



SPINAL LYMPHOMA

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Abstract : Lymphoma is a lymphoreticular neoplasm primarily arises in extraskelatal location and skeletal involvement is secondary. skeletal lymphoma commonly seen at thoracic , lumbar and cervical spine. Primary bone lymphoma (PBL) comprises less than 5 percentage of all malignant bone tumors and almost 7 percentage of all extranodal lymphomas. Only 1.7 percentage of all PBLs have been reported to involve the vertebrae. In Hodgkin's lymphoma, approximately 90 percentage of the cases originate from lymph nodes, whereas 10 percentage arise from extranodal regions. In less than 0.25 percentage of patients with Hodgkin's disease there is primary extranodal presentation. Extranodal non-Hodgkin's lymphoma (NHL) accounts for 24-48 percentage of all NHL, while PSEL comprises 0.9 percentage of all extranodal NHLs. Clinically they present with pain and neurological manifestation. In skeletal Hodgkin's lymphoma shows vertebral sclerosis where as NHL shows permeative destruction is common. In our case patient presented with numbness on both lower limbs for 4 days. Xray revealed paravertebral soft tissue density of D7 with decreased vertebral height . MRI shows altered marrow signal intensity with paravertebral and epidural soft tissue intensity lesion appears T1 hypointense and T2 hyperintense compressing the spinal cord at D7 level. Similar lesion also seen at L5 vertebra. Spinal lymphoma described in this study is a rare presentation with present MRI findings of marrow signal intensity and soft tissue abnormality and epidural component with sequele of mass effect on spinal cord.

Keyword : Lymphoma, Hodgkins, lymphnodes.

Introduction

Lymphoma is a lymphoreticular neoplasm primarily arises in extraskelatal location and skeletal involvement is secondary. skeletal lymphoma commonly seen at thoracic , lumbar and cervical spine. Primary lymphoma of the bone (PBL) is a rare neoplasm accounting for less than 5% of all malignant bone tumors and almost 7% of all extranodal lymphomas(6). Occasionally, it may involve the vertebrae and encroach upon the nerve root, causing claudication and radicular syndrome mimicking spinal stenosis. In Hodgkin's lymphoma, approximately 90 percentage of the cases originate from lymph nodes, whereas 10% arise from extranodal regions. In less than 0.25 percentage of patients with Hodgkin's disease there is primary extranodal presentation. Extranodal non-Hodgkin's lymphoma (NHL) accounts for 24–48 percentage of all NHL, while PSEL

comprises 0.9 percentage of all extranodal NHLs

HISTORY :

A 57yrs old male patient came with the complaints of numbness of both lower limbs and inability to walk for 4 days, which is gradually progressing .Inability to pass urine for 7days.

IMAGING FINDINGS:

Fig1- Dorsal spine AP view shows decreased D7 vertebral body height with paravertebral soft tissue density. Fig2-Dorsal spine LA view shows anterior wedging of D7 vertebral body.

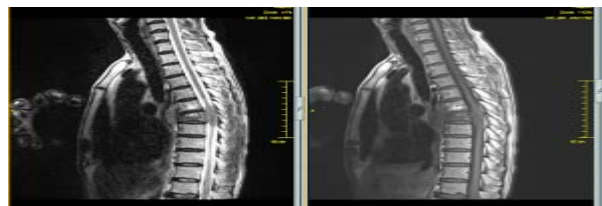


Fig3 – T2W SAGITAL image altered marrow signal and partial anterior wedging of D7 vertebral body with anterior paravertebral and epidural soft tissue intensity lesion appears inhomogenously hyperintense. Fig 4 T1W sagital image shows soft tissue lesion appearing hypointense.



Fig 5 T1fat saturated post contrast parasagittal image shows mild enhancement. Fig 6 STIR coronal shows L5 vertebral body with para vertebral soft tissue hyperintensity.

