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Images in Infectious Diseases

A case of brucellar spondylitis with lumbar spondylolisthesis

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A 46-year-old man was hospitalized with a 6-month history of severe low back pain in addition to weight loss, fatigue, and intermittent febrile symptoms for the past 4 weeks. Physical examination revealed painful and restricted low back movement. His temperature was 37.5°C. Laboratory values were as follows: white blood cell count: 9,600/mm^3, hemoglobin: 13.5g/dl, erythrocyte sedimentation rate: 45mm/h, and C-reactive protein: 58mg/L. The Rose-Bengal test was (++), and the Brucella agglutination test was positive with a titer of 1:320. Computed tomography (CT) revealed intervertebral destruction and narrowing at L4-5 and I° lumbar spondylolisthesis with posterior displacement[1]. There was isthmic spondylolisthesis, and there was marginal damage of the centrum as well as hyperostosis osteosclerosis. The margin of the centrum showed lace-like changes (**Figure A** and **Figure B**). Magnetic resonance imaging (MRI) showed signs compatible with osteomyelitis of the L4 and L5 vertebral bodies with accompanying discitis. L4-5 intervertebral disc tissues were hypointense, heterogeneous,

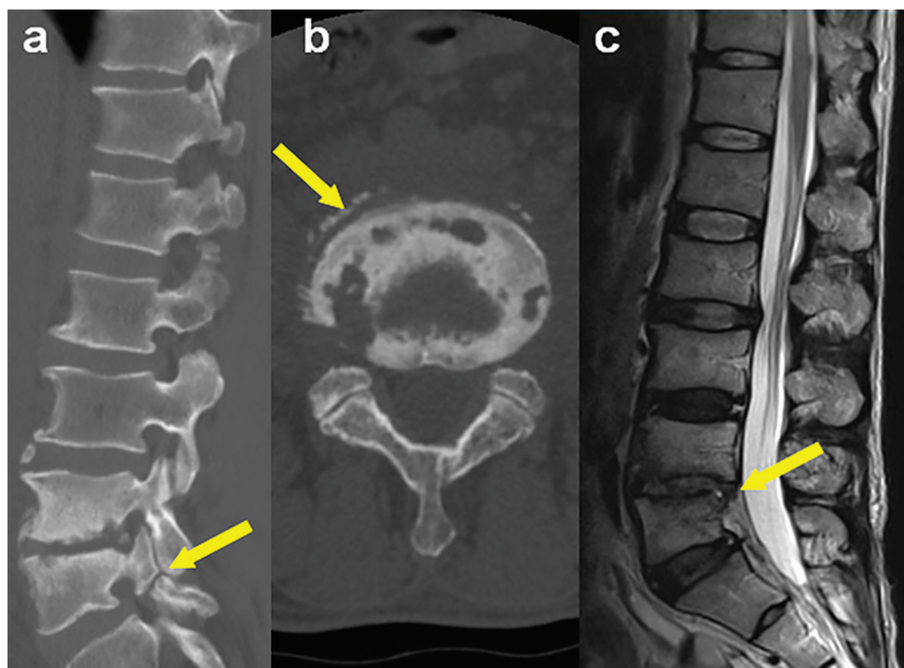

FIGURE A - CT revealed intervertebral destruction and narrowing at L4-5, and I° lumbar spondylolisthesis with posterior displacement (arrow in **FIGURE** A-a). There was marginal damage of the centrum as well as hyperostosis osteosclerosis. The margin of the centrum showed lace-like changes (arrow in **FIGURE** A-b). MRI revealed L4-5 intervertebral disc tissues, and the L4-5 vertebral bodies were hypointense, heterogeneous, and heterogeneous on T1WI, T2WI and STIR images, respectively (arrow in **FIGURE** A-c). **CT:** computed tomography; **MRI:** magnetic resonance imaging; **T1WI:** T1 weighted imaging; **T2WI:** T2 weighted imaging; **STIR**: Short time inversion recovery.

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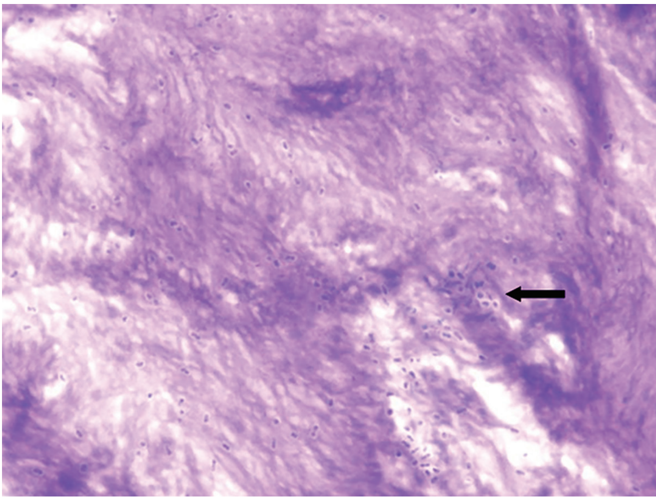

FIGURE B - Giemsa staining (arrow) showed positive Brucella (×1,000).

and heterogeneous on T1 weighted imaging (T1WI), T2 weighted imaging (T2WI), and Short time inversion recovery (STIR) MRI images, respectively (**Figure A** and **Figure C**). Antimicrobial therapy was continued for 6 weeks. Surgical intervention was planned for excision of the lesion and reduction of the spondylolisthesis[(2),(3)]. Histopathological examination revealed tissular and cellular hyperplasia, a proliferating nodule, and granuloma in the focus. Giemsa staining showed positive Brucella (**Figure B**). On the control X-ray after surgery, the intervertebral height had been restored, and the lumbar spondylolisthesis was reduced (**Figure C**).

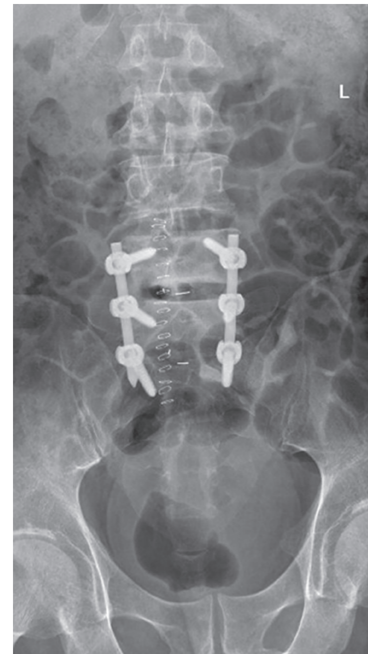

FIGURE C - Postoperative X-ray revealed that the intervertebral height had been restored, and the lumbar spondylolisthesis was reduced. **L:** the left.

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REFERENCES

1. Ozerbil OM, Ural O, Topatan HI, Erongun U. Lumbar spinal root compression caused by *Brucella* granuloma. Spine. 1998;23(4): 491-3.
2. Ulu-Kilic A, Karakas A, Erdem H, Turker T, Inal AS, Ak O, et al. Update on treatment options for spinal brucellosis. Clin Microbiol Infect. 2014;20(2):O75-82.
3. Guerado E, Cerván AM. Surgical treatment of spondylodiscitis. An update. Int Orthop. 2012;36(2):413-20.