

Lumbar Spinal Chondroma Presenting with Radiculopathy: Case Report

Radikülopati ile Prezente olan Lomber Spinal Kondrom: Olgu Sunumu

ABSTRACT

Chondroma is a very unusual cartilagenous neoplasm of the spine. Here we are present a case of spinal chondroma with radiculopathy. A 54-year-old female patient consulted with progressive low back pain and left femoral numbness. Lumbar spinal Magnetic resonance (MR) imaging studies showed an extradural mass lesion in the left L2 body. Computerized tomography (CT) did not reveal any osteolytic lesion of the bone. The mass lesion was excised totally by left partial hemilaminectomy and the intradural compartment was also checked. The histopathology of the lesion was confirmed as chondroma. Preoperative evaluation and meticulous pathological analysis are required because of the malignant transformation potential of these rare pathologies.

KEY WORDS: Chondroma, Spine, Lumbar, Radiculopathy

ÖZ

Kondroma, spinal kolonun çok nadir, benign kartilajenöz neoplazmidir. Burada L2 radikülopati ile gelen olan lomber spinal kolon "kondrom" olgusu sunulmuştur. 54 yaşındaki bayan hasta, progresif bel ağrısı ve sol uylukta uyuşma şikayeti ile başvurdu. Yapılan lomber spinal MR'ında sol L2 seviyesinde ekstradural kitle lezyonu saptandı. BT'de osteolitik bir değişiklik izlenmedi. Kitle sol hemiparsiyel laminektomi ile intradural kompartman da kontrol edilerek total olarak eksize edildi. Lezyonun histopatolojisi "kondroma" olarak saptandı. Bu nadir patolojilerde malign transformasyon riski olması nedeni ile tam bir preoperatif değerlendirme ve dikkatli bir histopatolojik incelemesi gereklidir.

ANAHTAR SÖZCÜKLER: Kondroma, Spinal, Lomber, Radikülopati

Ahmet ÇETİNKAL¹

Göksel GÜVEN²

Ali Kıvanç TOPUZ³

Ahmet ÇOLAK⁴

Mehmet Nusret DEMİRCAN⁵

Aptullah HAHOLU⁶

1,2,3,4,5 GATA Haydarpaşa Training Hospital,
Neurosurgery Department, Üsküdar,
Istanbul, Turkey

6 GATA Haydarpaşa Training Hospital,
Pathology Department, Üsküdar,
Istanbul, Turkey

Received : 16.01.2008

Accepted : 09.05.2008

Correspondence address:

Ahmet ÇETİNKAL

Phone : 02165422815

Fax : 02163487880

E-mail : acetinkal@yahoo.com

INTRODUCTION

Chondroma is a fairly rare benign cartilaginous neoplasm of the spine. Chondromas (sometimes known as enchondromas) are benign rests of hyaline cartilage within cancellous bone that result from failed migration of chondrocytes. Although chondromas are generally asymptomatic they may cause many slowly-developing neurological symptoms. Careful preoperative diagnosis and total removal of the tumour is important because malignant transformation may occur in chondromas. We discuss a case with lumbar spinal chondroma presenting with radiculopathy.

MATERIAL and METHOD

The history and neurological examination of the patient revealed progressive back pain and left femoral numbness and L2 hypoesthesia that had been present for almost 3 years. There was no significant alteration in the lumbosacral radiogram (Figure 1), but MR images demonstrated a contrast-enhancing mass lesion that was isointense on T1WS, hypointense on T2WS (Figure 2). There was no osteolysis on CT scanning. We suggested surgery

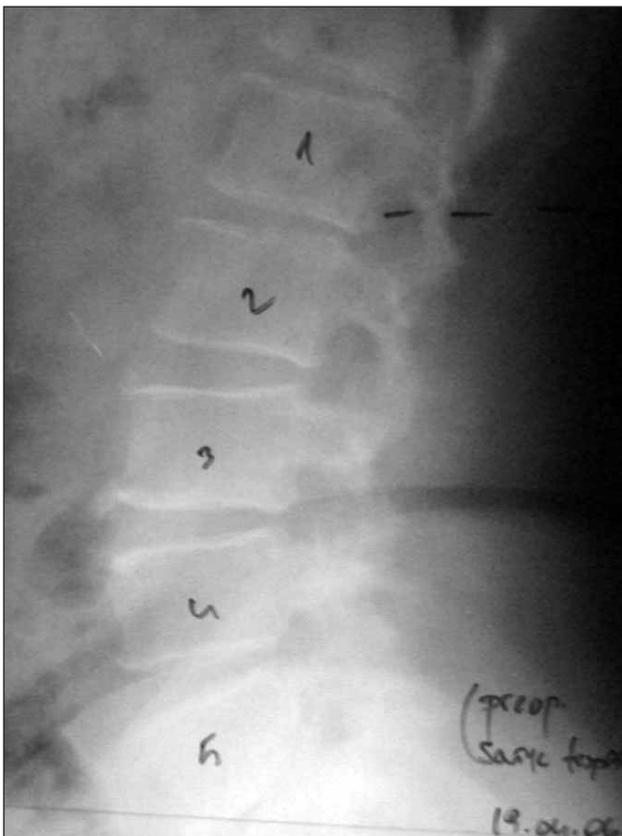


Figure 1: Preoperative lateral lumbar X-ray of the case.



