

arrest type of our classification due to myelogram, peripheral blood pictures, our tissue culture pattern and ferrokinetics in which ^{59}Fe organ uptake, PIDT and red blood cells ^{59}Fe utilization rate indicated relatively active and cumulative as compared with other types of hypoplastic anemia. The other was the diffuse type with obscure and low density pictures in skull, pelvis, femur and humerus, though the figures of foot and hand could not obtained in both types, indicating low hematopoietic functions.

No defects of figures been attributable to infiltrations of leukemic cells nor osteoclastic areas of bone with myeloma cells were figured out. The patients with acute myelocytic

leukemia, erythremia, and congenital hemolytic anemia showed diffusely dick and solid figures in all bones to foot and hand. The patients with chronic myelocytic leukemia, acute and chronic lymphocytic leukemia, hemochromatosis, Banti's syndrome, hemophilia B, liver cirrhosis, and folic acid deficiency anemia showed diffusely obscure pictures in skull, pelvis, vertebrae, femur, humerus, knee joint and elbow joint.

These findings were not necessarily coincided with the data of ferrokinetics, serum iron levels, peripheral blood pictures, and myelograms, but might be characterized with blood stream supply and active RES cells distributions.

Iron Binding Capacity of the Milk

H. SAITO

Radioisotope Laboratory, Nagoya University School of Medicine, Nagoya

Lactoferrin in the milk has iron binding capacity like the serum, and its unsaturated iron binding capacity was determined by a modified method of Peters. However it took 60 min. to bind ferric ammonium citrate to saturate the capacity. Iron binding capacity was firm in acid to pH 2 and it was lost in alkaline side around pH 9. Therefore the use of MgCO_3 for the elimination of unbound iron was not suitable, since it extracted lactoferrin bound iron in alkaline pH. However the Amberlite IRA 400 resin beads was suitable for it.

Milk UIBC was determined in more than 30

pregnant and later delivered subjects. Milk UIBC was 1.5 to 2 times larger than serum UIBC, and percent saturation was lower than that of serum.

Whole body counting of mother rat received ^{59}Fe intraperitoneally and children showed 20% in one case, and more than 50% in other 3 cases of the injected dose was retained in the children.

The large capacity of iron transportation of lactoferrin was demonstrated and its iron showed high absorbability. A large amount of iron was able to transfer to children through the milk.

The Simplified Method of Determination of UIBC

H. SAITO

Radioisotope Laboratory, Nagoya University School of Medicine, Nagoya

One ml serum is added to 1 ml ferric ammonium citrate containing $\text{FeFe-}^{59}\text{Fe}$ 5 μg in the tube with a cap. keep 15 min. in room temperature. Then insert amberlite IRA 400

resin plate into the tube and coverit with the cap. The tube is slowly stirred for 60 min. After the elimination of unbound iron, remove the resin plate and count the tube the tube

$$\text{UIBC} = \frac{\text{Fe} \times \text{tube counts after}}{\text{tube counts before}}$$

counting before the elimination of unbound iron is not necessary, if standard Fe^{59} solution is counted. No pipetting after the elimination, nor centrifuging is needed. No

buffer is added.

Florisil is also available as well as resin beads, but this requires accurate pipetting with one ml syringe after the elimination of unbound iron.

Labeling of Hemoglobin with ^{75}Se -methionine

Y. SHIMOKAWA, A. KANETO, H. SATO, M. YAKUSHIJI and K. OKUDA

Second Department of Medicine

M. TAKAMATSU

Radioisotope Laboratory, Kurume University School of Medicine, Kurume

In the study of hemoglobin, globin moiety has not in the past been labeled with gamma-emitters in contrast to labeling of heme with Fe. Recent studies all have indicated that ^{75}Se -methionine behaves very much like methionine in vivo. We, therefore, attempted to label the globin moiety with ^{75}Se -methionine and to produce doubly labeled Hb, by combining with it the ^{59}Fe labeling. Rabbits were treated with β -acetyl-phenylhydrazine and blood with reticulocytosis was incubated with ^{59}Fe and ^{75}Se -methionine for 4.5 hours in the Borsook medium under constant agitation. The obtained doubly labeled Hb was analyzed with respect to efficiency of labeling, and it was found that ^{75}Se -methionine labeling was just as efficient as that with ^{59}Fe .

Separate measurement of ^{75}Se and ^{59}Fe has been feasible in a same specimen with correction for ^{59}Fe .

The value of Hb labeled with ^{59}Fe and ^{75}Se in biological systems has been studied in comparison with Hb labeled with either ^{59}Fe or ^{75}Se . The behavior of the two labels in the doubly labeled Hb was identical with that of the corresponding single label.

It is to be emphasized that globin of Hb can now be labeled with ^{75}Se -methionine with good efficiency so that globin labeled with ^{75}Se may be traced by extracorporeal measurement in man. Hb with the indicated double labels may find various applications in the study of Hb catabolism.

Studies on abnormal proteinemia with Radioiodinated-albumin and- γ -globulin tracer methods

M. NOZAKI, M. TSUCHIYA and K. SAMBE H. ASAKURA, S. MATSUZAKI, K. SUZUKI,

Department of Medicine, School of Medicine, Keio University, Tokyo

These studies were performed to clear the dynamic metabolism of abnormal proteinemia using radioiodinated-albumin and- γ -globulin.

METHOD

The study was carried out on 78 hospitalized