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EVALUATION OF DIFFUSE UPTAKE BY CALVARIUM IN BONE SCINTIGRAPHY.

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Diffuse uptake by the calvarium in bone scintigraphy, socalled "sickle sign", was evaluated to investigate the factor. In 60 of 700 patients who had received whole-body bone scitigraphy with Tc-99m-MDP, the sign was seen. The degree of the sign was divided into three grades, scoring one to three points, on calvarium uptake relative to the cervical and lumbar spine. Positive rate to the total was 8.6% overall, 14.7% (50 of 340 cases) in woman, and 2.8%(10 of 360 cases) in man. The rate was particulary high(26.1%) in woman of ages 51 to 60 years.

Avaraged degree of the sign was 2.0±0.7 (SD) in woman and 1.5±0.6(SD) in man. The degree was particularly high in woman of ages 61 to 70 years. The degree of the group with breast or uterine cancer was somewhat higher than that of others. BY contrast the degree of the group with osteoporosis was lower than that of others. However, there was no significant difference of the degree between two groups with malignant tumor(48 cases) and benign disease(12 cases), between two groups treated with (29 cases)and without anticancer drug(19 cases), and between two groups with and without abnormal serum level of AlP,Ca and / or P.

These results could suggest that appearance of the sign may be deppendent not only upon desease or therapy but also upon sex and age.

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MAXILLO-FACIAL BONE SCINTIGRAPHY: DIAGNOSTIC POTENTIAL IN NEOPLASTIC AND INFLAMMATORY LESIONS.

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The clinical as well as roentgenographic diagnosis of neoplastic and inflammatory diseases in the maxillo-facial region are usually difficult because of their histological varieties and anatomical complexity. Bone scintigraphy is sometimes of clinical interest because it offers evaluation parameters principally different from roentgenography. In this study, 56 cases with neoplastic and 15 cases with inflammatory lesions are discussed from the viewpoint of usefulness of bone scintigraphy.

Malignant bone tumors always reveal marked accumulation of the radioactivity, but the diagnostic value is particularly stressed on the osteosarcoma. Bone scintigraphic findings are non-specific in various benign neoplastic lesions, but it could be noticed that bone scintigraphy is essential when fibrous dysplasia is suspected, due to characteristic image on the scintigram in addition to easy detection of the polyostotic disorders. Bone scintigraphy together with radionuclide angiography is indispensable in the diagnosis of aneurysmal bone cyst and central hemangioma of the mandible. Bone scintigraphy is also useful in the diagnosis of osteomyelitis, both on early detection and the evaluation of activity of the inflammatory process.

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TWO-COMPARTMENT MODEL ANALYSIS OF DYNAMIC BONE SCINTIGRAPHY IN MAXILLO-FACIAL REGION. (STUDY ABOUT SIGNIFICANT DIFFERENCE OF K AND Λ AMONG DISEASES).

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In the last annual meeting we reported the method for applying 2-compartment model analysis of dynamic bone scintigraphy to maxillo-facial region where the influence of soft tissue and basic blood flow can scarcely negligible. The analysis performed about 31 cases of patients with jow bone disease showed difference of value of K and Λ among these diseases.

This time,adding new cases we further investigated whether significant difference can be observed between malignant tumor, benign bone tumor,inflammatory bone,fibrous dysplasia,fracture and bone cyst.

The method to obtain data and computer program are the same as previous report;Tc-99m MDP is administrated 0.25mCi/Kg and sequential image data stored in computer immediately after i.v.injection to an hour. Furthermore,the data of 2hrs and 4hrs are also stored respectively.

The results about the test of significant will be shown with some typical cases.

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QUANTITATIVE ASSESSMENT OF BONE SCINTIGRAPHY IN THE HIP JOINT DISEASE.

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We were performed bone scintigraphy in 25 cases of normal hip joint. These cases were examined in order to evaluate the other bony lesions. Tc-99m-MDP was injected intravenously and recorded scintillation camera equipped with a medical computer system accurately for five minutes 3 hours after administration.

And the 17 regions were decided. The right to left uptake ratios were calculated and the uptake raio to the pelvis were calculated. The right to left uptake ratios were approximately 1.00. And the standard deviation of bone and soft tissue were 0.15 and 0.20. The results can be apply for the clinical evalution of the hip joint disease.

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