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ROLE OF BONE SCINTIGRAPHY IN THE MANAGEMENT OF PATIENTS WITH BREAST CANCER. O.Senga, N.Hanamura, N.Terai, Y.Koike, J.Futoshi and F.Nakanishi. Shinshu University. Matsumoto.

Bone scans using Tc-99m MDP were performed on 75 patients with primary breast cancer. Each had a histological diagnosis after surgery in our department. In 75 cases of breast cancer, 18 cases (24%) were recognized bone metastasis by this procedure. According to the international staging system for breast cancer, there was a high incidence of scan conversion stage I (12.5%) and stage II (17.8%) patients studied with serial scans during the first 3 post-operative years. In patients with locally advanced breast cancer (stage III), the bone scan is frequently positive (31.6%). In some breast cancer patients with bone metastasis, radiation treatment and chemohormonal treatment to bone metastases results in prompt reduction of isotope uptake and normalization of the scans. Therefore, bone scanning should be performed for strict staging or for early detection of bone metastasis. Furthermore, it is a useful procedure in determining the treatment of breast cancer and in judging the effect of treatment.

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SERIAL BONE SCANS IN THE ASSESSMENT OF RESPONSE TO THERAPY IN ADVANCED BREAST CANCER. S. Matsumoto, H. Mine, T. Sugiyama, K. Kaneda, Y. Isobe, S. Wada, and N. Kawaguchi. Cancer Institute Hospital. Tokyo.

Tc-99m bone scans in 1457 cases of breast cancer were reviewed. Bone scans demonstrated bone healing in 28 patients. Of these 28 patients, 13 were treated with hormone therapy plus chemotherapy, 5 were treated with only hormone therapy and 10 were treated with chemotherapy. Of these 28 cases, "Flare" effects were seen in 3 cases. Because of the presence of this "Flare" phenomenon, bone scans have limited value in the assessment of early response to therapy.

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A PROSPECTIVE STUDY OF CLINICAL EFFICACY OF BONE SCINTIGRAPHY. T.Nakajima, T.Matsumoto, T.Iinuma, Y.Tateno, T.Ishikawa, Y.Akiyama, N.Yui, K.Machida, J.Nishikawa, M.Iio, K.Uno, G.Uchiyama, K.Kawakami, M.Miki, A.Kubo, Y.Takagi, H.Murata, K.Kusakabe and H.Oyamada. Saitama Cancer Center, National Institute of Radiological Science, Chiba Cancer Center, Tokyo Univ.Sch. of Med., Chiba Univ.Sch. of Med., Yamanashi Univ.Sch. of Med., Jikei Univ.Sch. of Med., Keio Univ.Sch. of Med., Tokyo Metropolitan Geriatric Hospital, Tokyo Womens Medical College and National Cancer Center.

A prospective study to evaluate the clinical efficacy of bone scintigraphy is being carried out by the committee of efficacy in the Japan Radioisotope Association. The methodology of this study and the result of interim analysis were reported. Pre-operative patients with breast cancer and prostatic cancer were selected for materials and the values of probability of bone metastasis were entered in pre-examination sheet, post-examination sheet and confirmation sheet by attending physician and nuclear physician respectively. Although the number of cases with confirmation sheet (205 cases with breast cancer and 20 cases with prostatic cancer) is not enough for the statistical evaluations as yet, bone scintigraphy was frequently efficacious in the cases of earlier stage with metastasis and the cases of later stage without metastasis, and the ROC analysis revealed better diagnostic efficacy of post-exam. data than that of pre-exam. data.

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EVALUATION OF BENIGN RIB LESIONS BY BONE SCINTIGRAPHY. T.Kobayashi, R.Fujita, K.Tanaka, K.Kawabe, M.Shimizu, K.Kashiwada, T.Hayase, M.Takagi and Y.Sasaki. Shikai-hoken Hamamatsu Hospital, St.Marianna University, Chigasaki Municipal Hospital and Toho University, Hamamatsu, Chigasaki, Kawasaki and Tokyo.

Bone scintigraphy is known to be useful for the detection of bone metastasis. In practice, however, benign lesions also cause abnormal accumulation of radioactivity which is difficult to distinguish from malignant lesions. We report 27 such cases in which 11 have history of cancer and 16 have not. All of them revealed solitary or multiple areas of accumulation of radioactivity in ribs. The 11 non-cancer patients revealed rib lesions diagnosed as fracture, chondroma, caries etc. None of rib fractures were detected by the radiograph. Two patients with history of cancer showed rib lesions that resolved during follow-up period and thus regarded as benign lesions.

Bone scintigraphy is a sensitive test for benign rib lesions. However, careful follow-up studies are needed for differentiation from malignant lesions.