Case 1555

Vertebral sarcoidosis
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Section: Musculoskeletal system
Imaging Technique: MR
Imaging Technique: CT
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Case Type: Clinical Cases
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Patient: 38 years, female

Clinical History:

The patient presented with fever, weight loss and back pain. There was no known history of cancer. X-rays of the spine were normal. Increased vertebral uptake was seen on bone scintigraphy.

Imaging Findings:

The patient presented with fever, weight loss and back pain. There was no known history of cancer. X-rays of the spine were normal. Increased vertebral uptake was seen on bone scintigraphy.

On CT examination multiple thoracic and lumbar vertebral lytic- and sclerotic-appearing lesions were seen. On MRI multiple cervical and thoracolumbar lesions were demonstrated (hypointense on T1-weighted images and slightly hyperintense on T2-weighted images) with surrounding bright signal (probably corresponding to oedema) visible around some lesions. No vertebral fracture was visible, and no disk involvement. The epidural space and soft tissues were spared.

Helical chest CT showed mediastinal and bilateral lymph nodes enlargement, thickening of the peribronchovascular bundles, and parenchymal nodules in a peribronchovascular distribution.

Discussion:

Sarcoidosis is a multisystem disease characterised by non-caseating granulomas involving essentially the lungs, spleen and lymph nodes. Bone involvement is rare in sarcoidosis, occurring in 1-10% of cases, usually involving the peripheral skeleton. Vertebral involvement has been described in a dozen case reports. Vertebral lesions usually appear as lytic lesions with sclerotic margins involving the vertebral body and the pedicles (hypointense on T1-weighted images, hyperintense on T2-weighted images). The disk is almost never involved (except in one case report, Kenney et al.). As in our case, a vertebral biopsy is necessary to exclude alternative diagnoses, such as tuberculosis, before initiating steroid therapy. Chest CT is useful to look for associated lymph nodes and parenchymal involvement.

Differential Diagnosis List: Multifocal vertebral sarcoidosis

Final Diagnosis: Multifocal vertebral sarcoidosis
References:

Figure 1

**Description:** The sagittal T1-weighted image shows the presence of multiple hypointense lesions located within the vertebral bodies (Eur Radiol 2002;11:F1-F14). **Origin:**
Description: The sagittal T2-weighted image shows that the vertebral lesions are hyperintense, with the presence of a rim of high signal (probably corresponding to edema) around some of the lesions. (Eur Radiol 2002;11:F1-F14) Origin:
Description: The sagittal T1-weighted image after gadolinium injection shows strong enhancement of the lesions. In addition, there are no vertebral fractures and no disk involvement. The epidural space and soft tissues are spared. (Eur Radiol 2002;11:F1-F14) Origin:
Description: Transverse CT image at the level of L3 shows the presence of two different lesions of the vertebral body: the anterior lesion has a lytic and sclerotic appearance, and the posterior lesion is purely lytic. (Eur Radiol 2002;11:F1-F14). Origin:
Description: Transverse CT image of the sacrum shows the presence of multiple lytic lesions with a sclerotic rim. (Eur Radiol 2002;11:F1-F14) Origin:
**Figure 3**

a

Description: The transverse chest CT scan image (mediastinal windows) shows bilateral enlargement of mediastinal and hilar lymph nodes. (Eur Radiol 2002;11:F1-F14) **Origin:**

b

Description: Transverse chest CT scan image (lung windows) shows thickening of the peribronchovascular bundles, and parenchymal nodules in a peribronchovascular distribution. (Eur Radiol 2002;11:F1-F14) **Origin:**
Description: Transverse chest CT scan image (lung windows) shows thickening of the peribronchovascular bundles, and parenchymal nodules in a peribronchovascular distribution. (Eur Radiol 2002;11:F1-F14) Origin: