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Lumbar Paget's disease with spinal stenosis and conus medullaris compression

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A 51-year-old man presented with low back pain. Lumbar spine plain radiographs showed loss of height in the L1 and L2 vertebral bodies with retropulsion, but expansion in transverse and anterior-posterior dimensions, and sclerosis (Fig. 1). T1 and T2 -weighted MR

images demonstrated low signal intensity in these vertebrae with some preserved intramedullary fat. Severe spinal stenosis and conus medullaris compression were also noted. No soft tissue component was identified. Postcontrast imaging revealed heterogeneous enhancement at L1 and L2, sparing intervertebral disc spaces (Figs. 2,3). Preoperative radiological diagnosis was Paget's disease. Decompression surgery and biopsy was performed. Pathology confirmed the diagnosis.

Paget's disease with consecutive multilevel vertebral involvement and spinal stenosis causing conus medullaris compression is rare and may be challenging. The main differential diagnosis include metastatic neoplasm, hemangioma, fibrous dysplasia and renal osteodystrophy/primary hyperparathyroidism (1,2).

References

1. Li GS, Long HQ, Lin EJ, Li HM, Liu SY. Consecutive multilevel vertebral Paget's disease of the lumbar spine: a rare Asian case and the differential diagnosis. *J. Orthop Sci* 2013; 18:500-4

2. Morales H. MR Imaging Findings of Paget's Disease of the Spine. *Clin Neuroradiol* 2015 ;19. **DOI:** 10.1007/s00062-015-0376-0.

Legends

Figure 1. Conventional anteroposterior (a) and lateral (b) radiographs of the lumbar spine revealed L1 and L2 vertebral bodies height loss with retropulsion. There were also expansion and sclerosis of these vertebral bodies with increased interpeduncular distance (arrows).

Figure 2. Sagittal T1 (a) and T2-weighted (b) magnetic resonance images of the lumbar spine revealed low signal intensity in the enlarged L1 and L2 vertebral bodies and posterior elements (arrows). There is preservation of the intraosseous fat, a useful discriminant from malignant infiltration (arrowheads). Postcontrast image (c) revealed enhancement of L1 and L2 vertebrae due to the increased blood supply.

Figure 3. Transverse T2-weighted MR image revealed severe spinal stenosis (arrows) due to expansion and retropulsion of both vertebral bodies and expansion of vertebra posterior elements.