

## 11190 P

**Activity of Progesterone in Spayed Females Not Pretreated with Estrin.\***

HANS SELYE.

*From the Department of Anatomy, McGill University, Montreal, Canada.*

Five female albino rats weighing 108-141 g were ovariectomized and beginning 2 days later received 10 daily injections of 15 mg of progesterone in 0.5 cc of peanut oil subcutaneously. At autopsy, 24 hours after the last injection, all animals showed marked mammary gland development with lobule formation. The uteri were hyperemic and enlarged and upon histological examination showed progestational changes. These findings appeared to indicate that if a sufficiently large dose of progesterone is given, the hormone elicits its characteristic effects in the absence of the ovary and without estrin pretreatment.

In order to establish whether this response to progesterone was merely due to the fact that treatment was begun soon after ovariectomy, the experiment was repeated on 3 albino females weighing 143-155 g. The animals had been spayed 9 days prior to the initiation of daily treatment with 15 mg of progesterone as in the previous series. On the tenth day of treatment, biopsy specimens of the uterus showed progestational changes while the mammary glands exhibited only slight development. One uterine horn was traumatized at the occasion of the biopsy and treatment was continued for 5 more days. Autopsy at the end of this period revealed the formation of deciduomata in the traumatized uterine horn, full development of the mammary glands and mucoid transformation of the vaginal epithelium, such as is seen in late pregnancy. The fact that in this series, the mammary glands were not well developed as yet by the tenth day indicates that in animals spayed some time before the initiation of hormone administration, a longer period of treatment is necessary in order to obtain mammary proliferation than in animals in which treatment is initiated soon after ablation of the gonad.

Previous experiments in which doses up to 5 mg of progesterone were administered to spayed rats led to the conclusion that without estrin pretreatment, the hormone of the corpus luteum exerts no

---

\* The expenses of this investigation were defrayed in part by a grant received from the Schering Corporation of Bloomfield, N. J., through the courtesy of Dr. G. Stragnell. The progesterone was kindly supplied by Dr. E. Schwenk of the same corporation.

action on the sexual organs.<sup>1, 2</sup> In intact females, treatment with 4 mg of progesterone daily proved equally ineffective.<sup>3</sup> In the light of the present experiments, it appears, however, that the negative results previously reported were merely due to the administration of insufficient doses of the hormone, and that if suitable amounts are administered progesterone exerts all its characteristic actions without sensitization by estrogens.

*Summary.* Experiments in spayed rats indicate that daily administration of 15 mg of progesterone produces progestational changes in the endometrium vaginal mucification and mammary gland development similar to that seen in late pregnancy. It is concluded that, contrary to the generally accepted conception, progesterone can exert all its characteristic actions in spayed females without sensitization by estrogens.

### 11191 P

#### Effect of Sulfapyridine Upon Growth, *in Vitro*, of Tubercle Bacillus.

HENRY GREEN. (Introduced by A. J. Goldforb.)

*From the Department of Bacteriology, Sea View Hospital, N. Y.*

The purpose of this investigation was to determine the effect, if any, exerted upon the growth of the tubercle bacillus of varying concentrations of sulfapyridine.

The culture medium employed was a meat broth prepared from fresh meat and adjusted to a pH 7.2-7.6. Glycerol was added to make a 4% solution. The media was put in flasks and sterilized in the autoclave for 20 minutes at 15 pounds per square inch pressure. After the flasks were cooled, weighed amounts of sulfapyridine were added. Since sulfapyridine is soluble only in dilutions of 1-1000 and less, dilutions of the following concentrations were made: 1-1000, 1-2000, 1-4000, 1-6000, and 1-10,000. After the addition of the sulfapyridine, the flasks were immersed in a water bath for 30 minutes at 65°C. The flasks were then ready for inoculation.

<sup>1</sup> Astwood, E. B., Geschiekter, C. F., and Rausch, E. O., *Am. J. Anat.*, 1937, **61**, 373.

<sup>2</sup> Astwood, E. B., and Geschiekter, C. F., *Arch. Surg.*, 1938, **36**, 672.

<sup>3</sup> Selye, H., Browne, J. S. L., and Collip, J. B., *Proc. Soc. Exp. Biol. and Med.*, 1936, **34**, 472.