A Study of Incorporation of ^{14}C-Dieldrin into Some Tissues of Mouse

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The mechanism of the development of poisoning due to drin pesticides is poorly understood. Hence we have performed a experimental study of the incorporation of ^{14}C labeled dieldrin into some tissues of mouse.

A dose of 0.1 μCi/g of ^{14}C labeled dieldrin was administered to mice orally, and after a given interval mice were killed and the incorporated ^{14}C into brain, heart, lung, liver, kidney, spleen and adipose tissue of omentum were determined.

The labeled dieldrin was already incorporated into each tissues after 1.5 hours and then gradually increased. Maximum incorporation of the ^{14}C was measured after 48 hours. Liver and kidney incorporated more radioactivities per gram tissue than other tissue did. Unexpectedly we had not able to demonstrate that dieldrin pesticides had affinities to adipose tissue, kidney or central nervous system such as brain.

XII. Metabolic Tracer III

A new Method of Measuring Serum Cholesterol Using Tritiated Digitonin

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In metabolic disorders the level of serum cholesterol have much significance for the accurate diagnosis of the state and the prognosis of the disease. Up to the present various methods have been devised for measuring serum cholesterol. The data obtained with these methods, however, are not completely reliable because of the poor reproducibility and the instability of the methods.

We have devised and propose a new method for measuring serum cholesterol employing tritiated digitonin on the basis of the principle of Dr. Miller and Mr. Cardinal (Abbott Lab.) in U.S.A.

The details of our method are as follows: 0.5 ml. of serum or plasma was added to 5 ml. of acetone-ethanol (1:1) in a centrifuge tube and mixed throughly. The suspension was once brought to the boiling point in a hot water bath and cooled to room temperature. It was centrifuged and the extract was decanted into a 10 ml. volmetric flask. The precipitate was washed with 5 ml. of acetone-ethanol. The wash solution was also added into the flask. The volume of the combined extract and wash solution was adjusted to 10 ml. with acetone-ethanol. This solution is used as is for free cholesterol assay and is hydrolyzed for total cholesterol assay.

The hydrolysis procedure is as follows: A 0.5 ml. aliquot of the above solution was placed in a graduated centrifuge tube and added 0.1 ml. of 9 N KOH solution. The solution was mixed and heated at 45°C for 45 minutes with shaking. After the solution was cooled, one drop of phenolphthalein was added and then 10% acetic acid solution was added dropwise to the solution until it became colorless with final addition of one more drop of the acetic acid.

Three ml. portions of tritiated digitonin solution, containing 45.2 mg. of tritiated digi-