

Factor analysis of multigated cardiac blood pool scintigram for the measurement of left ventricular ejection fraction

Norinari HONDA,* Kikuo MACHIDA,* Toshio MAMIYA,* Taku TAKAHASHI,*
Teruo TAKISHIMA,* Tsuyoshi KAMANO,* Noriko HASEGAWA,* Masanori HASHIMOTO,*
Ken OHNO* and Minoru HOSOBATA**

**Division of Nuclear Medicine, Department of Radiology, Saitama Medical Center
Saitama Medical School*

***Shimadzu Corporation*

Left ventricular ejection fraction (EF) was measured by factor analysis (FA) of multigated cardiac blood pool scintigram in 38 consecutive patients, and compared with that measured by the variable ROI method (EFVROI) with automated left ventricular contour detection. FA was automatically performed without operator intervention with a success rate of 100%. The correlation of EF with EFVROI was significant in the group of 22 patients with normal wall motion ($r=0.65$, $p<0.001$), and the entire group of patients ($r=0.70$, $p<0.001$), but not significant ($p=0.19$) in the group of 16 patients with abnormal wall motion. In conclusion, left ventricular ejection fraction can be estimated by factor analysis of MUGA in patients with normal wall motion.

Key Words: Factor analysis, Radionuclide ventriculography, Ejection fraction, Ventricular wall motion