
In cancer patients, it is not uncommon to find abnormal bone uptake on the lower extremities in bone survey. This finding was thought to be caused not only by metastasis but also by benign orthopedic disorders. The purpose of this paper is to study frequency of malignancy and benign causes, and to search specific findings of benign disorders. From 1976 to 1978, 1250 bone scans were taken in 822 patients with malignant neoplasms. In 68 cases, abnormal bone uptake was found. Among them metastasis were detected in 29 cases and benign in 39 cases. Metastatic lesions were located mainly in femoral head and shaft. Contrarily, benign lesions were found near the joints. In the hip, three cases of osteonecrosis (ON) and osteoarthritis (OA) were noted. In the Knee, 10 cases of rheumatoid arthritis (RA), 12 cases of OA, 3 cases of articular fracture (Fx) and 2 cases of ON were noted. In the foot, 13 cases of RA, OA and Fx were noted. Each of these benign diseases has a specific uptake pattern on the scintigram. Our results showed that this finding was less frequent in both categories in malignancy (5.5%) and benign diseases (4.8%), and that common sites of the lesions have different distribution from each other.


About 80% of lung diseases associated with HPO is bronchogenic carcinoma. The incidence of HPO secondary to bronchogenic carcinoma is approximately 5 to 10%. As the presenting symptoms of HPO may be painful swelling around the knees, ankles and/or wrists, it mimicks rheumatoid arthritis clinically. The retrospective review of Tc-99m-MDP using bone scans was done in 141 patients of bronchogenic carcinoma. Then we obtained 6 patients in whom diagnosis of HPO had been made clinically and radiographically.

Results
1. 4 of 6 cases had clinical symptoms of HPO. 2 of them had been treated as rheumatoid arthritis.
2. The bone scan showed the characteristic linear periosteal hyperconcentration of Tc-99m-MDP. It was able to be differentiated easily from bone metastasis.
3. Only case of 6 cases showed slight improvement of the periosteal hyperconcentration on bone scan after therapy.
4. The patient with HPO should be studied with bone scan before and after treatment.

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