

Ga-67 tumor scan in malignant diffuse mesothelioma —Comparison with CT and pathological findings—

Shoji YOSHIDA,* Mitsutaka FUKUMOTO,* Tomofumi MOTOHARA,** Kayoko OOBAYASHI,**
Yoshiki TAKADA,** Noriaki TSUBOTA*** and Terumasa SASHIKATA****

**Department of Radiology, Kochi Medical School
Departments of **Radiology, ***Thoracic Surgery, and ****Pathology,
Hyogo Medical Center for Adults*

Malignant diffuse mesothelioma is characterized by more difficult diagnosis and worse prognosis than other pleural tumors. In the Department of Thoracic Surgery, Hyogo Medical Center for Adults, 11 patients underwent panpleuropneumonectomy for this disease between January, 1988 and March, 1993. In 7 of these cases, Ga-67 scans were obtained before the operation.

To clarify the factors affecting Ga-67 uptake in the pleural tumor, we compared Ga-67 uptake on the involved side of the thorax with CT and the pathological findings of the tumor. Regarding the use of Ga-67 scan imaging for the diagnosis of this disease, a number of related findings must be considered, such as an encircled wide Ga-67 uptake in the thickened pleural involvement and a diffuse slight Ga-67 uptake on the affected side with very slight involvement of the pleura. When the involved pleural thickness was over 6 mm, a definite correlation was found between the degree of Ga-67 uptake and the macroscopic thickness of mesothelioma in resected specimens. Thickness of the pleura on CT images demonstrates the real tumor thickness in the case of thickened involvement but in the case of thin involvement the real thickness of active mesothelioma could not be identified. No definite correlation was found between the degree of Ga-67 uptake and the histological type, or among microscopic findings, such as the extent of tumor parenchyma, interstitial volume and tumor vascularity.

Our results suggest that the Ga-67 scan is very useful for revealing the extent of pleural involvement, especially when this involvement is more than 6 mm thick.

Key words: malignant diffuse mesothelioma, Ga-67 scan, CT findings, pathological findings