

## Evaluation of persistence of ductus venosus with Tc-99m DTPA galactosyl human serum albumin liver scintigraphy and I-123 iodoamphetamine per-rectal portal scintigraphy

Tomohiro KIRA,\* Shinji IKEDA,\*\* Yoshihisa SERA,\*\* Seiji TOMIGUCHI,\*  
Mutsumasa TAKAHASHI,\* Takako UCHINO\*\*\* and Fumio ENDO\*\*\*

*Departments of \*Radiology, \*\*Pediatric Surgery and \*\*\*Pediatrics,  
Kumamoto University School of Medicine*

Tc-99m DTPA galactosyl human serum albumin (Tc-99m GSA) hepatic scintigraphy was performed in two patients with patent ductus venosus before and after operation. To evaluate the portosystemic shunt flow, per-rectal portal scintigraphy with I-123 N-isopropyl-p-iodoamphetamine (IMP) was undergone in the same period. The portosystemic shunt indices (PSS index) were decreased from 67.9% to 7.3% in the patient 1, and from 77.3% to 22.7% in the patient 2, respectively. Quantitative indices of Tc-99m GSA hepatic scintigraphy improved dramatically in both patients. Under microscopic examination, nearly all the hepatic cells showed signs of severe fatty degeneration. After the operation, the severe fatty degeneration was alleviated and all the hepatic cells appeared normal. I-123 IMP per-rectal portal scintigraphy and Tc-99m GSA hepatic scintigraphy were useful in evaluating the quantitative shunt flow of the persistent ductus venosus and its hepatic functional reserve.

**Key words:** persistence of ductus venosus, Tc-99m DTPA galactosyl human serum albumin, per-rectal portal scintigraphy, I-123 iodoamphetamine