
Method of leukemic cell labeling with In-111-oxine was reported by us in the last meeting of this society. In this presentation, the viability of leukemic cells labeled with In-111-oxine by this method and their organ distributions were discussed. No ultrastructural change was observed by electron microscope. Labeled leukemic cells were incubated in the Iscove's modified Dulbecco's medium at 37°C in the CO₂ incubator, and their viability with trypanblue and the elution rate of In-111 from labeled cells were assessed at the same time. The viability and the elution rate assessed in, 10, and 20 hours of incubation period were 96.8% ± 3.1%, 92.0% ± 10.4% and 87.5% ± 17.2%, respectively. It was suggested that almost of the elution of In-111 derived from cellular death. The capacity of colony formation of bone marrow mononuclear cells labeled with In-111-oxine assessed with leukemias either in remission or in relapse had no significant difference between labeled and unlabeled cells. From the study on organ distribution patterns observed with gamma camera, accumulations of labeled leukemic cells in the spleen, the liver, the bone marrow and the lesion of leukemia cutis were presented.


A fifty four year old man suffering from a cough with chest pains complained of sudden dyspnea, which was presumably caused by a pulmonary embolism. CT scan of the liver and heart revealed a large low density mass in the right lobe of the liver, and a giant mass in the right atrium extending into the inferior vena cava. The volume of the right atrial mass was increasing rapidly. It was therefore essential to determine whether this giant mass was a tumor thrombus or due to multiplication of the hepatocellular carcinoma itself. To determine the nature of the right atrial mass, In-111-oxine labeled platelet scintigraphy was performed. Mean platelet survival time was apparently shortened (1.8± days). Accumulation of In-111-oxine platelet in the right atrium was clearly detected and minimal pulmonary accumulation was seen in the right lung. Disseminated radioactivity of In-111-oxine labeled platelet might be brought about the embolic showers from a giant fragile mass in the right atrium.

It was ascertained that In-111-oxine labeled platelet scintigraphy was the excellent method for assessing the tumor thrombus.