

As a result a good visualization of Co-57 bleomycin was recorded in the central type of bronchial carcinoma.

In the case of lung cancer with accompanying atelectasis, the accumulation of Ga-67 was only in the focal lesion, while the distribution of Co-57 bleomycin was not only in the tumor area but also in the area of

atelectasis. In the follow up examination during Cobalt therapy, the accumulation of the two agents in the tumor areas was markedly decreased after the irradiation of 6,000 rads.

A significant difference in positive uptake of the two agents in the case of lung cancer was not in fact discerned.

### **Affinity of RI Labeled Bleomycin for Malignant Tumor**

H. AKIBA, M. KAWANA, and H. KAKEHI

*Department of Radiology, Chiba University School of Medicine, Chiba, Japan*

Affinity of  $^{67}\text{Ga}$ -bleomycin and  $^{111}\text{In}$ -bleomycin for malignant tumor of the rats were investigated. The agents were injected intravenously to the rats that bore subcutaneous transplants of ascites hepatoma AH109A. They were sacrificed 1 or 24 hours after the injection. The radioactivity of the tumor, blood, muscle, liver, kidney, bone and spleen was measured by a well-type scintillation counter. Tumor to muscle concentration ratio of  $^{111}\text{In}$ -bleomycin at 24 hours was 7.1 and that of

$^{67}\text{Ga}$ -bleomycin was 11. Kidney to muscle ratio of  $^{111}\text{In}$ -bleomycin was 13, liver or spleen were 6—7 and blood was 0.4. Kidney to muscle ratio of  $^{67}\text{Ga}$ -bleomycin was 14, liver or spleen were 13—15 and blood was 3.0. The whole body retention of  $^{111}\text{In}$ -bleomycin at 24 hours after the injection was about 1/3 dose, and that of  $^{67}\text{Ga}$ -bleomycin was about 1/2 dose. The results appear to indicate that tumor imaging with  $^{111}\text{In}$ -bleomycin and  $^{67}\text{Ga}$ -bleomycin are prospective.

### **Tumor Scintigrams with $^{111}\text{In}$ -Chloride and $^{111}\text{In}$ -Bleomycinin Comparison with Those with $^{67}\text{Ga}$ -Citrate and $^{67}\text{Ga}$ -Malate**

H. OYAMADA, H. ISHIBASHI, H. ORII, F. IKEDA, H. FUKUKITA, S. MASUDA

*The National Cancer Center*

One hundred and twenty tumor scannings were carried out with 4 kinds of so-called tumor seeking agents, such as  $^{67}\text{Ga}$ -citrate (62 cases),  $^{67}\text{Ga}$ -malate (30 cases),  $^{111}\text{In}$ -chloride (14 cases), and  $^{111}\text{In}$ -bleomycin (14

cases). When the efficiency of tumor visualization of one agent is compared to the other, it is a matter of course that the scintigram qualities should be assessed on the basis of whole body distribution of each