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THE COMPARISON OF BULLSEYE POLAR MAP WITH SIDE BY SIDE DISPLAY IN LOCALIZING INFARCTED AREA OF Tl-201 MYOCARDIAL TOMOGRAPHY. S.Maie, M.Okano, F.Ohsuzu, Y.Eki, S.Yanagida, S.Katsushika, H.Yukitake, H.Seguchi, N.Aosaki, H.Nakamura, T.Hoshina, T.Shishido, S.Sueoka, H.Takanashi, E.Takenaka. National Defense Medical College, Saitama.

To determine the accuracy of tomographic thallium-201 imagings in localizing infarcted area, exercise and normalized delayed studies were evaluated quantitatively in side by side display(SSD) and bullseye polar map(BPM) in 10 patients(pts) with chest pain with normal coronary angiograms(CP) and 20 pts with myocardial infarction(MI). Normal standards were established using 10 CP pts. The overall sensitivity(st) and specificity(sp) of SSD and BPM were: 91% and 68%(SSD), 64% and 84%(BPM). Results of MI in localization with SSD and BPM were:

SSD	LAD	LCX	RCA	BPM	LAD	LCX	RCA
st(%)	100	67	100		71	33	78
sp(%)	67	91	59		89	100	65

These results suggested that SSD could be a sensitive technique for detecting the presence of infarcted area and those using BPM might be a specific but poorly sensitive method for detection of infarction.

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EVALUATION OF CORONARY ARTERY DISEASE USING BULLS EYE. F.Nakanishi, T.Kasuga, Y.Sakai, S.Sone, S.Haruta, M.Takeda, K.Yano, K.Yokota. Shinshu University Hospital, Matsumoto.

Stress Tl-201 emission computed tomography was performed for 24 patients with CAD and 11 normal subjects. Washout rate was calculated from the stress and redistribution bulls eye images and evaluated by comparison with the grade of stenosis on coronary arteriogram.

Seventy seven percent of the coronary arteries with spasm but without significant stenosis and with moderate(50~70%) stenosis were detected quantitatively by washout rate, compared with 31% by visual method. One hundred percent of the coronary arteries with marked stenosis(more than 90%) were detected by the visual method, compared with 55% quantitatively by washout rate.

We concluded that washout rate for evaluating stress-redistribution Tl-201 ECT is more sensitive than the visual method, especially in patients with moderate coronary stenosis of one vessel and those with spasm.

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EVALUATION OF MYOCARDIAL BLOOD FLOW IN A-C BYPASS SURGERY AND PTCA. (USING EXERCISE Tl-201 MYOCARDIAL SPECT AND BULL'S EYE IMAGE). H.Naruse, M.Ohyanaqi, H.Kawamoto, Y.Todo, R.Fujisue, J.Tateishi, H.Ando, N.Yasutomi, T.Iwasaki and M.Fukuchi. Hyogo College of Medicine, Nishinomiya.

To evaluate the improvement of myocardial blood flow after A-C bypass surgery and percutaneous transluminal coronary angioplasty (PTCA), we performed exercise Tl-201 myocardial scintigraphy in 20 patients (32 vessels).

We determined the regions of interest corresponding to the area perfused by operated coronary artery on 3-dimensional map (so called Bull's eye image), and evaluated the improvement of myocardial blood flow using the stress image and washout rate.

Myocardial perfusion in the 22 regions of interest was improved in 26 regions perfused by patent vessels, and that in the 4 regions of interest was not improved in 6 regions perfused by occluded vessels.

In 26 of 32 vessels (81%), evaluation by postoperative coronary angiography is consistent with that by scintigraphy. Thus, exercise myocardial scintigraphy was corresponding with postoperative myocardial blood flow. And Bull's eye image was useful because it is easy for the analysis compared with circumferential profile analysis.

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ASSESSMENT OF 99m-Tc-PYROPHOSPHATE(PYP) AND 201-MYOCARDIAL SINGLE PHOTON EMISSION COMPUTED TOMOGRAPHY(SPECT) SUPERIMPOSED IMAGE IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION(MI). Y.Kojima, K.Yoshioka, T.Nakasato, S.Katsuragawa, T.Takahashi, T.Yanagi-sawa, T.Ishikawa, M.Kato and K.Nakai. Iwate Medical Univ., Morioka.

99m-Tc-PYP and 201-Tl myocardial SPECT superimposed images were obtained in 10 cases with acute MI(containing 2 cases with non-transmural MI). Tomographic imaging was performed in each cases at 3 to 13 days after MI episode with a rotating gamma camera(HITACHI-GAMMA-RCT) interfaced to a dedicated nuclear computer system(HARP RP-100). These images can provide accurate differentiating informations in the cases who have radioactivity in structures overlaying the heart and residual radioactivity in the cardiac blood pool. So we expect that the sensitivity in detection of non-transmural MI is increased. In addition, it is possible to separate acute MI from old MI clearly by this method.