

## Splenic Scintiscanning with Congenital Heart Disease

K. KUSAKABE, T. YAMAZAKI, S. SAI, M. MIKAMI and Y. ITOH

*Department of Radiology, Tokyo Women's Medical College, Tokyo*

It would appear that severe cardiac malformation is associated with congenital absence of the spleen. It is important to diagnose the agenesis of the spleen with congenital cardiac disease because of determine the surgical therapy.

Splenic scintigraphy using  $^{203}\text{Hg}$ -MHP 25–100  $\mu\text{Ci}$  has been performed in 35 cases of congenital heart diseases since May 1968. Patients age was ranging from 12 months to 22 years. The splenic scanning resulted 10 cases of normal, 10 cases of inversed and 15 cases of

unknown spleen position. The liver of asplenia in 15 cases was transposed in 5 cases, symmetric in 7 cases. Studies of the peripheral blood of asplenia in 15 cases revealed the presence of Howell-Jolly bodies in 12 cases.

In the case of asplenia, distribution of  $^{203}\text{Hg}$ -MHP were distinct in the heart and the distinction of heart was observed 13 cases in the 15 asplenia patients. In addition to the presence of Howell-Jolly bodies, distinction of heart led to a presumptive diagnosis of congenital asplenia.

## Evaluation of Quantitative Representation in Bone Marrow Scintiphotography Using $^{99\text{m}}\text{Tc}$ Sulfur Colloids

K. FUJIMORI, S. KARIYONE and G. WAKISAKA

*First Division, Department of Internal Medicine, Kyoto University, Kyoto*

The bone marrow scanning using  $^{99\text{m}}\text{Tc}$  sulfur colloid is a useful method to understanding the patients hematopoietic status. Then, active bone marrow distribution was studied quantitatively in order to obtained more precise information.

One hour after intravenous administration of 10 mCi of  $^{99\text{m}}\text{Tc}$  sulfur colloid, at preset time exposure, bone marrow scanning were performed with scintillation camera and 1600 channel analyzer connected to it. The data were stored in 1600 channel word memory with 40 X 10 Matrix, and were displayed on the oscilloscope as Map image at appropriate threshold level. On the Map image, 30 area was selected over the bone marrow that is skull, both humeri, sternum, thoracic spine, lower lumbar spine, sacrum, ilium, both femurs, in which count were printed out through "ROI". Radioactivity of 30 area in each bone marrow was added and these values were graphed as the distribution

pattern of the active bone marrow. Moreover, in 10 cases whose liver function was normal, bone marrow/liver ratio was examined in the sternum, vertebrae, sacrum, ilium and knee part.

In normal case, high radioactivity were observed on the sternum, vertebrae, sacrum, ilium. In patients with chronic granulocytic leukemia, polycythemia vera, hereditary spherocytosis, remarkable extension pattern extending into distal femur, proximal and distal tibia and bones of foot, were observed. In these cases, uptake of knee part were evenly matched in that of sternum or pelvic bones. In cases of iron deficiency anemia, bone marrow distribution was similar comparable to normal cases, but marrow uptake increased in generally. In patients with hypoplastic anemia, marrow uptake decreased in usual marrow site, however, remaining active bone marrow observed islet pattern were almost normal uptake.