low and flat, the peak was 5.1 per cent at 6 hours after oral administration.

Faecal radioactivity value for three days was 3.3 per cent in chronic myelogenous leukemia, and 5.4 per cent in acute leukemia.

In acute leukemia, Triolein absorption was rather disturbed in spite of taking large dossage of steroid hormone.

Results of Repeated Risa Test in Cases of Chronic Pancreatitis

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We often repeated the results of Risa test in cases of chronic pancreatitis and, as controls, in cases of varicus diseases of digestive organs.

Results of repeated Risa Test in 28 cases of chronic pancreatitis performed.

Method: The concentration of ^{131}I in blood was examined after oral administration of Risa (100 μCi) with gelatin. (Thyroidal function was blocked by Lugol's solution before the test.)

Cases: 28 cases. Clinical symptoms, Xray examination of digestive canals, amylase level in serum and urine, and various tests of function of gastrointestinal tract, liver and gall bladder were also employed to get exact diagnosis of chromic pancreatitis.

Results: ^{131}I blood level at first test, when clinical symptoms were serious, was moderately or extremely low in a great majority of the cases. At second test, 1~3 months after the first test when clinical symptoms became slighter by treatment of pancreatic digestive agents etc., it recovered almost normal. In cases repeated the test more than three times, ^{131}I blood level ran parallel to clinical symptoms except for a few cases.

Whole Body Retention and Organ Distribution of ^{57}Co-Hydroxocobalamin and ^{60}Co-Cyanocobalamin following Simultaneous Administration with Large Doses in Rat

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Intravenously injected 1,000 microgram of radioactive hydroxocobalamin, when given simultaneously with the same ammount of cyanocobalamin, dissappeared more rapidly from the human blood stream. On the other hand, its urinary excretion in 48 hours was found to be lower than that of cyanocobalamin. This suggested a better whole body retention and tisue uptake of hydroxocobalamin as compared with cyanocobalamin.

To comfirm this assumption, 3 microgram of ^{57}Co-hydroxocobalamin (OH-B_{12}) and ^{60}Co-cyanocobalamin (CN-B_{12}) were given simultaneously in normal albino rats weighning approximately 200 gm. by either intravenous or intramuscular route and radioactivities in the liver, kidneys, spleen, stomach, intestines, heart, lungs and the residual carcase were measured with Well-type scintillation detector at 3, 24, 48 hours, 5, 10 and 20 days after administration. Total radioactivities found in organs plus carcase were regarded to show a calculated whole body retention of both types of vitamin.

The results were as follows; (1) Organ distribution of both vitamins following simultaneous administration showed almost the same pattern as that administered individually, suggesting of no competition of

both vitamins in organ incorporation. (2) Although an absolute retention value was actually enhanced by the administration of large dosis, its per-cent retention of injected dosis was markedly reduced when compared with that of small dosis. (3) Calculated whole body retention of OH-B_{12} and CN-B_{12} were approximately 27 and 24% respectively at 24 hours and gradually decreased to 13 and 11% after 20 days, which revealed a better retention of OH-B_{12} by 3 to 5%. (4) Although a better whole body retention by ca. 4% was observed in rats injected intramuscularly, organ distribution of both vitamins was little influenced by the route of administration. (5) Total radioactivity found in the principal organs reached its maximum value of approximately 13% at 24 hours and gradually decreased thereafter. Approximately 95% of the total radioactivity of both vitamins was found in three main organs; liver, kidneys and gut, regardless of the route of administration. (6) The kidney to liver incorporation ratio was 2.0 to 2.3 for OH-B_{12} and 5.3 to 7.7 for CN-B_{12} at 24 hours following administration. (7) The most prominent difference in the organ distribution of both vitamins was a rapid and high hepatic uptake for OH-B_{12} and slow and low uptake for CN-B_{12}. OH-B_{12} was incorporated in the liver almost 3 times higher than CN-B_{12} at 24 hours in either intravenously or intramuscularly injected rats. (8) When considering an approximately 1.5 times higher conversion rate of OH-B_{12} into Coenzyme-B_{12} at 24 hours, OH-B_{12} seems to be converted to Coenzyme-B_{12} at least 5 times as much as CN-B_{12} in the liver within 24 hours, suggesting to have a more rapid hematological effect as compared with CN-B_{12}.

Mode of Absorption of Iron Visualized by Autoradiography with ^{55}Fe

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In 1959, the author showed that the place of absorption was the place of los of iron. Recently Crosby and co-workers followed the authors experiment and supposed that the absorption of iron consisted of real absorption and temporary (stay) absorption of radioiron in the intestinal epithelial cells. However, our results did not validify his speculation.

From immediately to 2.5 hours after the intragastric administration of ^{55}Fe the intestinal epithelial cells contained a large amount of radioiron in the epithelial cells. However it disappeared almost completely after 6 hours leaving unabsorbed iron in the crypt.

Epithelial cells of both young and old took up radioiron equally and it was cleared soon after from them.

Exfoliation of the intestinal epithelial cells causes the loss of iron of course. However the % absorption figure cannot be significantly influenced by the exfoliation, since the absorption is very rapid and complete as proved by the measurement of plasma radioactivity and by autoradiography after oral dose.

If iron is absorbed, it leaves intestinal mucosa rapidly and 90% of it is utilized for hemoglobin synthesis. Therefore the redistribution of absorbed iron to the epithelial cells and its loss by exfoliation is negligible.

The results suggested the absorption of iron would occur not only through the intestinal epithelial cells but also through the interepithelial cell space.