We report a rare case of Ewing's sarcoma involving the third metatarsal bone and spreading into adjacent bone in a 23-year-old man, with special emphasis on imaging characteristics. On radiographs the tumor presented as a permeative lytic lesion with aggressive periosteal reaction and cortical destruction. Computed tomography and magnetic resonance imaging delineated the osseous and soft tissue extent of the tumor. A large soft-tissue mass around the involved bone was highly indicative of Ewing's sarcoma. Cortical invasion of the neighboring second metatarsal was seen only on magnetic resonance imaging. Increased uptake of technetium 99m methylene diphosphonate was noticed on bone scintigraphy. An early diagnosis of Ewing's sarcoma, even when it occurs in unusual locations, is necessary for adequate treatment and is of particular importance in terms of prognosis. The optimal imaging modality for the diagnosis of Ewing's sarcoma is magnetic resonance imaging since it allows accurate analysis of the soft-tissue component and visualization of possible local invasion of adjacent structures.

Key words: Ewing's sarcoma, magnetic resonance imaging, metatarsal bones, X-ray computed tomography.