Bone scintigraphic findings in a patient with β thalassemia major and knee pain

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Skeletal abnormalities occours in human hemolytic disorders associated with thrombosis, such as beta-thalassemia and sickle cell disease.[1] The osteoarticular complications include avascular necrosis, common at all ages; acute septic arthritis and hematogenous osteomyelitis, that usually affect infant and children.[2] Tc-99m methylenediphosphonate (MDP) bone scintigraphy, eventually in combination with colloid marrow scan, could help clinician in the differential diagnosis between aseptic bone infarcts and secondary osteomyelitis.[2,3] Magnetic resonance imaging (MRI) either in the rat model, imitating acute hemolysis and thrombosis or in humans, demonstrated to be useful in revealing avascular necrosis of bone.[1,4]

We report a 29-year old female with beta-thalassemia major undergoing to transfusion therapy monthly. Due to the onset of left knee pain a bone scintigraphy was performed. Scan findings were consistent with postischemia recovery hyperactivity of left condylus medialis femoris following avascular necrosis. In addition, bone scan showed hyperactive marrow and nephromegaly; a renal abnormality described in patients with hemophilia related to multiple blood transfusions.[5]

In conclusion, bone scintighraphy should be considered in beta-thalassemic patients with recurrent pain attacks, in order to identify osteoarticular complications and other clinical manifestations of disease.

Di Leo Claudio, Bestetti Alberto, Tagliabue Luca, Gian Paolo Cornalba, Tarolo Gian Luigi.

Nuclear Medicine Department and Department of Diagnostic Imaging, University of Milan, Hospital San Paolo, Milan, Italy.

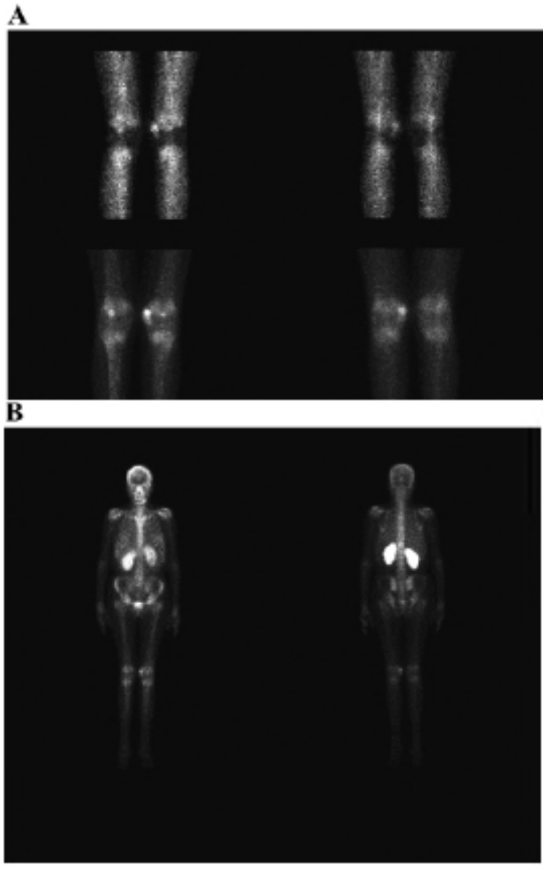

Figure 1. A. Blood pool phase shows augmented vascularization at left condylus medialis femoris, consistent with proliferation of connective tissue and bone following postischemia recovery. B. Bone scan at 3 hours p.i. shows increased osteoblastic regenerative metabolism at left condylus medialis femoris. In addition, demonstrates a simmetrical-increased uptake of 99mTc-MDP at the epiphysis of humerus and diaphysis of femur. Similarly, an intense uptake of radiotracer was seen at the skull. These scan findings are typical of hyperactive marrow. Moreover, a significant nephromegaly was documented.

References

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