ROLE OF BONE SCINTIGRAPHY IN THE MANAGEMENT OF PATIENTS WITH BREAST CANCER. O. Senaga, N. Hanamura, N. Terai, Y. Koike, I. Futoshi and F. Nakashiki. 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 73 cases of breast cancer, 18 scans (24.3%) 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 chemotherapy 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.


A prospective study to evaluate the clinical efficacy of bone scintigraphy is being carried out by the committee of efficacy in the Japan Radiosotope 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.


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.