

## Thallium-201 myocardial SPECT findings at rest in sarcoidosis

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In 41 patients with sarcoidosis (diagnosed according to criteria recommended by the Committee on Diffuse Pulmonary Disease, Ministry of Health and Welfare, Japan 1988), thallium-201 ( $^{201}\text{Tl}$ ) myocardial SPECT was performed to investigate: (1) the ability of  $^{201}\text{Tl}$  SPECT to detect cardiac involvement of sarcoidosis with images recorded at rest and 2 hours later, and (2) the relationships between  $^{201}\text{Tl}$  myocardial SPECT findings and the activity of sarcoidosis or endomyocardial biopsy findings. As to the abnormal findings in  $^{201}\text{Tl}$  myocardial SPECT, (1) a low density area was seen in 13 of 41 cases (31.7%) and non-uniform uptake was found in 17 cases (41.5%), (2) the mean washout ratio ( $n=39$ ) was  $16.5 \pm 7.4\%$ , which is significantly ( $p < 0.05$ ) lower than that found in normal subjects,  $23.9 \pm 7.5\%$  ( $n=10$ ). Of the 19 patients judged visually to be normal, 5 patients had a reduced mean washout ratio less than 12%. Thus, the incidence of abnormal findings including all types of abnormality, on  $^{201}\text{Tl}$  myocardial SPECT in sarcoidosis was 63.4% (26/41 cases). In studying the relationship between  $^{201}\text{Tl}$  myocardial SPECT findings and the activity of sarcoidosis (as measured by the serum ACE (angiotensin converting enzyme) or lysozyme level, or the presence of more than 30% lymphocyte fraction in BALF (broncho-alveolar lavage fluid)), 20 (80%) of 25 cases with  $^{201}\text{Tl}$  abnormality were judged to be active sarcoidosis, while only 6 (37.5%) of 16 cases with normal findings on  $^{201}\text{Tl}$  SPECT were judged to be active. This suggests that there is a significant ( $p < 0.01$ ) relationship between the presence or absence of an abnormal finding on  $^{201}\text{Tl}$  myocardial SPECT and the activity of sarcoidosis. Among 13 patients examined by endomyocardial biopsy, 10 patients had abnormal findings on  $^{201}\text{Tl}$  myocardial SPECT and 7 of these 10 patients had no histological evidence of cardiac sarcoidosis. In all of these 7 patients, however, sarcoidosis was judged to be active. This suggests that endomyocardial biopsy is of limited value in the diagnosis of cardiac sarcoidosis.

**Key words:** cardiac sarcoidosis,  $^{201}\text{Tl}$  myocardial SPECT, activity of sarcoidosis