Symmetrical Bone Lesion in Both Knees of Patient with Multiple Myeloma

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A 46-year-old female presented to the hospital with left hip pain. Computed tomography (CT) showed osteolytic lesions of the left pelvic bone. Urinary protein electrophoresis showed M-protein of the BjP-κ type. Atypical plasma cells were observed upon bone marrow analysis. The patient was diagnosed with multiple myeloma (MM). After radiotherapy on the left pelvic bone, bortezomib-dexamethazone (BD) therapy was performed. During BD therapy, she complained of pain in both knees. F-18 fluorodeoxyglucose positron emission tomography (FDG-PET) revealed the uptake of FDG in both the distal femur and the proximal tibia (Figure 1a). No other lesions were observed. Magnetic resonance imaging (MRI) and Thallium scintigraphy findings suggested osteonecrosis. To distinguish our findings from other bone disease, a biopsy was also performed (Figures 1b and 1c) because localized symmetrical bone lesion was rare in MM. We confirmed the lesion of MM. Subsequent FDG-PET showed that the lesions had disappeared after radiotherapy and lenalidomide-dexamethazone therapy (Figure 1d).

Figure 1a: FDG-PET at diagnosis of multiple myeloma. Uptake of FDG in both the distal femur and the proximal tibia.  
Figure 1b: Histopathology of biopsied left tibia. H&E shows myeloma cell, and (c) immunohistologic stain positive for κ.  
Figure 1d: FDG-PET after radiotherapy and lenalidomide-dexamethazone therapy. The lesions had disappeared.