

## Prolonged lung retention of $^{123}\text{I}$ -IMP in pulmonary fibrosis

Hideki IKEDA,\* Miyoko ITASAKA,\* Keiji TAKAHASHI\* and Akio KOMATANI\*\*

*\*First Department of Internal Medicine, \*\*Department of Radiology,  
Yamagata University School of Medicine*

We compared radiographic findings and the retention of N-isopropyl-p[ $^{123}\text{I}$ ]-iodoamphetamine ( $^{123}\text{I}$ -IMP) in 23 patients with pulmonary fibrosis. During the 30 minutes following a rapid injection of 55.5 MBq of  $^{123}\text{I}$ -IMP into the antecubital vein, the image of regional activity was stored. After this, 185 MBq of  $^{99\text{m}}\text{Tc}$ -MAA was injected and its image was stored to determine the region of interest. The half time ( $T_{1/2}$ ) of  $^{123}\text{I}$ -IMP release from the lung was calculated in each pixel between 10 and 25 minutes after the injection. Chest roentgenograms were taken, and the lung field was divided into 6 portions (right upper, middle and lower, and left upper, middle and lower). A quantitative score was assigned to the radiographic finding (X-ray score). The  $T_{1/2}$  values in the above patients were longer than the  $T_{1/2}$  values in normal subjects. Prolonged  $T_{1/2}$  values were observed in the lung fields which had high X-ray scores. The X-ray scores and the  $T_{1/2}$  values in corresponding areas had a positive relation.

**Key words:**  $^{123}\text{I}$ -IMP, lung dynamic scintigraphy, pulmonary fibrosis