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## Effect on Ovarian Weight of Prolonged Administration of Anterior Lobe Extract.*

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It was shown that the administration of a pregnancy blood extract at daily doses which produce comparatively small increases in ovarian weight (100 to 200%) in 5-day experiments, results in very marked enlargement of the ovaries if the injections are continued for from 2 to 3 weeks.[1]

These studies have been extended to include the effects induced by an extract prepared from dried sheep anterior hypophyses by the method of Wallen-Lawrence and Van Dyke.[2] This procedure is essentially the same as that used for preparing the pregnancy blood extracts and consists in extracting with a sodium acetate-acetic-acid buffer, pH 4.2 to 4.5, and reprecipitating with 95% alcohol.

A total of 78 rats have been treated for periods up to 20 days in duration and with various doses of the extracts. The experiments were begun in animals 20 to 23 days of age, and each rat was injected twice daily.

It has been observed that when immature female rats are given daily injections of sheep anterior pituitary extract in such doses that the ovaries increase from 100 to 500% in weight in the first 5 days, the continued daily administration of the same dose for periods up to 20 days fails to produce any further marked increase in ovarian weight. For instance, in one series of 21 rats each animal was given 0.5 cc. of a comparatively weak extract daily and groups of 5 or 6 were sacrificed every 5 days. The average percentage increase in ovarian weight over controls on the 5th day was 420% (body weight 33 gm., ovaries .060 gm.). On the 10th day it was 375% (body weight 47 gm., ovaries .054 gm.); on the 15th it was 462% (body weight 60 gm., ovaries .078 gm.), and on the 20th it was 412% (body weight 63 gm., ovaries .073 gm.).

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[1] Fluhmann, C. F., PROC. SOC. EXP. BIOL. AND MED., 1932, **29**, 149.

[2] Wallen-Lawrence, Z., and Van Dyke, H. B., *J. Pharm. and Exp. Therap.*, 1931, **43**, 93.

It would seem that these results are in marked contrast to those produced by the ovary-stimulating hormone found in human pregnancy blood, and add additional evidence in support of the conception that these hormones are not identical. On the other hand, it is possible that the extract of sheep anterior lobe contains a thyreokinetic hormone and that an effect on the thyroid may account for some of the differences in ovarian response, as shown in guinea pigs for acid extracts of cattle hypophyses by Loeb and Friedman.[3]

[3] Loeb, L., and Friedman, H., PROC. SOC. EXP. BIOL. AND MED., 1931, **26**, 172.