

## Summary

### Usefulness of $^{18}\text{F}$ -FDG PET for Diagnosis of Cardiac Sarcoidosis

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Cardiac sarcoidosis, the main cause of death among patients with sarcoidosis, frequently becomes clinically apparent when the disease is far advanced. To evaluate the usefulness of the  $^{18}\text{F}$ -fluorodeoxyglucose (FDG) positron emission tomography (PET) in detecting cardiac sarcoidosis,  $^{18}\text{F}$ -FDG PET was performed in 16 patients with sarcoidosis (13 female,  $63 \pm 12$  yrs), compared with scintigraphic findings of  $^{99\text{m}}\text{Tc}$ -MIBI and  $^{67}\text{Ga}$ . Ten of 16 patients were considered to have cardiac complications on clinical grounds with tissue confirmation such as positive endomyocardial biopsy, severe ventricular arrhythmia, more than second degree atrioventricular block, and echocardiographically proven ventricular dysfunction. Among these patients with cardiac complications, abnormal myocardial uptake of FDG were observed in all

(100%), which confirms significantly higher frequency compared to  $^{67}\text{Ga}$  scintigraphy (50%) (abnormality of  $^{99\text{m}}\text{Tc}$ -MIBI SPECT were observed in 80%). Although abnormal FDG accumulations were observed in region with decreased uptake of  $^{99\text{m}}\text{Tc}$ -MIBI in many cases, localization of regional abnormality of each tracer was frequently independent. This discrepancy may reflect inflammatory and degenerative process of myocardium in cardiac sarcoidosis.  $^{18}\text{F}$ -FDG PET is thought to be a useful noninvasive method in detecting cardiac involvement of sarcoidosis and may provide a useful information on the activity of the disease.

**Key words:** Cardiac sarcoidosis,  $^{18}\text{F}$ -FDG PET,  $^{99\text{m}}\text{Tc}$ -MIBI,  $^{67}\text{Ga}$ .