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BONE SCINTIGRAPHY OF IDIOPATHIC FEMORAL HEAD NECROSIS (3RD REPORT). A. Furuta, K. Odagiri, Y. Kobayashi, T. Hashizume and S. Takahashi*. Departments of Radiology and Orthopaedic Surgery*

Bone Scintigraphy with Tc-99m MDP was performed in 23 patients with idiopathic femoral head necrosis. The patients were separated into three groups with following roentgenographic criteria; group A (6 cases) no definite abnormality, group B (9 cases) definite radiolucency and patchy sclerosis in the femoral, group C (8 cases) destruction and deformity of the femoral head. Abnormality in the acetabulum. Scintigraphic abnormality was found in all patients with bilatered involvement in nine. Bone scintigraphy with Tc-99m MDP was helpful in diagnosis of idiopathic femoral head necrosis in early stage when roentgenogram usually showed no definite abnormality. CT was useful in spatial observation of abnormalities the joint space and femoral head.

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SCINTIGRAPHIC EVALUATION OF BONE FRACTURE IN CHILDHOOD. S. Omori, F. Hatori, T. Hayashi, A. Miyajima and H. Sawai. Atzugi Prefectural Hospital, The Jikei University School of Medicine, Kanagawa and Tokyo.

The authors performed bone scintigraphy for past 5 years in cases of infantile bone fractures treated at our department, and investigated their influence on ages, time of bone healing, the growing fractured bone in length. Subjects are 114 cases of diaphyseal fracture of the thigh and tibial bone of 78 male and 36 females, whose average is 5 years and 8 months.

Bone scintigraphy using 99m-Tc diphosphonate was performed the subjects at the time on fracture passing every 1, 3, 6 months and 1, 2, 3, 4, 5 years respectively.

Bone scintigraphy is a useful method to observe the therapeutic process of bone fracture. Even after no accumulation of the radioisotope was observed in the fractured site, increased blood flow was observed on the affected leg and the abnormal accumulated radioisotope was observed in the epiphyseal accretional line for the period extending 5 years after the fracture in all cases.

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EXTRAOSSEOUS ACCUMULATION OF Tc-99m PHOSPHATE COMPLEXES. S. Takebayashi, Y. Ono, A. Nakamori, K. Odagiri, K. Asakura, K. Mastui, Y. Oikawa, Y. Yamamoto and T. Tanaka. Yokohama City University School of Medicine, Kanagawa Seijinkyō Center, Yokohama.

We report seventy cases of extraosseous uptake of Tc-99m phosphate complexes with the exception of myocardial, brain and renal uptakes, from 4058 bone scans out of 3000 cases. These are 25 cases of malignant neoplasms with one exception of benign tumor of the uterine, and 45 of non-neoplastic conditions such as amyloid deposits. In spite of no calcification was observed among several cases, fine calcifications were detected in histological examination. We suspected that the mechanism for extraosseous accumulation of the tracers is related to the calcium in the damaged cells and calcifications.

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EVALUATION OF COMPUTED TOMOGRAPHY ON THE LESIONS DETECTED BY BONE SCINTIGRAPHY IN CASES OF POST-OPERATIVE BREAST CANCER. T. Sakata, H. Maeda, S. Okahashi, K. Yamasaki, and H. Akagi. Department of Radiology, I. Sekimoto. Department of General and Digestive System Surgery, Osaka Medical College, Takatsukishi, Osaka.

CT was performed on 100 lesions in 56 cases of post-operative breast cancer which were detected by bone scintigraphy with Tc-99m phosphorous compounds. And the results were discussed from the aspects of CT images and calcium content. And single photon ECT images and sagittal or coronal reconstruction of CT images were demonstrated in some cases. Method: Bone scintigraphy and ECT were performed by PHO/GAMMA LFOV at 3 hours after the intravenous injection of Tc-99m phosphorous compounds with 10 mCi. CT was performed by EMI 5005/12 or GE CT/T. Results: CT images were classified into metastases (hardening, osteolytic, mixed and doughnut) and the others. Seventy lesions were diagnosed metastasis from CT images, and 14 lesions were suspected, but metastasis was not detected by CT. And 16 lesions were confirmed non-neoplastic changes. The same type of CT images in multiple lesions of patient was shown in 4 cases and in 16 cases several types of metastases were shown at the same term. Calcium content of vertebral body with hardening type of metastasis was 141.1±31.9 mg/ml, osteolytic type 92.4±6.0, doughnut type 122.3±25.8, mixed type 108.9±24.7 and metastasis suspected with no CT finding was 99.0±21.9.