

## 24 years old male with abnormal sestamibi Scan

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This 24 year old male presented with chest x-ray evidence of cardiomegaly. For better evaluation a sestamibi heart study was requested. This sestamibi scan (fig-1) showed marked uptake throughout the skeleton, with poor visualization of the myocardium, but visualization of the Hepatobiliary system and bowel activity.

Verification of the injection showed no contamination with bone tracer or tracer misadministration. Uptake was felt to be within marrow. X-ray showed multiple skull metastases and x-ray of the femur showed thickening.

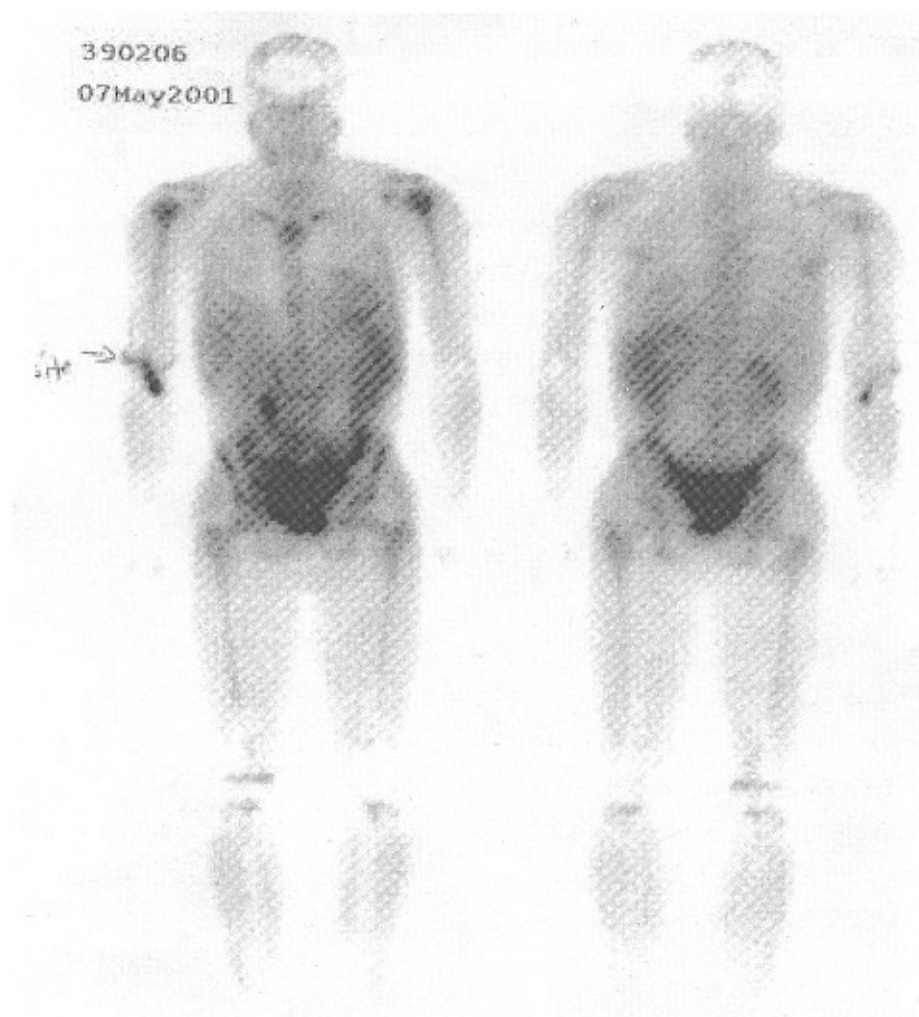


Fig-1 Sestamibi Scan

A bone scan (fig-2) was ordered which was felt to be normal, although there is some increased uptake in the shoulders and hips, and a faint area of increased uptake in the lateral right femur.

A bone biopsy showed evidence of multiple myeloma. Myeloma lesions are frequently not visualized on bone scan as the lesions are often marrow-based, and do not incite new bone formation. If myeloma is suspected, skeletal survey or x-ray of painful regions might be considered.

Several reports show that  $^{99m}\text{Tc}$ -MIBI may be useful as an agent for detecting

marrow disease in multiple myeloma or leukemia (1-6). Intensity of uptake in  $^{99m}\text{Tc}$ -MIBI scans in bone marrow has been correlated with disease activity by laboratory blood tests (LDH, C-reactive protein, beta 2-microglobulin, and serum ferritin) in multiple myeloma, and has been used in the detection of minimal residual disease in acute leukemia by femoral marrow imaging. It may be positive when bone scan, as in this patient, is normal and has been previously reported in a patient referred for cardiac sestamibi scan, as in our patient, where the diagnosis of multiple myeloma was unsuspected.

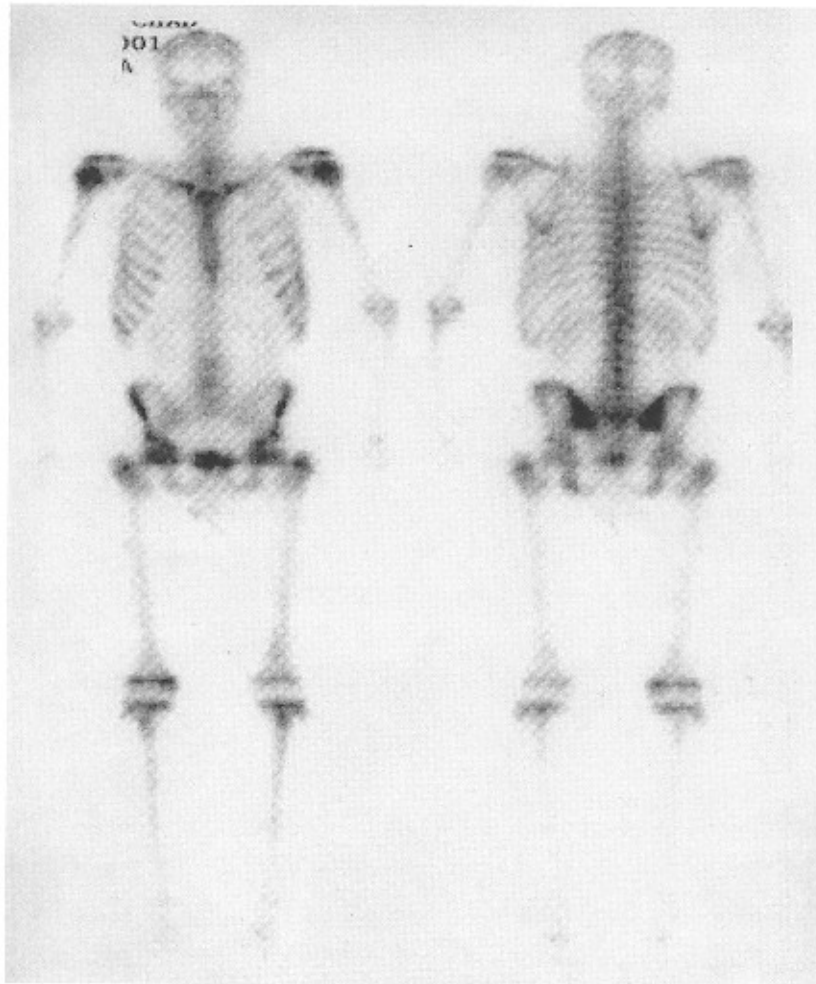


Fig-2 Bone Scan

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