

Assessment of Technetium-99m Technegas scintigraphy for ventilatory impairment in pulmonary emphysema: Comparison of planar and SPECT images

Katashi SATOH,* Masatada TANABE,* Kazue TAKAHASHI,* Takuya KOBAYASHI,*
Yoshihiro NISHIYAMA,* Yuka YAMAMOTO,* Naomi HONJO,* Mayumi SASAKI,*
Motoomi OHKAWA,* Jiro FUJITA** and Hiroki OKADA**

**Department of Radiology, and **First Department of Internal Medicine,
Kagawa Medical University, School of Medicine*

Pulmonary emphysema can be diagnosed easily by X-ray CT (CT) as a low attenuation area. Recently Tc-99m-Technegas (Technegas) has been used for ventilation scintigraphy. The present study was undertaken to assess the usefulness of planar and SPECT images by using Technegas scintigraphy in patients with pulmonary emphysema. Technegas scintigraphy, CT and pulmonary function tests were performed in 20 patients (males, age 32-78 years). We classified the findings of Technegas images into 4 grades. Comparing planar and SPECT images of Technegas, more detailed findings were shown by SPECT than by planar images in mild cases (6 cases, 30%). In more severe cases, findings of SPECT and planar images were equivalent (14 cases, 70%). The degree of abnormal findings obtained by SPECT was equivalent to that obtained by CT in severe cases (6 cases, 30%). SPECT should be excluded in advanced stages as indicated by planar images.

Key words: technegas, pulmonary emphysema, ventilation study, planar images, SPECT images