717716

Dept. of Special Collection
REPOSITORY Regenstein Library (U Chic
COLLECTION President's Papers 1951-6
BOX No 138
FOLDER 66

BEST COPY AVAILABLE

Minutes of

the

RADIOISOTOPE COMMITTEE

Meeting

Fifth Meeting November 3, 1953

The Radioisotope Committee met at lunch at 1:00 P.M. with all members present except Dr. Dwight Clark.

A proposal was presented by Dr. M. Edward Davis, Department of Obstetrics and Gynecology, and Dr. LeRoy, for the use of tritium labelled cholesterol to study steroid-estrogen metabolism in pregnant and in non-pregnant female patients. The procedure will consist of the oral administration of tritium cholesterol in doses not to exceed 4 uc per day for a period not to exceed three weeks. The daily doses would be preceded by a loading dose so that the labelled cholesterol in the blood would be kept at a constant level during the period of administration. It is known that the turnover time of cholesterol is approximately ten days, and a loading dose 10 times the daily dose has been shown to be adequate for this purpose. While the patient is receiving the labelled cholesterol, and during the period when the blood level is in a steady state, urine will be collected and assayed for the various steroid hormone which may be present, the radioactivity of which will be determined. At the present time nothing is known whatever about the metabolism or distribution of estrogenic hormones in humans. Likewise, nothing is known about the rate of incorporation of cholesterol into these hormones, and this is the purpose of the study. Patients in whom it is planned to perform therapeutic abortion will be used, and the distribution of radioactivity between the placenta, the fetus, etc. will be determined. After considerable discussion, the Committee recommended that the study be limited to women who are sterile or who will be sterilized and aborted, if pregnant. On the basis of preliminary studies in such individuals, data may be obtained which can then be presented to the Committee to support further investigation using this material. The use of tritium cholesterol in human subjects in the clinics has been approved by the AEC Serial No. 18320. The application covers tritium cholesterol, tritium acetate, and tritium water, and the doses approved were 100 uc as a single dose, and 10 uc per day as a chronic dose. This authorization expires March 31, 1954. The proposal approved by the Subcommittee on human applications included subjects of all types: patients with advanced malignancy, as well as patients with non-fatal conditions.

Dr. Rasmussen and Dr. Harper presented their proposal to use beads of Yttrium-90 to destroy the hypophysis and thus to produce hypophysectomy for the control of patients with advancing cancer. Preliminary studies in monkeys, and theoretical calculation of dose demonstrated that from 100,000 to 150,000 rep are required to destroy the cells of the anterior lobe. If such a dose is obtained using Yttrium 90, insufficient radiation will be present to affect adjacent structures. The plan for employment of the radioactivity involves a surgical approach to the pituitary and the deposit of 4 to 6 beads in the substance of the gland. It is

FURTHER REPRODUCTION PROHIBITED
THE UNIVERSITY OF CHICAGO LIBRARY

4002358

November 3, 1953

Fifth Meeting - Radioisotope Committee

estimated that a total dose of 6 mc should be adequate for this purpose. Various aspects of the proposal were discussed and approval was granted for the use of this amount of radioactive yttrium. The chairman of the Radioisotope Committee is to write a letter to the Brookhaven National Laboratory, Reactor Section, notifying them that the use of yttrium in human subjects has been approved.

There was a discussion of procedural matters, and it was the wish of the Committee that all proposals in the future should be submitted in writing, preferably sufficiently in advance of the meeting so that the members of the Committee may have a chance to consider them.

There being no further business, the meeting adjourned at 1:45.

Respectfully submitted,

George V. LeRoy, M.D.

cc: Dr. R. J. Hasterlik
Dr. L. J. Skaggs
Dr. J. W. Carpender
Dr. D. E. Clark
Dr. R. W. Wissler

FURTHER REPRODUCTION PROHIBITED
THE UNIVERSITY OF CHICAGO LIBRARY

4002359