SUMMARIES OF RESEARCH ACCOMPLISHED DURING 1932

Continuing the custom begun in 1930 of publishing brief summaries of the research work accomplished by individuals, the following series is presented for 1932. The reports have been edited to insure uniformity of arrangement, but are otherwise printed in the form contributed by their authors.

INVESTIGATIONS ON CARCINOMA

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Studies on the Walker rat carcinoma No. 72 which were begun in Baltimore with Dr. Warren H. Lewis of the Carnegie Institution of Washington were continued utilizing fixed preparations of tissue cultures of this tumor.

The results showed that the cancer cells of this tumor grow in the cultures as groups or as single cells more independently than (1), the cancer cells of many other types of tumors, and (2), the epithelial cells of normal tissue. On the other hand, this tumor exhibited greatly stimulated and fast growing stroma cells in the cultures. The stroma cells did not show any abnormalities of the resting cells or of the dividing cells while the carcinoma cells differed from the normal cells and frequently exhibited abnormal mitotic figures. The results of this investigation will be published in the Journal of Cancer Research.

In addition to the investigations made on the rat carcinoma No. 72 a study of the spontaneous mammary gland tumor of the mouse was made in cooperation with Mrs. Lewis. Many cultures were prepared of a number of different tumors that arose spontaneously in mice of different strains at the Roscoe B. Jackson Memorial Laboratory. The cancerous tissue was explanted into various media consisting of mouse plasma, both auto and normal; of chicken plasma, of mixtures of mouse and chicken plasma and of fish plasma.

In these cultures it was found that the cancer cells grow out as thin membranes of epithelial cells resembling the growth of epithelial cells from normal tissue. The growth in mouse plasma was not very satisfactory as sooner or later liquefaction took place. The growth in chicken plasma containing a small amount of mouse plasma was perhaps the most extensive but in this medium some liquefaction occurred. No liquefaction took place in chicken plasma. The mouse tumor did not grow in fish (sculpin) plasma but it exhibited a slight growth in salt solution.

The growth of the mouse cancer cells in tissue cultures furnished favorable material for the study of the division of these cells and for following the phenomenon of phagocytosis.

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