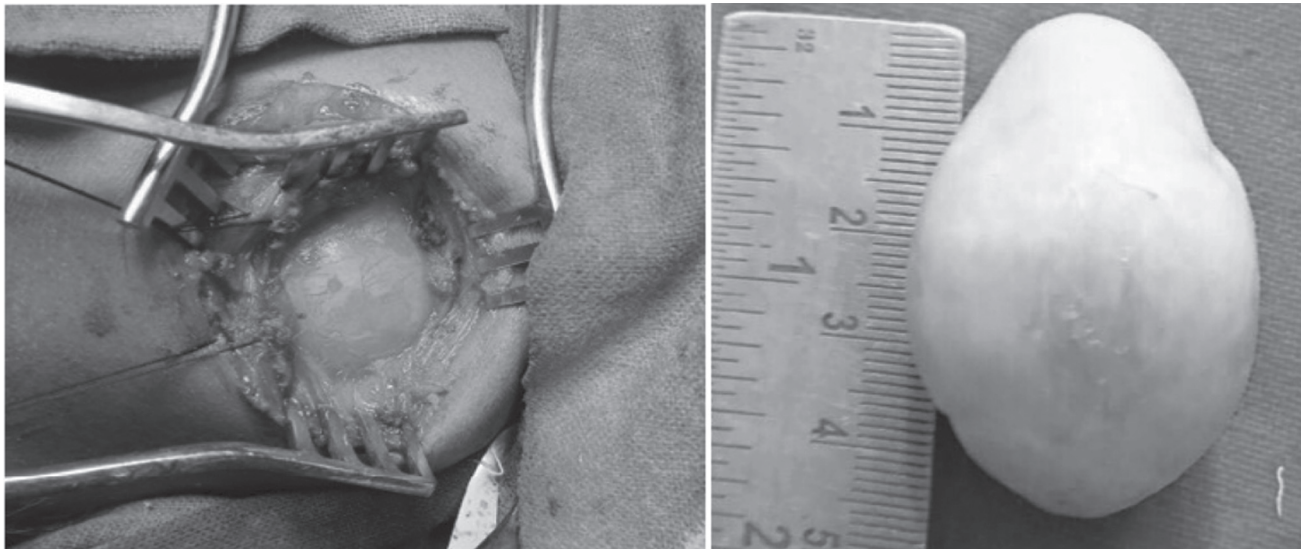


Figure 2: Intraoperative picture showing total resection of the posterior cervical mass.

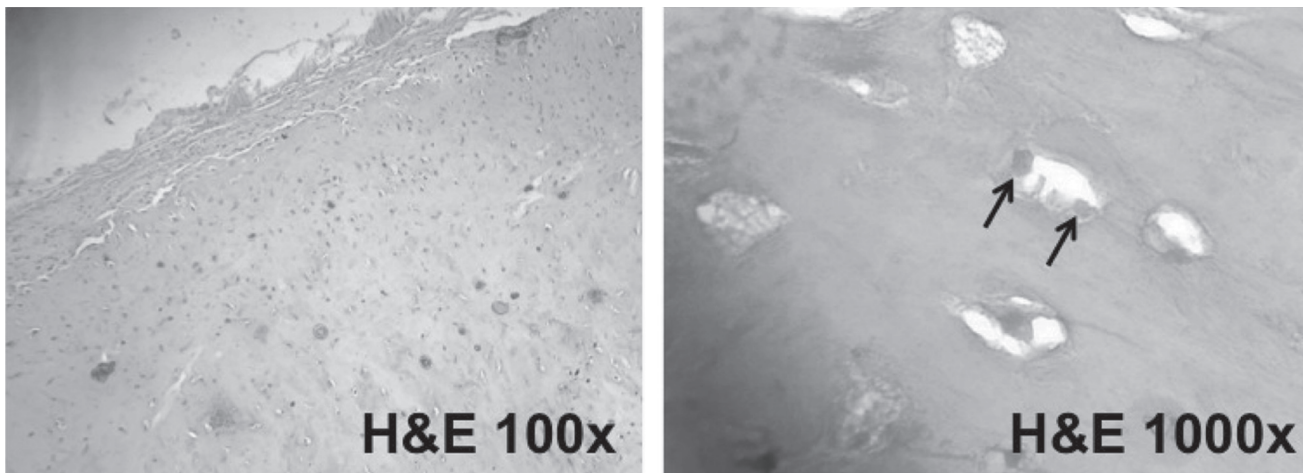


Figure 3: Hematoxylin and eosin (H&E) staining showed chondrocytes in ill-defined lobules with hyaline matrix (A). Chondrocytes were hypercellular with rare binucleate chondrocytes (indicated by arrows) with mild nuclear pleomorphism (B).

Adjuvant radiotherapy has a limited role, is applied usually in incomplete resection or for palliation. Chemotherapy is not recommended.³Prognosis is good for low-grade with 5-year survival of 90%.¹Regular radiological follow-up is required to detect any recurrence. Thus, chondrosarcoma should be considered as a differential diagnosis of cervical spine tumors for appropriate management.

References:

1. Tachino H, Fushiki H, Ishida M, et al. A low-grade

chondrosarcoma presenting as an unusual cervical mass in the hyoid bone: a case report. **J Med Case Rep.** 6:21, 2012

2. Boriani S, De Lure F, Bandiera S, et al. Chondrosarcoma of the mobile spine: report on 22 cases. **Spine (Phila Pa 1976)** 25(7):804-12, 2000

3. Gelderblom H, Hogendoorn PC, Dijkstra S, et al. The clinical approach towards chondrosarcoma. **Oncologist** 13(3):320-9, 2008