

SCINTIGRAPHIC APPEARANCE OF EXTENSIVE OSSEOUS AND SOFT TISSUE METASTASES FROM OSTEOGENIC SARCOMA

D.F. Worsley¹, C.K. Kim¹ and J.B. Alavi²

Department of Nuclear Medicine, Department of Radiology¹ and
Division of Hematology and Oncology, Department of Medicine²,
University of Pennsylvania Medical Center

INTERESTING CASE

We present a case of a 36-year-old man with biopsy proven high grade osteogenic sarcoma involving the left proximal femur. He was treated preoperatively with four cycles of chemotherapy. A TC-99m methylene diphosphonate (MDP) bone scan and computed tomography of the chest performed prior to surgery demonstrated no evidence of distant metastases and the patient subsequently underwent an uncomplicated left

hemipelvectomy. He subsequently developed multiple subcutaneous, pulmonary and meningeal metastases. A repeat TC-99m MDP bone scan performed one year following surgery and one week prior to his death, demonstrated numerous osseous and non-osseous metastases distributed the entire body. To our knowledge this case demonstrated the most extensive involvement, both in number and distribution of lesions, of metastatic osteogenic sarcoma which has been imaged scintigraphically.

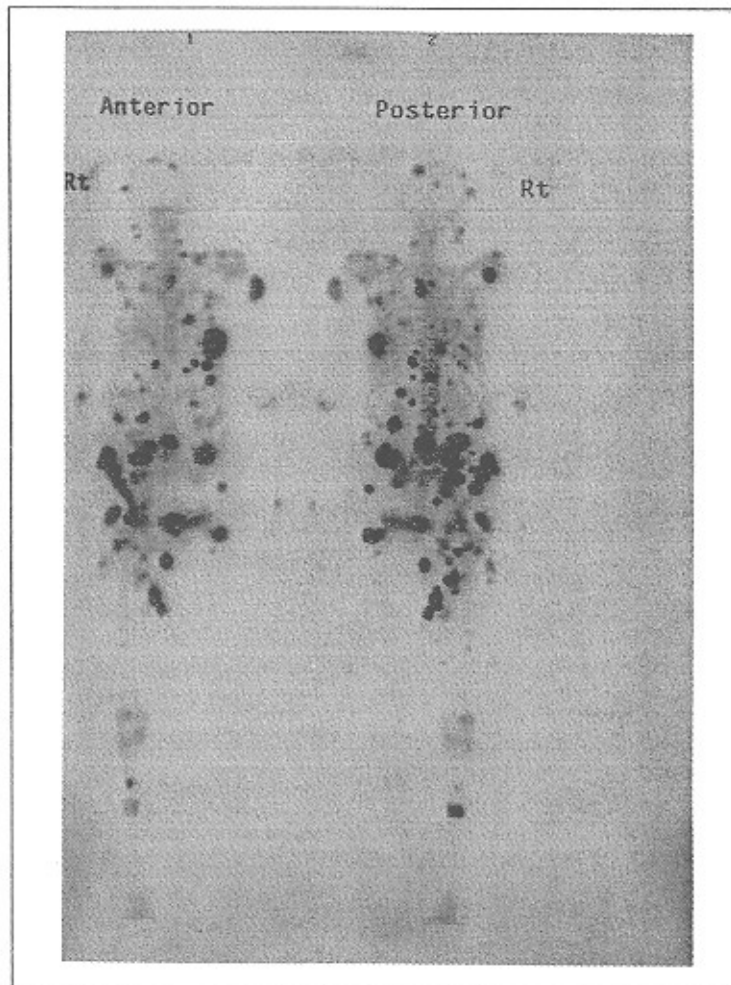


Figure 1. Whole body anterior image obtained one year following left hemipelvectomy demonstrating extensive osseous and non-osseous accumulation of TC-99m MDP within metastases.

REFERENCES

1. Palestro CJ, Swyer AJ, Goldsmith SJ: Multiple extraosseous metastases from osteogenic sarcoma on bone scintigraphy. *Clin Nucl Med* 17: 746, 1992.
2. Petersen M. Radionuclide detection of primary pulmonary osteogenic sarcoma: a case report and review of the literature. *J Nucl Med* 31: 1110, 1990.
3. Palestro CJ, Styles ST, Kim CK, Goldsmith SJ: Bone scintigraphy in pleural metastases of osteogenic sarcoma. *Clin Nucl Med* 15: 346, 1990.
4. Arrington ER, Eisenberg B, Orrison WWJ, Williamson MR: Scintigraphic appearance of uncommon soft-tissue osteogenic sarcoma metastases. *J Nucl Med* 31: 679, 1990.
5. Spencer RP: "Ink blot" bone imaging in metastatic osteogenic sarcoma. *Clin Nucl Med* 14: 848, 1989.
6. Velchik MG, Wegener W: Osteogenic sarcoma with pulmonary metastasis visualized by bone imaging. *Clin Nucl Med* 14: 662, 1989.
7. Brown ML: The role of radionuclides in the patient with osteogenic sarcoma. *Semin Roentgenol* 24: 185, 1989.
8. Palestro C, Lawrence LP, Strashun AM, Goldsmith SJ: Technetium-99m MDP accumulation in hepatic metastasis from osteogenic sarcoma. *Clin Nucl Med* 12: 329, 1987.