# PRIMARY SACRAL NON - HODGKIN'S LYMPHOMA: A CASE REPORT

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**ABSTRACT**

*Primary sacral lymphoma is rare. With atypical symptoms: back pain and radiculopathy. It has prognostic value, which is much better than the other primary sacral tumor. The report presents a clinical case of primary lymphoma in a 74 - year - old woman with pain and numbness the legs. CT and MRI showed the mass # 5,6x9,5x7,7 cm, with histopathology of Non-Hodgkin's lymphoma of B cell lineage. Aim: to report a rare case - Primary sacral Non - Hodgkin's lymphoma.*

***Keywords:*** *Primary sacral Non - Hodgkin's lymphoma.*

## I. INTRODUCTION

Primary sacral lymphoma is rare, accounting for approximately 5-7% of all spinal tumors [1]. The commonest malignancy of sacrum is metastasis and commonest primary sacral tumor is chordoma [2]. Lymphoma is the third most common malignant tumors of the sacrum but represent less than 5% of malignant bone tumors [3]. It is more common in males than females [4]. With symptoms such as low back pain with or without radiculopathy, accompanied by lytic lesion. In CT and MRI, sacral lymphomas can micmic other tumorous lesion and thus to distinguish these lesions is important because of the overall prognosis of primary sacral lymphoma is better [2]. This report presents the clinical case of a 74 - year - old woman patient admitted to the hospital for pain and numbness the legs and symptoms of spinal cord nerve disease.

## II. A CASE REPORT


*Figure 1: X - ray lumbosacral spine*

A 74 - year - old woman hospitalized for pain, numbness legs about 2 months ago. Nearly one month ago, symptoms progressed with weakness legs to decrease movement. Patients also dull pain in sacral and more pain when she sit and accompa-

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nied by symptoms of constipation and urinary disorders. Clinical examination, patients with pain symptoms of root nerver on bilateral L5 and S1, myotomes was 3/5.

She reduced sensation of L5 and S1 on bilateral of the spine. Deep tenden reflexes were normal. Patients underwent X-ray lumbosacral spine and the results showed normal (Figure 1)

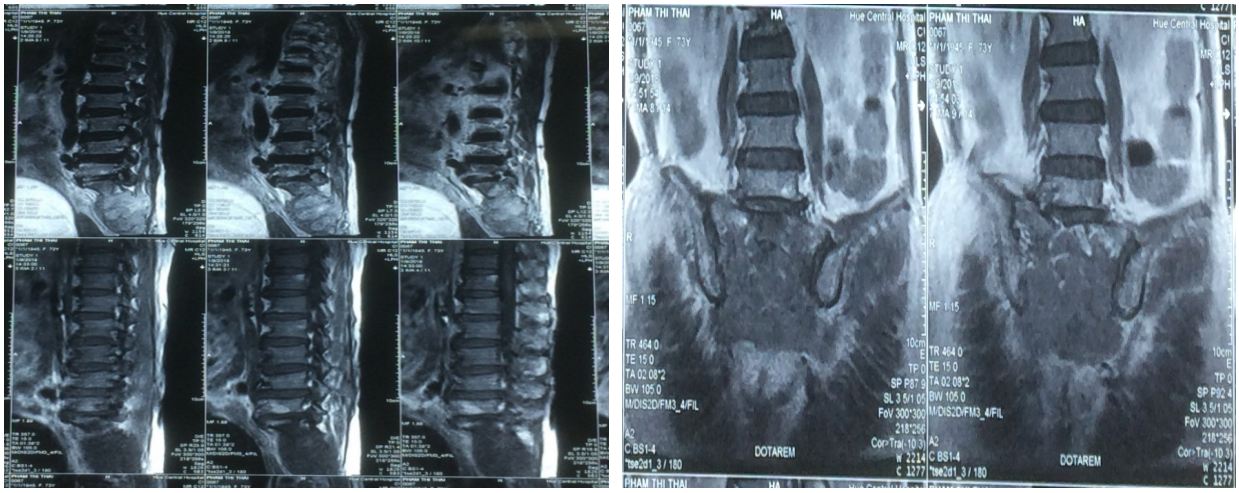


*Figure 2: MRI of the lumbosacral spine*

MRI of the lumbosacral spine, which revealed altered signal intensity on S1-S4 vertebral bodies, was hypointense on T1-weighted , hyperintense on T2 - weighted . the mass # 5,6 x 9,5 x 7,7 cm. The lesion had a clear margin with the anterior rectum, not crossing sacroiliac joint, but poorly deined margins with the laterior. (Figure 2). CT scan of the lumbosacral spine which revealed the solid mass with inhomogeneous density on S1-S4 vertebrae. It invaded around the vertebrae and lytic lesion involving S1 - S4 vertebrae. No lesions are seen in the adjacent area

