(2) I. Myocardium

84

COMPARISON OF APICAL THINNING BY THALLIUM IMAGING WITH AUTOPSY FINDINGS IN VALVULAR HEART DISEASE.

T.Uehara, T.Nishimura, K. Hayashida, T.Kozuka, E.Boku, H.Sakakibara, and C.Yutani. National Cardiovascular Center, Suita.

To determine the pathogenesis of perfusion defect in apical region (normal apical thinning), 12 cases of valvular heart disease were compared with autopsy findings. There were 10 with AR, 2 with AS, 2 with MS, 2 with MR and 5 with MSR+ASR. 9 of 12 cases showed apical perfusion defect, which had LVEF less than 50%, whereas 3 of 12 cases showed normal perfusion with more than 50% in LVEF. 7 of 12 cases showed perivascular fibrosis in rheumatic heart diseases, however, perfusion defect was not shown. On the other hand, 9 of 12 cases showed apical myocardial damage. These cases had perfusion defect with aortic valve disease. In conclusion, normal apical thinning may be common in valvular heart diseases, especially aortic valvular disease. These findings may be apical parenchgmal damage due to left ventricular overload and/or hypertrophy.

85

A COMPARATIVE STUDY OF THALLIUM-201 MYOCARDIAL SCINTIGRAMS AND PATHOLOGIC FINDINGS IN DIAGNOSIS OF MYOCARDIAL INFARCTION.

M.SUGIURA,T.TAKAHASHI,S.OHKAWA,K.UEDA, H.TABUCHI,H.MURATA,M.TANNO,T.MURAKI,K.CHIBA, and H.YAMADA. Tokyo Metropolitan Geriatric Hospital, Tokyo

In order to evaluate the usefulness and limitation of Thallium-201 myocardial scintigraphy(MS) for the diagnosis of myocardial infarction(MI), we correlated MS with pathologic findings.
Methods and materials: Seventy-eight autopsy cases (43 with and 35 without MI, mean age of 79 years) had been examined by planar MS. Defects of MS were determined by naked-eye of 2 observers. Pathologic examination included existence, size and location of MI.
Results: In 46 cases of MI (3 had 2 separate MIs) sensitivity of MS was 65.2%(30/46) Specificity was 88.6%(31/35), and diagnostic accuracy was 75.3%(61/81). These values were higher than those of ECG. With respect to the location of MI, sensitivity of anterior MI(71.4%) and inferoposterior MI (76.5%) was higher than those of lateral (25%) and subendocardial MI(25%). Sensitivity of large massive MI(86.7%) was higher than those of large scattered MI (33.3%) and middle-sized massive (33.3%) and scattered MI(0%). About the size of MI, it was unable to detect MI of less than 4 cm. in diameter in all 7 cases.
Conslcusions: Usefulness of MS in diagnosis of MI was definite, but diagnostic limit in MI size could be 4 cm. in diameter.

86

ROLE OF COLLATERAL CHANNELS AGAINST RVFW ISCHEMIA ASSESSED BY Tl-201 MYOCARDIAL IMAGING.

H.Kataoka, S.Takaoka, T.Ohkubo, T.Ohshige, K.Nakamura and S.Hashimoto. Dept of Intern Med 2, Kagoshima Univ Sch Med, Kagoshima, Japan.

Protective effect of the collateral channels (coll.) from the left coronary artery to the right coronary artery (RCA) against the development of the right ventricular free wall (RVFW) ischemia was evaluated in the 27 patients with high grade narrowing (above 90% narrowing or past history of inferior myocardial infarction; MI) in the proximal RCA by using the stress Tl-201 myocardial imaging.

The immediate and 3-4 hr delayed Tl-201 myocardial images were obtained after the submaximal exercise stress in the 30° and 60° left anterior oblique views. Abnormal RVFW findings were defined as the presence of the defect on immediate images and/or positive redistribution phenomenon.

In the 14 patients without inferior MI, high incidence of the abnormal RVFW findings was observed in the patients without coll.(5/7,71.4%) compared to those with coll.(3/7,42.8%). In the 13 patients with inferior MI, there increased the occurrence of abnormal RVFW findings and the incidence of the abnormal RVFW findings in the patients with positive coll.(4/6 ,66.7%) was the same as that in the patients without coll.(5/7,71.4%).

These results suggested that collateral channels seemed to protect against the development of the RVFW ischemia in the patients without inferior MI. However , the role of the collateral channels against the occurrence of the high grade RVFW ischemia complicated by the inferior MI was not apparent and further investigation was needed.

87

EVALUATION OF THE SEVERITY AND THE EXTENT OF CORONARY ARTERY DISEASE BY Tl-201 SCINTIGRAPHY.

S.Wakasugi,N.Shibata,T.Kobayashi, Y.Fudemoto,Y.Hasegawa,S.Nakano. The Center for Adult Diseases, Osaka.

To evaluate the relationship between severity of coronary artery lesion and Tl-201 scintigraphic findings, quantitative stress-redistribution Tl-201 scintigraphy was performed in 69 patients with ischemic heart disease. Defect score and washout rate of ischemic segments were calculated by circumferential profile method. Segmental defect score did not differ in relation to severity of coronary stenosis, but segments with large defect score were distributed frequently by vessels with more than 90% stenosis.
Segmental washout rate of Tl-201 did differ in relation to severity of stenosis of distributing vessels. Distributing segments of vessels with more than 90% stenosis were associated with significantly low washout rate. Segmental washout rate was influenced by not only the severity of vessel stenosis but also the extent of vessel involvement, and showed the lowest value in patients with three-vessel disease narrowed more than 90%. In conclusion, evaluation of ischemic segments by defect score and washout rate appears useful for predicting the severity and the extent of coronary disease.