

3 mg doses daily for 8 additional days. Another group received sesame oil alone. The dose was increased because 1.5 mg proved to be insufficient to stop the cycle while 3 mg did this successfully. The average weight of the progesterone group at the beginning and end of the injections was 179 g and 223 g respectively, and for the controls 180 g and 213 g respectively. The average daily food consumption for the 2 groups was 12.7 g for the progesterone group and 13.0 g for the sesame controls. These experiments give no evidence that progesterone stimulates appetite.

Conclusions. 1. Inasmuch as pseudopregnant rats gain at nearly the same rate as those going through normal pregnancy it would appear that the fetus and its membranes are responsible only in part, if at all, for the increased growth rate of pregnant rats. 2. Progesterone apparently does not stimulate appetite. If the ovary is indirectly involved it may be by depressed estrogen secretion following mating inasmuch as appetite is increased following castration. This increase, however, is not observed until the sixth day as compared to the second day in pregnancy.

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Gonadotropic Hormones. VII. Influence of length of period of administration of equine hormone.*

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In a previous study¹ it was shown that the administration of a *known total dose* of chorionic gonadotropic hormone prepared from blood of pregnant women over periods of 10, 15, or 20 days, produced a much greater increase in ovarian and uterine weights of immature rats than when the same total dose was given in 5 days (Fig. 1). The opposite result was obtained with an acid extract of sheep anterior pituitary glands, as the injection of a known dose in 5 days produced a greater increase in ovarian weight than when the administration of the same total dose was spread out over periods of 10, 15,

*Supported in part by a grant from the Committee for Research in Problems of Sex, National Research Council. The gonadin was kindly supplied by the Cutter Laboratories.

¹Fluhmann, C. F., *Proc. Soc. Exp. Biol. and Med.*, 1933, **30**, 1014.

or 20 days (Fig. 1). This report deals with a study of this "time factor" in the case of equine gonadotropic hormone.

The preparation employed is an extract of pregnant mares' serum made by the Cutter Laboratories and named Gonadin. It was made up in various dilutions so that each animal received a total of 28 rat units (Cutter) when 0.25 cc was administered twice daily for the duration of the experiment. The injections were begun when the rats were 21 to 23 days of age, and a total of 20 animals was employed.

The results indicate that this hormone acts differently from either the chorionic or the gonadotropic factors, since the increase in ovarian weight was about the same irrespective of the length of the period of injection, while there was a progressive increase in the weight of the uterus (Fig. 1). Six rats injected for 5 days gave an average body weight of 38 g, ovaries .039 g, and uterus .128 g. The same total dose given in 10 days to 7 rats resulted in an average body weight of 47 g, ovaries .031 g, and uterus .109 g. In 15 days the average figures for 7 rats gave body weight 64 g, ovaries .033 g, and uterus .238 g.

Summary. The administration over various periods of time of a known total dose of an extract of equine gonadotropic hormone to immature rats gave results different from those obtained with either sheep anterior lobe or chorionic gonadotropic hormones. Ovaries of about the same weight were obtained whether the injections were carried out for 5, 10, or 15 days, but as the period of injection was prolonged there was a progressive increase in uterine weight.

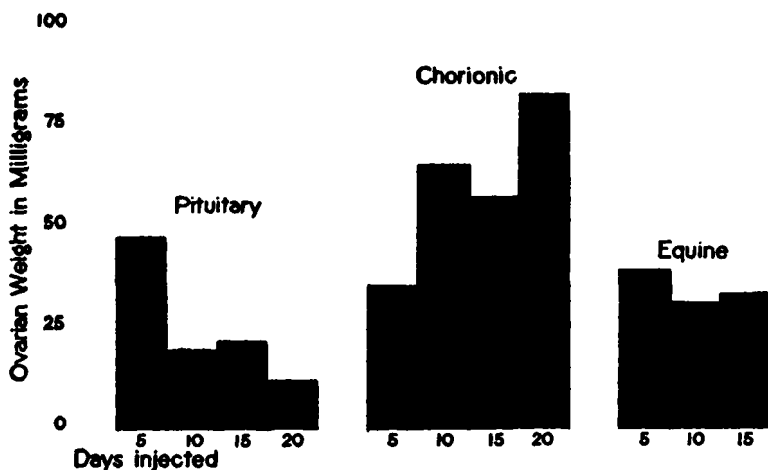


FIG. 1.