FOLLOW-UP STUDY OF ISCHEMIC HEART DISEASE BY RADIOCARDIOGRAPHY. K. Matsumura, T. Mori and T. Hayama. Kyoto Minami Hospital, Kyoto.

Radioangiography (RCG) was recorded 4262 cases from July 76 to March 84. We studied about 40 cases of ischemic disease and 28 cases of hypertension who had sequentially more than four times of RCG.

Cardiac index was significantly decreased in IHD and still more decreased in digitalized IHD. Cardiac index and total vascular resistance were correlated to the group of NYHA-functional classification. In the follow-up study for 3.7 years (mean), classification of cardiac function was divided four groups (improved or worsened, stable, unstable). Improvement of EF, PER, and PFRs were significant in IHD group.


With the purpose to evaluate the clinical usefulness of the OMNISCOPE, RI-angiography was performed on 54 patients with ischemic heart disease (IHD). Eight patients without heart disease were used as controls.

Method: Left ventricular function at rest and during hand-grip exercise test was assessed. Left ventricular function was include ejection fraction (EF), ejection rate (ER), relative cardiac output (RCO), peak ejection rate (PER) and peak filling rate (PEFR). Results: The HRs, SBPs, DBPs and Double products (DP) were all significantly increased during exercise both in control group and in IHD group (p<0.01). In control group, the EFs, ERs, RCOs and PERs were increased during exercise significantly (p<0.01). But in IHD group, the EFs, ERs and PERs were decreased significantly during exercise (p<0.01) without changes in the RCOs and PEFRs. In low EF group (EF<50% in IHD group), the ERs, RCOs, PERs and PEFRs were significantly smaller than those of control group and high EF group (EF>50% in IHD group) (p<0.01).

Conclusion: OMNISCOPE is very useful for evaluating the left ventricular function both at rest and during exercise.


Extra anatomical bypass (EAB) is one of surgical method for repairing aortic aneurysma. EAB was applied for thoracic aortic aneurysma (7 cases) and dissecting aortic aneurysma (4 cases). (Mean age, 61±8 yrs.)

Postoperative assessment was done by CT, DSA and RNA. Diagnostic accuracy of these three methods was as follows:

100%, 100% and 100% on bypass patency; 82%, 100% and 100% on clamp leakage; 100%, 64% and 82% on thrombus formation; 100%, 64% and 82% on retrograde blood from bypass graft.

Postoperative cardiac function was also evaluated by gated cardiac scan. To evaluate left ventricular systolic and diastolic function of EAB cases, LVEF, 1/3FF and 1/3FRm was calculated and compared with those from 10 cases of normal cases. Results were as follows:

LVEF was 61.7±5.8% and 59.2±6.8%, 1/3FF was 22.4±4.6% and 33.9±6.2%, 1/3FRm was 1.0±0.2 sec<sup>-1</sup> and 1.5±0.2 sec<sup>-1</sup>. As a result, diastolic compliance (1/3FF and 1/3FRm) of EAB cases was significantly low comparing with that of normal cases.

Radionuclide angiography is noninvasive method to evaluate not only bypass patency, but also cardiac function of postoperative state.