2007

Role of scintimammography (SMM) in the diagnosis and prognostic outcome of primary breast cancer

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Both Tl-201 (Tl) and Tc99m-MIBI (SM) have been widely used for SMM. The aim of the current study is to determine the role of tracer uptake as tumor/background (T/B) and tumor/myocardium(T/M) ratios for tumor differentiation and prognostic stratification.28 female patients with 29 palpable breast masses underwent SMM with Tl (3mCi) and/or SM (20mCi). Imaging with LFOV gamma camera was done with the arms raised. 26 and 14 breast masses were studied by Tl and SM respectively, while 11 lesions were studied by both agents.The ROIs were drawn over T,B,and M in the anterior image and T/B and T/M ratios were calculated. The mean+/-SD of background ratio of both sides in 10 controlled subjects was 1.04+/-0.03.The uptake ratio above this level was considered positive. 2/4 benign lesions had inflammatory components and showed positive tracer uptake.Of 25 malignant lesions, 18 had node metastases (N+),and SMM could detect axillary node uptake in 7/18 cases (39%). The sensitivity of Tl for detection of primary breast cancer was 20/23 (87%) and that of SM was 13/13(100%).The T/B and T/M ratios of both agents in the same patients were similar.

	Group	No.	T/B ratio	T/M ratio
Tl	N+	17	1.03-2.41 (mean=1.61+/-0.41)	0.33-0.86 (mean=0.61+/-0.17)
	N-	6	1.05-1.50 (mean=1.23+/-0.19)	0.40-0.83 (mean=0.55+/-0.16)
SM	N+	11	1.12-4.41 (mean=1.96+/-0.92)	0.44-1.64 (mean=0.77+/-0.33)
	N-	2	1.24-1.69 (mean=1.47+/-0.32)	0.46-0.65 (mean=0.56+/-0.13)

T/B ratio studied by Tl in N+ was higher than that in N- groups ($p<0.05$) but T/M ratio was not significantly different. However, the number of N- patients for SM was too small for drawing conclusions. Our preliminary results suggest that SMM is useful for breast cancer detection and T/B ratio is better than T/M ratio for assessing the probability of giving lymph node metastases.

2008

Value of Tc-99m HMDP bone scan with Tl-201 scan in detecting bone metastases from differentiated thyroid carcinoma. M S Alam,R Takeuchi T Misaki,S Miyamoto,Y Iida,K Kasagi,J Konishi. Dept. of Nuclear Medicine,Kyoto University,Kyoto,Japan.

We studied 57 bone lesions in 24 post-thyroidectomised patients. Thyroidal origin of the lesions was proved by positive I-131 uptake. In I-131 negative lesions histological proof or the absence of other tumour-markers was considered.Possibility of stress fracture was ruled out by X-ray or CT scan. Out of 57 lesions 41(72%) were positive and 16 were negative in bone scan. But of the 16 negative bone scan sites 11 showed abnormal accumulation of Tl-201, resulting in increased sensitivity of 91%(52/57). In conclusion we have found Tc-99m HMDP bone scan supplimented with Tl-201 scan to be a sensitive, easy method for detecting bone metastases from differentiated thyroid carcinoma.This approach is recommended specially in patients having high thyroglobulin level,showing high probability for metastases.Bone scan,so far has been considered to be less efficient in detecting such metastases due to less malignant nature of the thyroid cells and non-specificity.

2009

^{99m}Tc－MIBI uptake by Nasopharyngeal Carcinoma

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The purpose of this study is to evaluate ^{99m}Tc－MIBI uptake by nasopharyngeal carcinoma, in comparing with ^{201}TlCl uptake, using SPECT. Ten patients (42－89 years) with nasopharyngeal carcinoma underwent SPECT studies within a week interval. Based on anatomic information obtained using MRI, tracer uptake by the tumors was visually categorized into either positive or negative by four observers. All the patients showed positive ^{99m}Tc－MIBI uptake by the tumors, which was comparable to ^{201}TlCl uptake. Changes in tracer uptake following radiation therapy also will be discussed.

2010

PHARMACOKINETICS OF In-111 LABELED ANTI-CA125 MONOCLONAL ANTIBODY IN PATIENTS WITH OVARIAN CANCER.

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A murine monoclonal antibody 145-9 recognizing CA125 was labeled with In-111 and was used for immunoscintigraphy of 11 patients with ovarian cancer. The pharmacokinetics of the antibody was examined. The plasma clearance curve of radioactivity was biphasic with a biological half-life of 0.1-4.2 hr (mean; 1.6 hr) for the first component and 22.5-59.3 hr (mean; 33.6 hr) for the second component. Radioimmunocomplex was found in all of the patients and the percentage of complex had a tendency to be proportional to serum CA125 concentration, but was not correlated with plasma clearance of the antibody. The radioactivity in patients' sera kept the binding ability with CA125-coated beads up to 3 days. In conclusion, the labeled antibody formed complexes with CA125, however, the complex was still able to bind antigen and complex formation did not accelerate the plasma clearance of the antibody.

2011

SCINTIGRAPHIC IMITATORS OF OSSEOUS INVOLVEMENT IN Ga-67 AVID LYMPHOMA AND THEIR IMPACT ON THERAPEUTIC DECISION MAKING : A RETROSPECTIVE STUDY

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In a review of 87 patient studies, bone infarction, osteomyelitis and bone marrow expansion in 6 patients were found to be scintigraphic imitators of osseous involvement of Ga-67 avid lymphoma, occasionally leading to unnecessary change of treatment. With this regard, absence of sufficient data in larger series on sensitivity and specificity of MRI - and the specificity of Ga-67 scintigraphy ,allows no diagnostic guidelines at present to be offered to the clinician, except for biopsy or punction into the lesions.

2012

Preliminary study of positron emission tomography with F-18 fluorotamoxifen in patients with breast cancer.

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The biodistribution and clinical usefulness of F-18 fluorotamoxifecn(F-18 FTX) were assessed in 10 breast cancer patients with cstrogen receptor (ER) positive lesions using positron emission tomography (PET). The breast cancer patients (Age 52-68) with ER positive lesions were prospectively studied, and the consecutive (20 minutes) PET imagings were obtained for 80 min. after the injection of 88.8-392.2 MBq of F-18 FTX. Our results suggest that the distribution of FTX is different from that of F-18 estradiol which has been reported in the litcrature. PET with F-18 FTX provides useful imformation in predicting the efficiency of TX therapy in recurrent or metastatic ER(+) breast tumors.