

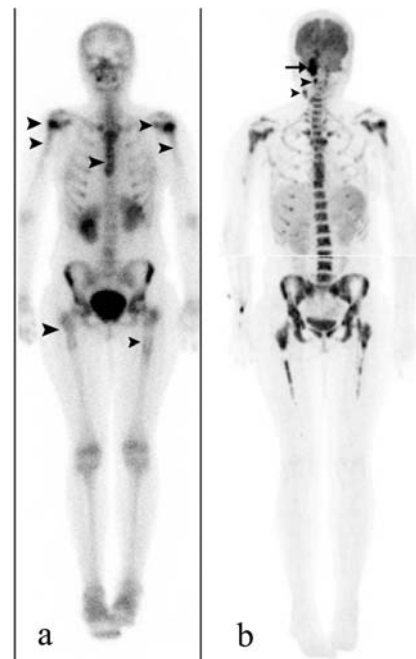
Rhabdomyosarcoma diffusely metastatic to the bone marrow: suspicious findings on ^{99m}Tc -MDP bone scintigraphy confirmed by ^{18}F -18 FDG PET/CT and bone marrow biopsy

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We present the case of a 16-year-old girl with alveolar rhabdomyosarcoma of the orbit. ^{99m}Tc -MDP bone scan and FDG PET/CT were obtained for initial staging. The bone scan is negative for cortical metastases, but areas of diffusely increased uptake (arrowheads) are seen in the proximal appendicular skeleton, as well as the sternum (a). Maximum intensity projection image from FDG PET shows diffuse tracer uptake in the axial and proximal appendicular skeleton, interpreted as widespread bone marrow metastasis (b). FDG PET also shows the primary lesion in the orbit (arrow), as well as lymph node metastases (arrowheads). Bone marrow biopsy confirmed the diagnosis of diffuse metastases.

Imaging is essential for the evaluation of patients with osseous and soft tissue sarcomas (OSTS). Reports suggest that ^{99m}Tc -MDP bone scanning may miss skeletal lesions in rhabdomyosarcoma [1]. FDG PET/CT imaging is useful not only for initial assessment, but for evaluation of response to therapy and detection of recurrences from OSTS as well [2]. In our experience, FDG PET/CT has excellent results for the evaluation of OSTS and their metastases with the notable exception of lung lesions [3]. Seshadri et al. reported a case of rhabdomyosarcoma with diffuse bone marrow involvement detected on FDG PET, while the bone scintigraphy was normal [4]. In our case, the bone scan was abnormal and we suggest that unusual ^{99m}Tc -MDP uptake in the proximal appendicular skeleton may be due to cortical bone reaction to widespread metastatic infiltration of the bone marrow in patients with alveolar rhabdomyosarcoma.



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