the components analyzed are essentially normal with a tendency toward a greater degree of variation than is normally found in red corpuscle magnesium, serum calcium, and spinal fluid magnesium. Such variations from the normal arithmetical means as were found do not appear to be significant. The few instances of abnormally low or abnormally high analytical values that were observed did not fall into any special category of the cases.

If the epilepsy is associated with a disturbance of ion balance, it does not appear to involve magnesium, calcium, or phosphorus.

9664 P

Effect of Rapidly Repeated Pregnancies on Transplantable Mammary Rat Adenofibromas.*

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Assuming that rapidly repeated pregnancies stimulate breast tissue to unusual activity and assuming that unusually long storage of milk in such tissue might be detrimental, 20 mature white rats, including 5 males, were simultaneously implanted with a fast-growing rat mammary adenofibroma, 5-B 1. Eleven were bred from 2 to 4 times in close sequence, all producing litters of good size which were immediately destroyed. All tumors were removed at the end of 96 days of growth.

Wide variations were observed in the daily weight gain of tumors in all groups, and no conclusions in regard to weight gain are permissible because of this.

A detailed cytologic study of all tumors showed that the adenomatous tissue underwent hyperplastic changes well within the limit of the ordinary mammary response to pregnancy. Retention of secretion was observed grossly and microscopically in all tumors removed within one week after the last pregnancy. In no tumor was there seen any tendency toward malignant degeneration. In the control groups the tumors of male animals showed a very marked loss of adenomatous components. Those from female controls showed no variations from the donor tumor.

*Aided by grants from the Rockefeller Fluid Research Fund of Stanford University School of Medicine, and from the Scientific Research Committee of the American Medical Association.

Conclusion. Rapidly repeated pregnancy does not affect the adenomatous component of our transplantable rat adenofibroma 5-B 1 beyond that expected to occur in mammary tissue in single pregnancy. Retention of secretory material was observed but no tendency toward malignant hyperplasia was detected.

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Influence on Eye Color of Feeding Diffusible Substances to *Drosophila melanogaster.**

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Diffusible substances of hormone-like nature concerned in eye color development are known in Drosophila and in certain other insects. First evidenced in Drosophila by observations of interactions between tissues of different constitutions in genetic mosaics,[1] such substances have been studied extensively by means of transplantation and injection experiments.[2-5] The substances designated v^+ substance and cn^+ substance have been obtained in solution and certain of their chemical properties determined.[6-8] One test for these substances has been injection of solutions into the blood of test larvae. Presence of active v^+ substance results in a modification of the eye color of vermilion brown *(v bw)* animals from a very pale pink toward brown.[7] A similar modification is produced by cn^+ substance on the eye color of cinnabar brown *(cn bw)* test larvae. Experiments have shown that the substances mentioned are taken up effectively when fed to test larvae. It is the purpose of the present paper to describe such experiments.

Preliminary trials showed that if wild type pupae are immersed

* Aided by funds granted by the Rockefeller Foundation.

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