Administration of T.P. or castration caused abortion, degeneration of placenta and death, maceration and absorprion of fetuses in pregnant rats. Administration of P to the pregnants rats, however, mitigated these changes.. It was impossible, however, to maintain the complete gestation by administration of V.E combined with P. Considerable amounts of ^{14}C-V.E were found to be incorporated into placentas in this experiment. Results of ^{14}C-V.E incorporation into hypophyse, liver, adrenal, kidney, ovaries, uterus and serum showed the same reported already by other workers.

Metabolism of ^{3}H Labeled Nitroglycol

K. Okuda and Y. Ikoma
Second Department of Medicine, Kurume University School of Medicine

Little is known as to the metabolism of nitroglycol which is volatile and has been shown to be hematologically toxic. To elucidate information in this regard, tritiated nitroglycol was prepared from ^{3}H ethylene glycol. The procedure involved addition of carrier to the labeled ethylen glycol, dropwise mixing with nitric acid and sulfuric acid, and removal of the acids. The tritiated nitroglycol had a specific activity of approximately 5 mCi/1.3 ml, was subsequently dissolved in 40 ml of olive oil, and 0.1 ml or 0.2 ml was given subcutaneously to mice or rabbit. For the beta measurement, the dioxane-naphthalen solvent system was used to facilitate the use of acqueous materials at the sacrifice of counting efficiency due to solvent quenching. The treatment of tissue and urine for measurement was the same as that described in #102.

Tissue concentration of ^{3}H was the greatest 1-3 hours after the administration and the liver contained about 9% of the dose per gram. The spleen uptake was of interest in that the peak of uptake was at 2 hours showing a tremendous concentration of 22.5% per gram, immediate to fall thereafter. This phenomenon might represent splenic uptake and sequestration of damaged erythrocytes. Tissue concentration after 24 hours was very low and urinary elimination of ^{3}H was quick. In rabbits, 12% of the dose was excreted in urine in 6 hours and 25% in 24 hours.

Studies on the Metabolism of Radioiodine Labeled Human Serum 7S Gammaglobulin (IgG)

A. Iio, T. Mori, K. Hamamoto, K. Torizuka and M. Fukase
The Second Division of Internal Medicine and Central Clinical Radioisotope Division, Kyoto University School of Medicine, Kyoto

The present report is concerned with the metabolic studies of radioiodine labeled human serum 7S gammaglobulin (IgG) in human subjects.

A) IgG from pooled normal human sera were labeled ^{125}I in Abbott Laboratories or ^{131}I in Dinabot Radioisotope Laboratory.
Doses of four to 100μCi of ^{125}I- or ^{131}I-labeled-IgG were injected intravenously in 32 cases of normal subjects and patients with various disorders.
Serum and urinary samples were collected, and their radioactivity was measured for 2 to 4 weeks long.

T1/2 in normal subjects (8 cases) averaged 12.1$\pm$1.6 days. The metabolism of IgG was accelerated in collagen diseases and nephrosis, and prolonged in hypogammaglobulinemia. Obtained T1/2 values in various disorders were as follows:

collagen diseases	
systemic lupus erythematosus	4 cases 7.6±0.67 days
S L E after gluccorticoid	2 cases 7.8, 10.9 days
rheumatoid arthritis	1 case 7.7 days
scleroderma	1 case 9.0 days
Behcet's disease	1 case 8.1 days
renal disease	
nephrosis	2 cases 3.8, 5.9 days
chronic nephritis with azocytemia	1 case 12.0 days
liver disease	3 cases 11.1±1.07 days
hypersplenism	4 cases 9.7±0.87 days
hyperthyroidism	2 cases 10.4, 8.9 days
hypogammaglobulinemia	2 cases 13.5, 16.0 days
hypothyroidism	1 case 9.2 days

Their T 1/2 values were roughly reverse correlated to the concentrations of serum gammaglobulin in a total of 32 cases ($r=-0.43$), and their correlation became closer in 26 cases without renal and liver diseases which were considered to have direct effect to the protein metabolism ($r=-0.71$).

B) Three kinds of IgG were separated by DEAE-Sephadex colum chromatography from sera of patients with multiple gammamyeloma, hypogammaglobulinemia and Graves' disease with high LATS titer; and they were labeled with ^{131}I in Dinabot Laboratory. These ^{125}I-IgG were injected in 9 cases under various condition simultaneously with ^{125}I-labelled-IgG from normal human serum and examined double isotopically.

Metabolism of ^{131}I-IgG was a little more accelerated than that of ^{125}I-IgG.

T ½ of ^{125}I-IgG

However, the T ½ of ^{131}I-IgG value were almost equal in all cases, and any significant changes were not seen in T ½ values of ^{131}I-IgG from different origins.

C) In some cases, retained radioactivity in the body was measured by the whole body counter. By this counter, only 4μCi of ^{131}I-IgG was allowed to perform the metabolic studies, and double isotopical examination were also easy.

The radioactivity obtained from whole body counting was shown to coincide very well with the values calculated from the sums of urinary excreted radioactivity in the subjects who strictly collected the urine samples, and T½ values from radioactivity in serum was almost equal to that retained radioactivity from whole body counting.

From these results the metabolism of IgG was considered to depend greatly on the conditions of donors, especially on the gammaglobulin concentration in their sera; and by using the whole body counter, the metabolic studies could be performed by far smaller doses of radioisotope and without troublesome steps of venopuncture and the collection of urine.

Studies on Cesium-137 Levels in Human Placentas

S. Iwai, T. Fukuta, T. Tsuboi and K. Sakurai

Department of Obstetrics and Gynecology, Faculty of Medicine, Shinshu University

Cesium-137 is an important fission product, and currently present in all persons as a result of its contamination of food. The body burden and the distribution of this radiocontaminant within human tissue have been investigated by several investigators. The radiation effect of the fission products on pregnant woman and fetus rises in importance because of the increased attention being paid to teratogenic effect. From May to October 1966 an investigation for Cesium^{131} measurement in placentas was carried out at