

## F) Tumors

### **Tumor Scanning with $^{67}\text{Ga}$ Citrate Measured by High Sensitive Collimator**

A. ASAHARA, S. HORIE and H. UEDA

*Department of Radiology, Central Hospital of Japanese National Railway*

S. NAKANISHI

*Nuclear Instrument Division., Shimadzu Seisakusho Ltd.*

To make  $^{67}\text{Ga}$  citrate scanning more sensitive, we have made up the high sensitive collimator for trial. We make a report on the sensibility, the resolution and the clinical application using this new apparatus.

The new collimator is the lead honeycomb collimator with 37 holes and focus distance 12.5 cm.

This sensibility is 3.7 times that of collimator used so far, but the resolution which is 16 mm FWHM is less sensitive than the former one. The decrease of resolution is compensated enough with the improvement of photographing condition, that is, the increase of the sensibility and thus we can get the good film useful to diagnose.

Of 58 cases who spent 48 hours after  $^{67}\text{Ga}$

citrate 1–1.5 mCi injection, we compared the data by the new high sensitive collimator with that by the honecone collimator used so far and there was no difference between them to diagnose. But the findings about the form of tumor and the inner construction in detail were better in the high sensitive collimator than in the former one. It was positive in 90% of patients with lung cancer. When we diagnose metastatic mediastinal lesion, this procedure is better than X-ray photo.

Furthermore, as we are able to carry out faster in scan speed, the time of examination may be shortened and miniscanning be recorded as well.

### **Diagnostic value of the $^{67}\text{Ga}$ citrate scanning in the detection of abdominal malignant lymphoma**

S. LIN, T. MIYAMAE and J. NISHIKAWA

*Department of Radiology, University of Tokyo, Tokyo*

As already known  $^{67}\text{Ga}$  citrate deposit to the liver, bone etc. and excreted into the intestine, it seems to be difficult to evaluate abdominal malignant lymphoma on  $^{67}\text{Ga}$  citrate scintigram.

We performed  $^{67}\text{Ga}$  citrate scintigraphy and lymphography in 23 cases of malignant lymphoma. The cases include 19 reticulum cell sarcoma, 1 lymphosarcoma, 1 Hodgkin's disease and 2 others.

Abnormal lymphogram is obtained in 19 cases and 12 out of 23 cases were positive of abnormal

activity by radioisotope scanning.

The positive scanning has been suspected in 8 cases out of 18 lymphographically abnormal cases, but actually only 4 cases were positive. Remainder of the 4 cases were under the treatment at the time of scanning.

Four abnormal cases by scintigram could not be evaluate by lymphography due to undetectable portion. Another one of the lymphographically unremarkable cases was positive by scintigram probably due to progression of the disease in 6