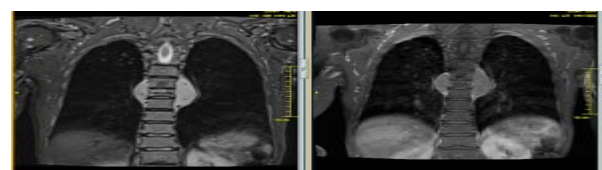


Fig7 STIR coronal image shows hyperintensity D7 vertebra and paravertebral soft tissue Fig8 T1FS post contrast coronal shows mild enhancement.

xray dorsal spine AP/LA view shows decreased D7 vertebral body height with paravertebral soft tissue density.

MRI spine was performed on a 1.5T AVENTO with Gadolinium contrast. *Altered marrow signal and partial anterior wedging of D7 vertebral body with large para vertebral and epidural soft tissue components compressing the spinal cord. * Similar lesions involving L5 vertebral body with para vertebral soft tissue, and lesions at the right sacral ala and the left iliac bone. *These soft tissue components are showing mild enhancement after administration of intra venous contrast.

PATHOLOGIC EVALUATION:

CT guided biopsy of paravertebral soft tissue at d7 level : non hodgkin's lymphoma, b cell type - probably diffuse large b cell lymphoma · Immunohistochemical Marker Study : Interspersed T.lymphocytes are positive for CD3.

DISCUSSION:

It occurs in 40-60 years of age with strong male predominance. The most common region of involvement is the thoracic spine, followed by the lumbar and cervical spine. Clinical symptoms are weakness of the upper or lower limbs, back pain, neck pain, sensory deficits, weight loss, night sweats, fever and impairment of bladder or bowel function. NHL can cause bone destruction and hyperostosis. On MRI, Spinal lymphoma is typically hypointense on T1 and in homogeneously hyperintense on T2WI. Spinal cord compression occurs during the course of Non-Hodgkin's lymphoma in 0.1 to 6.5% of patients. Such involvement tends to develop late in the course of established disease when dissemination has occurred [1]. Epidural extension is best delineated on MRI. MRI clearly demonstrates the paraspinal extent of the lesion Identification of bone/vertebral involvement of Hodgkin's disease, gallium-67 scintigraphy is associated with a sensitivity of greater than 93% and a specificity of 100%[4,3]. Lymphomas may be seen in the brain parenchyma, meninges, spinal cord, and cauda equina[4]. Lymphoreticular neoplasms primarily arise in extraskeletal locations with skeletal involvement usually secondary to hematogenous spread or by direct invasion from surrounding involved lymph nodes or soft tissues. Primary lymphoma of bone is relatively rare in comparison. In Hodgkin's lymphoma, the most frequent radiographic pattern was vertebral sclerosis while in NHL, permeative destruction were predominated.

REFERENCE

- 1.Levitt LJ, Dawson DM, Rosenthal DS, Moloney WC: CNS involvement in the non-Hodgkin's lymphomas. Cancer 1980; 45(3): 545-52.
- 2.Boukoba M, Mazel C, Touboul E. Primary vertebral and spinal epidural non-Hodgkin's lymphoma with spinal cord compression.Neuroradiology. 1996;38:333-7
- 3.Li MH, Holtas S, Larsson EM. MR imaging of spinal lymphoma.Acta Radiol. 1992;133:338-42. [Pubmed]
4. Ho L, Valenzuela D, Negahban A, Wassef H. Primary spinal epidural non-Hodgkin lymphoma demonstrated by FDG PET/CT.Clin Nucl Med. 2010;35:487-9.
- 5.Otter R, Gerrits WB, Sandt MM, Hermans J, Willemze R. Primary extranodal and nodal non- Hodgkin's lymphoma. Eur J Cancer Clin Oncol.
6. Becker J, Venbrocks R. Primary non-Hodgkin lymphoma of the spine. Arch Orthop Trauma Surg. 1998;117:299-401.

