

Multifocal septic osteomyelitis mimicking skeletal metastatic disease in a patient with prostate cancer

To the Editor: We present an unusual case of a 59 years old patient with prostate cancer, who was referred to our hospital with pleurodenia, low back and other sites of bone ostalgia, for bone scintiscan [1, 2].

The patient underwent a whole body bone scanning after the intravenous administration of 740MBq ^{99m}Tc -methylene diphosphonate (MDP), (Figure 1). The main findings of the study were: increased radiotracer uptake at the T5, T9-T10 vertebrae, the head of the 11th rib and the area of the left sternoclavicular joint (SCJ), which were initially attributed to skeletal metastatic lesions. Another "hot" area in the left knee, was consistent with severe arthritis [3].

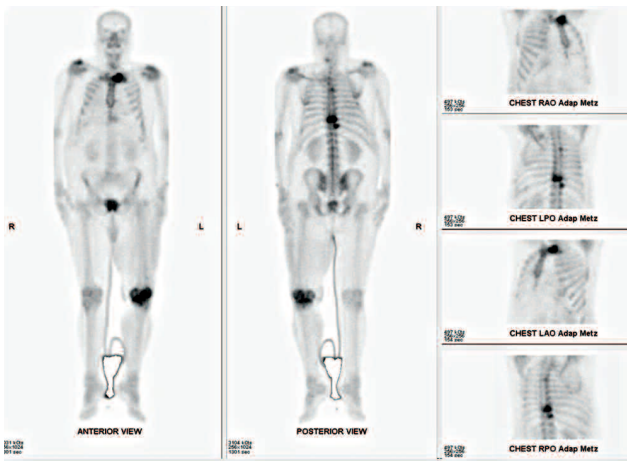


Figure 1. Bone scanning of a 59 years old male patient (right-handed, builder), exhibiting increased radiotracer uptake at the T5, T9-T10 vertebrae, the head of the 11th rib and the left sternoclavicular joint, which was attributed to skeletal metastatic lesions. Furthermore, increased uptake in the area of the left knee and in the body of the 6th and 7th right ribs was also noticed.

Physical examination revealed fever up to 38,7°C, tenderness and swelling of his left knee and various painful sites. Due to persistent fever and markedly raised inflammatory markers (ESR 102mm/h, CRP 73.8mg/L, WBC 16.800 cells/ μL - neutrophils 78%, lymphocytes 15%, monocytes 5%, eosinophils 1%), the patient was further referred for a magnetic resonance (MR) scan with specific interest on the thoracic spine and the SCJ [4]. In the sagittal short-tau inversion recovery (STIR) MR image, abnormally high signal involving both T9 and T10 vertebral bodies due to bone marrow oedema and irregularity of the endplates with focal destruction areas, were observed (Figure 2a). The T9-T10 intervertebral disc had an abnormally high signal suggestive of "hot disc" sign and also a prevertebral soft tissue mass abutting the anterior aspect of the involved vertebral bodies [5] (Figure 2a). The axial T1-weighted image with fat saturation post gadolinium (Gd), revealed diffuse strong enhancement in the vertebral body, the paraspinal soft tissue mass and the adjacent right rib (Figure 2b). Circumferential epidural en-

hancement indicative of intra-canal spread of the infection, was also noticed (Figure 2b). Additional MR sequences covered the level of the SCJ. Extensive subarticular and soft tissue changes with fluid collection and bone oedema of the left SCJ were shown with the typical pattern of diffuse enhancement suggestive of septic arthritis (Figure 3).

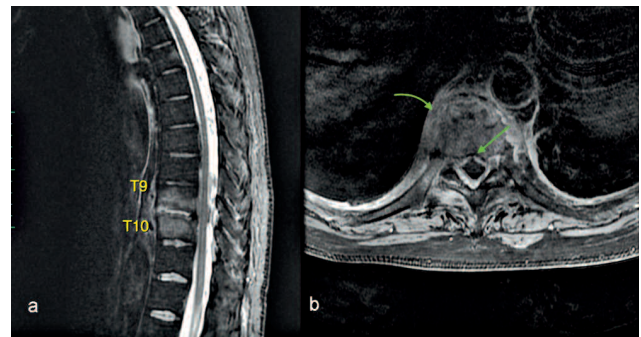


Figure 2. a) Sagittal short-tau inversion recovery (STIR) MR image: High signal involving both T9 and T10 vertebral bodies and the intervertebral disc consistent with spondylodiscitis, is observed. b) Axial T1-weighted image with fat saturation post gadolinium: Diffuse strong enhancement is shown in the vertebral body, the paraspinal soft tissue mass (curved green arrow) and the adjacent right rib with infiltration of the epidural space (straight green arrow).

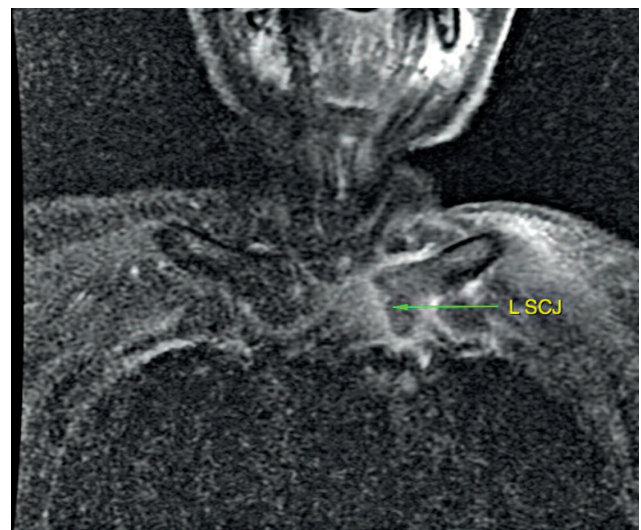


Figure 3. Coronal T1-weighted image with fat saturation post gadolinium: Destruction of the left sternoclavicular joint and diffuse contrast enhancement is shown, due to septic involvement (green arrow).

The MR imaging findings combined with the scintigraphic findings were consistent with subacute multifocal septic arthritis involving the axial skeleton, as a pyogenic spondylodiscitis at the T9-T10 level, the left SCJ joint and the left knee joint [6, 7].

Subsequently, aspiration of the SCJ and the left knee joint was performed. A purulent fluid was drained and sent to mi-

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crobiology. The sample revealed 96.000 cells/ μ L (95% neutrophils) and methicillin-resistant *Staphylococcus aureus* (MRSA). The patient received intravenous vancomycin (2gr. twice a day for 14 days) and subsequently the dose was adjusted to maintain the vancomycin serum levels between 17 and 20mcg/mL. The total treatment duration was 12 weeks. Four months later the patient had fully recovered and his blood tests were normal. The patient had not been referred to an oncology department yet, as the onset of the arthritis occurred about two weeks after the diagnosis of prostate cancer.

In conclusion, we present a patient with known malignancy, fever, skeletal pain and multiple bone lesions in the ^{99m}Tc -MDP and the MRI examination, not due to metastatic disease but to septic arthritis.

The authors declare that they have no conflicts of interest.

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Jaume Huguet (1412-1492): From the Altar of Saints Abdon and Sennen: Saints Cosmas and Damianos transplant the left lower limb to a patient. Tempera in wood, Church of Santa Maria, Terrassa.