Figure 2: T1 sagittal (a), T2 sagittal (b) and contrast-enhanced T1 axial (c) lumbosacral spinal MR images of the case.

and the patient accepted. The mass lesion was totally excised by hemipartial laminectomy and the intradural compartment was also checked for infiltration.

RESULT

All the patient's complaints resolved in the early postoperative period. The histopathology of the lesion was established as chondroma (Figure 3). There was no residual lesion in the contrast-enhanced lumbosacral MR scans at the third month follow-up. The patient is still in touch for follow-up.

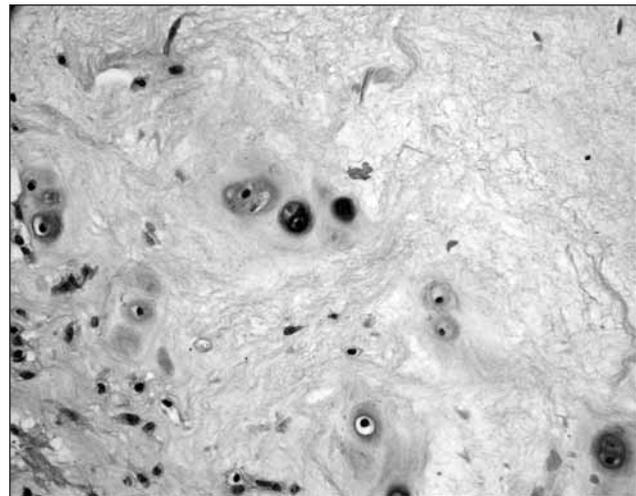


Figure 3: Chondrocytes, not cytologically atypical, in the lacunes in cartilaginous matrix (Hematoxylin Eosin dye, 40X).

DISCUSSION

Chondroma is a very unusual cartilagenous neoplasm of the spine. Chondromas make up 2% of all spinal tumours and 2.6% of all benign tumours. We found in the literature that chondromas of the spinal colon, especially of the lumbar region are very rare, and usually reported as cases as in our case report. Symptomatic chondromas are also very unusual. They are classified pathologically as

chondroblastic bone tumours (2). The differential diagnosis of low-grade chondromas and well-differentiated chondrosarcomas is difficult (6). Chondromas, also known as enchondromas, consist of benign hyaline cartilage and include tissue islets of chondrocytes and cancellous bone tissue. Metaplasia of the spinal connective tissue may be the reason for their development and there are usually no pathological changes in the adjacent bone tissue (4). The spontaneous malignant transformation rate is very low but it is over 50% as a component of syndromes.

Chondromas included in syndromes are usually seen with Ollier's syndrome (multiple enchondromatosis) and Maffucci's syndrome (multiple enchondromatosis and soft tissue haemangioma) (2,5). Chondromas are seen in the 1-6th decades with a peak at the 2-3rd decades. They are mostly seen in males and chondromas that do not involve the spinal canal are usually asymptomatic (6). They may cause many neurological symptoms by oedema of the paravertebral structures or a mass effect in the spinal canal (1,2,7). In a retrospective literature review, Gaetani P. et al. found that the presentation of the disease was local oedema and pain without radicular findings in 10 cases, ischialgia and back pain in 6 cases, spinal cord impression in 2 cases, and the cauda equina syndrome in 1 case (2). However, only 4 of the 6 cases with ischialgia were reported as chondroma (all the lesions were in the L4 body). One of them was osteochondroma and the other had no pathology diagnosis.

Preoperative careful physical examination and a series of screening studies including x-ray, MR

imaging studies and CT are very important for evaluation of tumour invasion and relation of the tumour with the adjacent tissue. MR imaging studies are very useful in the differential diagnosis and the evaluation of possible histological malignity.

The risk of malign transformation of these pathologies necessitates a careful pathology examination of the tumour that has been totally excised if possible. A thorough neurological examination combined with radiological evaluation in view of the other pathologies in the differential diagnosis is an obligation.

REFERENCES

1. Bland LI, McDonald JV: Chondroma of the lumbar spine, a rare cause of sciatica: case report. *Neurosurgery* 6(4):685-687, 1990
2. Camins MB, Jenkins AL, Singhal A, Perrin RG: Tumors of the vertebral axis: Benign, primary malignant, and metastatic tumors. In: Winn HR, ed. *Youmans Neurological Surgery*. Saunders, PL: The Curtis Center, 4835-4868, 2004
3. Erten SE, Koçak A, Mizrak B, Kutlu R, Çolak A: An end-plate chondroma mimicking calcified lumbar disc herniation. A case report and review of the literature. *Neurosurg Rev.* 22(2-3):145-8, 1999
4. Gaetani P, Tancioni F, Merio P, Villani L, Spanu G, Baena RR: Spinal chondroma of the lumbar tract: Case report. *Surg Neurol.* 46(6):534-539, 1996
5. Lane J, Cammisa FJ, Glasser D: Benign cartilage tumors of the spine. In: Sundaresan N, Schmidek HH, Schiller AL, Rosenthal DI, eds. *Tumors of the spine: Diagnosis and Clinical Management*. WB Saunders, PL. 146-148: 1990
6. Motooka Y, Kondoh T, Kurihara E, Tamaki N: Chondroma of the lumbar spinal canal: A case report. *No To Shinkei* 54(4):347-351, 2002
7. Scarborough M, Moreau G: Benign cartilage tumors. *Ortop Clin North Am.* 27:583-589, 1996