have been developed, thus substantiating the grossly visible changes at the site of inoculation.

[1] Krause, A. K., *Am. Rev. Tub.*, 1917, i, 65.

[2] Baumgarten, P., Ueber Tuberkel and Tuberkulose. 1. Theil. Die Histogenese des tuberkulösen Processes. Berlin, A. Hirschwold, 1885, (cited by Krause).

3703

Gonad-Stimulating Hormone of Anterior Pituitary and Heterosexual Ovarian Grafts.*

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The rôle of the gonadal-stimulating hormone of the anterior pituitary in the development and regulation of the genital system has been previously reported.[1, 2] That the same stimulation of the ovarian follicle can be effected in ovaries which have been grafted into both normal and castrated males is here reported.

A series of 4 male rats, 96 days of age, may be taken as a typical group. Two of these were castrated and the ovaries of 20-day-old rats were transplanted into the *recti abdomines* and anchored with silk sutures. Into the other 2 unoperated males, ovaries of 20-day-old rats were transplanted, one ovary into each testis. Eight daily transplants of the fresh pituitary of an adult rat were then given to one of the castrated and one of the normal hosts. The other pair received no transplants. The rats were autopsied on the ninth day of the experiment and the grafts removed and sectioned. The ovarian grafts in the recti muscles of the castrated animals were well vascularized, but considerable degeneration, evidently due to an inadequate circulation, had occurred in the untreated animal. In the graft of the animal which had received the pituitary transplants many primary follicles had disappeared, but a score of large follicles, of mature condition and with apparently normal ova, were found.

In the untreated animal of the second pair of this series, the transplanted ovary had been resorbed. In the treated animal there was a typical bilateral ovariotestis. The vascularization was unusually good, and the follicles, both primary and secondary, were numerous. Many large, apparently normal follicles in the graft were

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like those in a normal adult ovary, with little atresia of the follicles or ova.

I found no indication of a mutual antagonism of the sex glands, as first stated by Steinach,[3] but unconfirmed by Moore[4] and others.

The formation of an ovariotestis, or an ovarian graft of any type, depends primarily upon the vascularization of the graft, but the development of the follicles of the graft depends upon the amount of the gonadal-stimulating hormone which is available to the ovary. Since the testis with its established circulation will utilize the hormone of the intact hypophysis of the host, additional hormone must be added by the glandular transplants to obtain the optimal follicular development in the grafted ovary. The uniform success of the earlier investigators in obtaining good follicular development in ovarian grafts in castrated animals is explained by the fact that the hormone of the normal, intact hypophysis of the animal will furnish sufficient stimulus to the follicle, provided that good vascularization of the graft has occurred. It is not implied that pituitary transplants have any influence on the primary vascularization of the grafts.

[1] Smith, P. E., PROC. SOC. EXP. BIOL. AND MED., 1926, xxiv, 131.

[2] Smith, P. E., and Engle, E. T., *Am. J. Anat.*, xxxiv, No. 2.

[3] Steinach, *Arch. f. Entw. Mech.*, 1916, xlii, 307.

[4] Moore, C., *J. E. Z.*, 1921, xxxiii.

3704

Pregnancy Following Super-Ovulation in the Mouse.*

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The daily transplantation of the mammalian anterior pituitary into the adult albino mouse or rat results in the development of a greatly increased number of ovarian follicles,[1] and is followed by super-ovulation. The number of ova liberated by one ovary varies from 20 to 48, as determined by a study of serial sections of the uterine tubes.[2]

Daily intramuscular transplantations of 2 mouse pituitaries into adult female mice, beginning the first day of the dioestrum, resulted

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