7959 P

A Sensitive Biological Test for Menopause or Castration Prolan.

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Low amounts of menopause or castration prolan which are difficult to recognize by the usual tests can easily be recognized by combining this substance with definite amounts of pregnancy prolan. The level of pregnancy prolan chosen is a low one but is always somewhat in excess of the minimal effective level when administered by itself. By the employment of this synergic reaction, rats prove to be just as sensitive test objects as are mice for the recognition of menopause or castration prolan.

A single example may be given. The administration of a gram of the alcohol precipitate from the urine of a castrated woman injected into 3 immature female rats, gave ovarian weights averaging 26 mg. and small or medium follicles only. When combined with levels of pregnancy prolan which alone gave ovarian weights averaging 30 mg., the combination yielded ovarian weights averaging 150 mg. In this case the hormone could not have been recognized in rats without the synergic reaction. It is remarkable that the "synergic" ovaries consist predominantly of follicles.

7960 P

Gonadotropic Effects in Hypophysectomized Female Rats of Implants of Pituitaries from Castrated Males.

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Studies of female rats united parabiotically with castrated males have shown that they are characterized by constant estrus and that their ovaries contain only large follicles (Witschi and others). The phenomenon appears to establish the actual secretion into the blood stream of the follicle stimulating hormone only on the part of the pituitary of the castrated male parabiont. The present study shows that the pituitaries of such castrated males nevertheless contain or "house" appreciable amounts of luteinizing hormone.

Young mature males were castrated and after 40 days their pituitaries were implanted into hypophysectomized females 26 days of age. While a dose level was found in which follicles only occurred in the ovaries of the hypophysectomized recipients, double this dose (4 glands) led to the appearance of corpora lutea. Implants of the hypophyses from normal litter brothers produced only follicles at both dose levels. Parallel experiments with normal recipients showed that corpora were produced by both levels of castrate and normal hypophyses.

The luteinizing effect of castrate male hypophysis as tested by implantation, therefore, contrasts with the results obtained by parabiosis. The explanation offered for the difference is that the absorption of the implant frees the factor responsible for luteinization, whereas this substance is retained *in vivo* by the hypophysis of the parabiont.

7961 P

Detection of Mammotropin* in the Urine of Lactating Women.

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In the course of studies on the hormonal control of the mammary gland, it has been of interest to ascertain by urinalysis to what extent a lactating woman is under the influence of estrin and the hypophyseal mammotropic hormone. A crude estrin may be prepared from the urine and tested by smearing it in the vaginae of ovariectomized rats. The urines of 8 lactating women (4-13 days postpartum) have been tested and all found to contain mammotropin in amounts that make it appear that at least as much of this hormone is excreted daily as is extractable from a bovine anterior lobe. The urine may be treated as follows: (1) to 100 cc. add 200 cc. acetone and 3 cc. HCl (concentrated); centrifuge and discard insoluble material; (2) add acetone to 90%; discard supernatant; (3) extract precipitate with mixture of 10 cc. stronger ammonia water, 20 cc. water, and 60 cc. acetone; discard insoluble; (4) add one volume of acetone; discard supernatant; (5) wash precipitate with 85% acetone, absolute acetone and ethyl ether (2 x 25 cc. in each

* Lactogenic hormone, prolactin, galactin.