

## Completely inverse images in dual-isotope SPECT with Tl-201 and I-123 MIBG in a patient with myocarditis

Tadaki NAKAHARA, Jun HASHIMOTO, Takayuki SUZUKI, Hirofumi FUJII and Atsushi KUBO

*Department of Radiology, Keio University School of Medicine*

Dual-isotope myocardial SPECT in a female patient with idiopathic myocarditis showed completely inverse images in Tl-201 and I-123 MIBG SPECT. In the dual-isotope SPECT performed 13 days after her admission, Tl-201 SPECT images showed reduced accumulation in the apex and normal accumulation in the other regions, whereas the corresponding I-123 MIBG SPECT images showed normal findings in the apex and reduced uptake in the other regions. These rare discrepancies were due to the difference in photon attenuation of the two isotopes in the apex and denervated-but-viable myocardium in the basal region, which were suggested by the following findings of gated perfusion SPECT and echocardiography. Gated SPECT with Tc-99m tetrofosmin performed 23 days after admission revealed normal myocardial perfusion and normal wall motion. Iodine-123 MIBG SPECT findings reflected impaired wall motion in echocardiography performed on admission, which resembles a phenomenon called “memory image” in coronary artery disease. The present case indicated a pitfall in interpreting dual-isotope imaging.

**Key words:** single-photon emission tomography (SPECT), thallium-201, iodine-123 MIBG, myocarditis