**Operation**

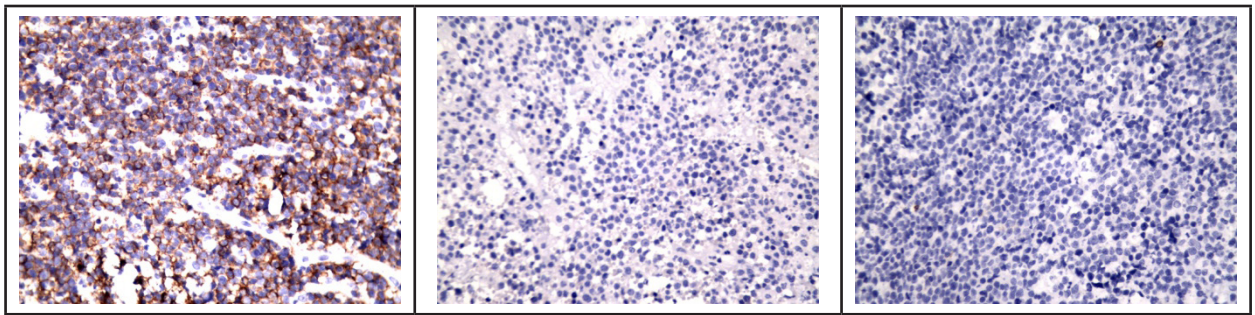
She was operated and L4 - L5 laminectomy was done. In surgery, the tumor was found in sacral canal and invades the S1 - S3 root. The tumor was white-gray, soft, brittle. The tumor was extending from S1 to S4. Decompression of the tumor was done and biopsy was reported as Non-Hodgkin's lymphoma of B cell lineage.

**Post-operative course**

The patient had undergone a good postoperative period. Her radicular pain decreased. Feeling improved. Mobility of the lower limbs were improved

**Histopathology**

On hematoxylin-eosin staining, the tumor was comprised of large cells of lymphoid lineage. There were areas of bleeding and necrosis. The tumor cells had brisk mitotic activity. Immunohistochemistry showed that the tumor cells were positive for LCA, CD3, CD20 and Ki67 (50% positive) and negative for CK1 / 3, CD138 (Figure 3)



| LCA | CK1/3 | CD138 |
|---|---|---|

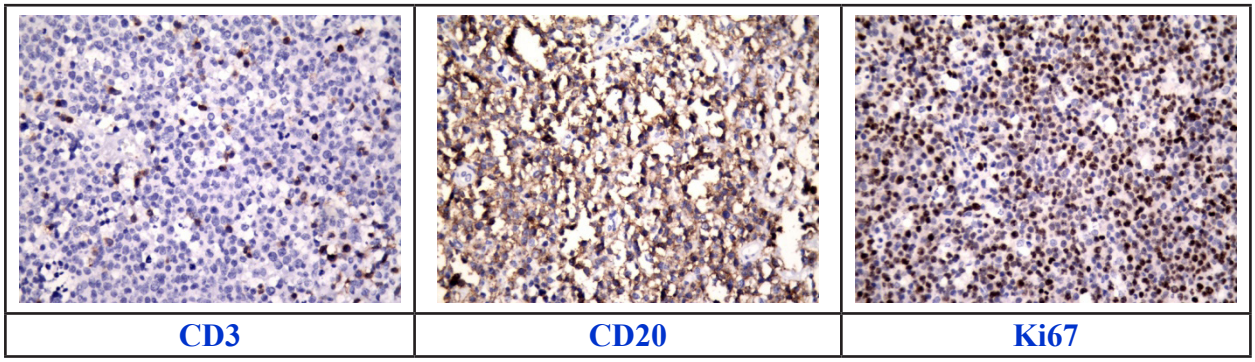



*Figure 3: Immunohistochemistry showed that the tumor cells were positive for LCA, CD3, CD20 and Ki67 (50% positive) and negative for CK1 / 3, CD138*

**Screening for secondary lymphoma**

CT chest and abdomen was normal. There were no enlarge nodes or organs.

