

## Abnormal extrapulmonary accumulation of $^{99m}\text{Tc}$ -MAA during lung perfusion scanning

Norihiko KUME, Kazuyoshi SUGA, Hiromichi UCHISAKO, Mihoko MATSUI,  
Kensaku SHIMIZU and Naofumi MATSUNAGA

*Department of Radiology, Yamaguchi University School of Medicine*

We present fourteen patients with an abnormal extrapulmonary accumulation on lung perfusion scintigraphy with  $^{99m}\text{Tc}$ -macroaggregated albumin (MAA), who were examined during the last decade. These included six patients with lung cancer, four with pulmonary arterio-venous fistula, two with congenital heart disease, one with inferior vena cava (IVC) syndrome and one with congenital bronchogenic cyst. All six patients with lung cancer had superior vena cava (SVC) syndrome, and the tumor invaded the thoracic wall.

As causes of abnormal accumulation, fourteen patients had a right-to-left shunt, and one patient with IVC syndrome had a systemic vein-to-portal vein shunt, and one patient with lung cancer associated with superior vena cava (SVC) syndrome had both right-to-left and systemic vein-to-portal vein shunts. In the two patients with systemic vein-to-portal vein shunts, a hot spot was observed at the hepatic hilum, and radionuclide venography revealed remarkably developed collateral pathways to the portal vein. An extrapulmonary accumulation seen on  $^{99m}\text{Tc}$ -MAA lung perfusion scan therefore indicates the existence of unusual hemodynamics with a shunt. We should therefore be careful not to overlook this peculiar finding.

**Key words:**  $^{99m}\text{Tc}$ -MAA lung scan, right-to-left shunt, superior vena cava syndrome, inferior vena cava syndrome, pulmonary arteriovenous fistula