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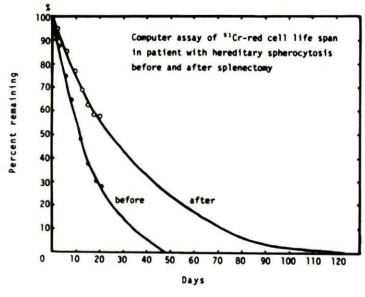
COMPUTER ASSISTED DETERMINATION OF RED CELL LIFE SPAN WITH Cr-51. H.Saito,K.Ohara and K.Shibamiya. Nagoya University School of Medicine, Depertment of Radiology.

The disappearance curve of Cr-51 labeled red cells are regulated by two factors : one exponential and the other linear.

Therefore the fornula shown below was used for computation of real red cell life span $M=(1-e)^{n}(1-\frac{n}{s})$ where e means the experiential factors as elution rate and random destruction, S mean the real life span, and n the day after zero time of infusion of labeled red cells. The normal value obtained was 124±47 days ranging from 111 to 131 days. The rate of Cr-51 elution from red cells was 1.46%/day ranging from 0.5 to 2.0%/day.
These results and clinical data were quite similar to those obtained by using DFP-32.



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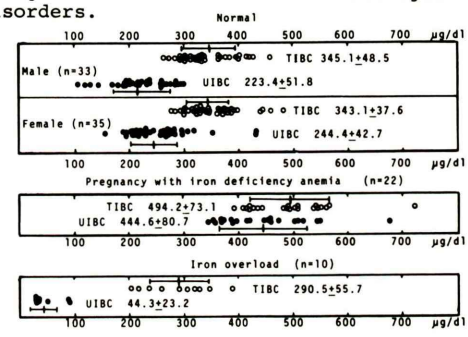
MINIFICATION OF TIBC AND UIBC RADIOASSAY. D.Hayashi,H.Saito,K.Maki and N.Nakazawa. Nagoya University Hospital, Radioisotope Laboratory and Daiichi Radioisotope Laboratory.

The radioassay kit for TIBC and UIBC developed by us has more accuracy than colorimetry as the radioassay is free from iron contamination. However, the serum used in radioassay is 0.5ml for UIBC and 1.0ml for TIBC, which is larger than the amount needed for ordinary radioimmunoassay. Therefore, we attempted to minify the amount of serum to 0.1ml for UIBC and 0.2ml for TIBC and the results were satisfactory showing good correlation to the present method. The minified method can measure higher TIBC and UIBC than the present method and the accuracy was the same as tested using the sera from various hematologic disorders.



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THE STATE OF IRON STORAGE IN PREGNANCY. H.Saito,D.Hayashi,R.Yuge,M.Hayashi,Y.Nakashima and K.Ishikawa. Nagoya University Hospital, Radioisotope Laboratory and Department of Gynecology, Branch Hospital

This is to clarify the state of iron storage in pregnancy. The determination of TIBC, UIBC, Serum iron, Saturation and serum ferritin and routine hematologic examination were performed during and after the pregnancy.

Subjects studied were all in normal pregnancy excluding the cases of iron therapy and complication. From 7th to 16th week, the idices were normal except ferritin. From 27th to 31st week, the subjects were in iron deficiency anemia having increased TIBC, UIBC, decreased SI and ferritin. This trend was seen through pregnancy. From 36th to 37th week, the increase of TIBC was most marked. Three to 4 days after the delivery, the trend of a slight recovery of iron storage was observed. After one month, anemia was recovered and the other indices showed improvement. Storage iron was not recovered yet one month after delivery, even other indices were recovering further. Iron deficiency anemia in pregnant women is based on the shortage of strage iron before pregnancy. Therefore, it is important to assay serum ferritin, TIBC and UIBC for the young female to detect the shortage of storage iron and supply iron before pregnancy.

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RUBIDUM-86 UPTAKE BY ERYTHROCYTES. T.YAMANE, N.FUKUDA AND T.MATSUMOTO. NATIONAL INSTITUTE OF RADIOLOGICAL SCIENCES, CHIBA.

F.K.Bauer et al have showen that in non anemic patients who survive cancer of the breast or lung for rive years or more,red blood cell survival(measured with Cr-51)was normal at the time of operation, however, in those cancers were also presumaly operable, but who died of metastatic disease within five years of operation, red cell suruvival was shortend.

the present study is part of an attempt to identify such kind of red cell defect, we performed in-vitro rubidum-86 uptake in a female healthy controls and patients with uterus cancer.

The RBC 120 minuts Rb-86 uptake of femal controls(under 60 of age) and female controls (over 60 of age) were found to have aging difference, they have correlation of minus. However, in those cancer groups not to have aging differences. All of the cancers have lower Rb-86 uptake than controls (under 60 of age) .