**Follow-up**

She was monitored for 2 months and had received radiotherapy for the lumbosacral spine and is doing well.

## III. DISCUSSION

Primary sacral lymphoma is rare, accounting for approximately 5-7% of all spinal tumors [1]. The commonest malignancy of sacrum is metastasis and commonest primary sacral tumor is chordoma [2]. Lymphoma is the third most common malignant tumors of the sacrum but represent less than 5% of malignant bone tumors [3]. In the spine, usually the lower back is involved by lymphoma [5]. Skeletal involvement by lymphoma is more common in males than females [6]. The usual age of presentation is 5th to 6th decade of life [4] although some series report a higher median age of 70 years [6].

The clinical features of spinal lymphoma have been divided into two stages: the preclinical stage, in which localized pain is common and the second stage is characterized by features of compression of cord or cauda equina [5,6]. Lymphoma can cause aggressive bone destruction, although they tend to extent to soft tissue leaving the underlying bone intact [7-9]. Our patients manifested with pain and numbness of the legs and nerve root disease of L5 and S1.

On MRI, the signs of lytic lesion from S1 to S4. The margins are poorly defined presenting a wide zone of transion [10]. Three imaging signs, although nonspeciic, are suggestive of lymphomas. These include the intensity and extent of uptake on bone scan (reveals a hot spot), the massive bone marrow invasion on MRI (poorly deined margins with a wide zone of transition) despite normal radiographic indings, and the large soft tissue mass with no visible cortical lesion on CT [11]. Mascalchi et al after reviewing MRI images of 8 patients of spinal lymphomas concluded that demonstration of a homogenous isointense lesion which extends over more than one segment of the spine, which may have a paraspinal extension and is accompanied by diffuse vertebral marrow signal changes, should raise the suspicion of a primary or a secondary spinal lymphoma.

They also observed the mean longitudinal extension was 2.6 vertebral segments with a range of 1 to 4 segments [12]. Our patient has a 4 segment sacral longitunal extension of the tumor. On the lumbosacral X-ray was normal and the MRI showed the signal changes in S1 - S4 vertebral bodies. On imaging the differential diagnosis includes primary bone tumors, metastasis, multiple myeloma.

In histology, primary sacral tumors have special diagnostic characteristics with the exception of small cell carcinoma cells and

Ewing sarcoma. However, they are excluded by immunohistochemistry: samples positive for common leukocyte common antigen (LCA). Small cell cancers are not found in our case. Metastatic tumors that may be confused with lymphoma are small cell carcinoma from the lung, but immunohistochemistry is not positive for LCA, but is positive for cytokeratin [13]. All the metastatic lesions on MRI will be hypointense on T1-weighted and hyperintense on T2-weighted sequence. Sacral chordomas and chondrosarcomas have specks of calcifications. Multiple myeloma involving the bone shares the same characteristics on MRI imaging, however on isotope scan there will be no tracer uptake and a cold spot is produced [14].

B-cell is the most common type of non-Hodgkin's lymphoma with highly invasive. Bone marrow involvement is present in up to 20% of patients initially, its detection is important because it is closely correlation with the central nervous system [2,15]. Our patients do not have bone marrow involvement.

For localized spinal disease with cord/cauda equine compression, surgery for decompensation and radiotherapy is the treatment options. In a study of 52 patients with primary spinal epidural lymphoma, it was found that the ideal dose of local radiotherapy is 36 Gy. Lymphocytes are very sensitive to radiation and chemotherapy. The results of localized disease treatment are good [2,4].

The 5-year overall survival, disease-free survival, and local control reported by Monnard et al in primary spinal epidural lymphoma were 69%, 57% and 88% respectively. About 42% had local relapse. Younger age and complete neurological response after the treatment are favorable prognostic factors [16].

## IV. CONCLUSION

Primary sacral lymphoma should be considered as one of the differential diagnosis of the sacral tumor in elderly patients.

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