redistribution of B_{12} during the subsequent 7 days averaged 2.6% of the initial whole body counting rate. In Sliding and Multipe Detector Technique, on the other hand, the initial whole body counting rates after the oral dose, when subjects were measured both in supine and prone positions and each counting rate being added together, varied in 4 subjects by less than 2.7%, showing the results almost independent of the distribution of radio-B_{12} within the human body. In Multiple Detector Technique, when 0.1μCi of radio-B_{12} was given 5 times orally to 3 subjects at various time intervals during 12 hours and countings were made in such a situation that the two detectors being placed at 130 cm distance, then straight line relationship could be obtained in each of the test subjects between the whole body counting rates and the oral ammount of radio-B_{12}. Hence, in these techniques, the absorption rates could be expressed as percentage of the initial whole body counting rate which was obtained at any time before the first fecal excretion after oral administration of radio-B_{12}.

Distribution of ^{198}Au-colloid in the Body

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The distribution of radiocolloid in the body was studied with Ring Type Total Body and Section Counter.

Most of radiocolloid injected intravenously was taken up by the liver upto 90%. However in liver cirrhosis, it was 52 to 78% and the low value was characteristic, although splenic uptake increased. In case of cancer of the esophagus and gallbladder showed rather low value of 70 and 72% respectively. In a case of hepatitis, the uptake of radiocolloid was 80% and in an acute myelocytic leukemia, it was 85% in the liver.

The uptake of radiocolloid in the chest and pelvic section showed the same degree of activity two times as observed by animal higher than that in the abdominal section, therefore the half of activity in the chest and pelvic bone area was subtracted from the liver and spleen section as background.

The measurement of uptake of tracer in the liver was one of the most difficult procedure so far, but the present report demonstrated the method of quantitative in vivo determination of tracer in the total body and hepatosplenic section.