EVALUATION OF EFFECT OF TRICUSPID ANNULOPLASTY BY CARDIAC POOL SCINTIGRAPHY. M.Kimuro, T.Yamamoto, T.Odano, and K.Sakai Department of Radiology, Niigata University School of Medicine, Niigata.

To assess effect of tricuspid annuloplasty, cardiac pool scintigraphy was performed in 29 patients who underwent tricuspid annuloplasty (group TAP(+)) and 29 patients who were not undergone (group TAP(-)). By visual imaging diagnosis of tricuspid regurgitation which was dilatation of right atrium (RA), there was 6 false positive in TAP(+) group, the accuracy was 90%. Using first pass radionuclide angiography, RA area (RA cells/BSA) and RV area (RV cells/BSA) were obtained by regions of interest were manually drawn around the RA and RV. RA area was markedly increased in TAP(+) group (187 ± 92.2 cells/BSA) compared with TAP(-) group (137 ± 52.2 cells/BSA) with TAP(-) group (148 ± 25.2 cells/BSA). RA area and RV area obtained by RI was well correlated with RA volume and RV volume calculated by non-gated cardiac pool ECT (r > 0.93, *p < 0.01), we concluded that they were useful to quantify tricuspid regurgitation and effect of tricuspid annuloplasty.


In 15 minimum symptomatic patients with isolated aortic regurgitation (AR), multi-gated blood pool scintigraphy was performed to evaluate left ventricular function at rest and during exercise. The patients performed supine bicycle exercise beginning at a load of 25W with increase of 25W every 3 minutes, then data were collected during the final 2 min. Changes in left ventricular ejection fraction (EF), peak ejection rate (PER) and time to PER (TPE) were evaluated. LVEF decreased from 62±9% to 59±13% not significantly and PER decreased from 7.1±0.9 to 5.2±1.1 sv/sec significantly, but TPE had no changes. There were no significant differences in LVEF values before and during exercise between the groups with low or high angiographic grade, left ventricular end systolic volume and end-diastolic pressure, respectively. Retrospectively, in operated cases LVEF and PER highly decreased with exercise compared with not operated cases. The cases with decreased LVEF during exercise showed no good response by aortic valve replacement, while a case with increased LVEF during exercise showed good response. This method is useful in evaluating left ventricular myocardial damage.