and Allen in their extensive work with pig material obtained from commercial laboratories and appears unexplainable in any way other than by the selection of material.

In this laboratory the general run of corpus luteum material obtained locally from sows gives a fairly constant yield of 30 to 50 rabbit units per kilogram of fresh tissue. The above results show that in the cow the corpora lutea contain much less progestin than do the pig's corpora lutea. As the same procedures were followed and the same laboratory was utilized, it seems probable that the lesser potency of cows' corpora lutea represents a species difference. The only other exact information on this point is that published by Robson and Illingworth,[3] whose results might be interpreted as indicating a higher potency of the cows' corpora lutea than that here reported; but from a very kind personal communication of Dr. Robson it appears that in his laboratory the yield measured by a test similar to ours is about 8 to 10 rabbit units per kilogram of fresh tissue, a figure close to our yield.

I wish to express my appreciation of the many helpful suggestions given by Dr. George W. Corner and Dr. Willard M. Allen.

8266 C

Effect of Sodium Amytal on Leucocytes of the Albino Rat.

DOUGLAS WARNER. (Introduced by F. G. Gilchrist.)

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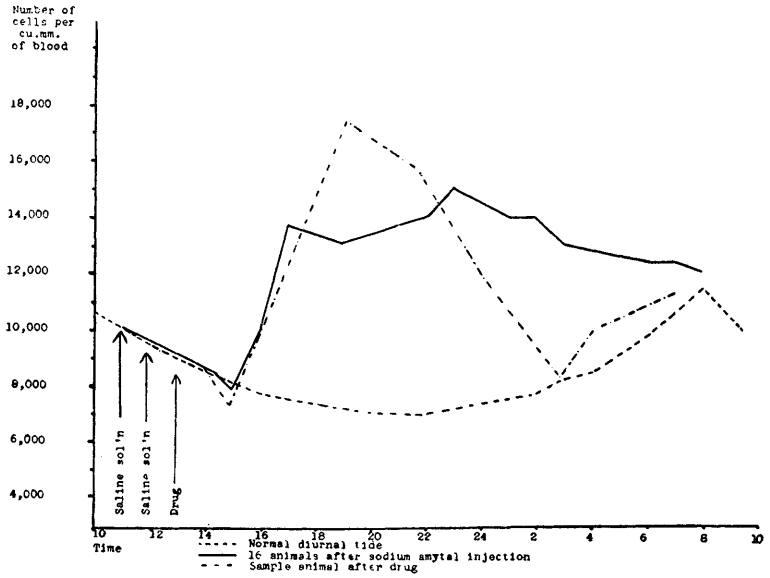
Male rats of Wistar Experimental Colony strain were used in a study of the effect of sodium amytal upon the white blood cell counts. Preceding and during the experiment, these animals were under standardized and controlled conditions as previously described.[1] The procedure was as follows: At 11, 12, and 13 (1 P.M.) o'clock wet counts for the total number of white cells per cc. of blood were made. At the same time smears were prepared for differential counts. Immediately after the 11 and 12 o'clock counts, saline solution was injected as a control. After the 13 o'clock count an aqueous solution of sodium amytal, 6 mg. per 100 gm. of body weight, was injected. Wet counts were made and smears prepared every 2 hours for the next 16 hours. Sixteen male rats were used in the experimental groups. The normal curve of 53 animals deter-

[1] To be published, PROC. SOC. EXP. BIOL. AND MED., 1935, **33**.

mined recently under identical conditions[1] was accepted as control.

The first 3 counts were used as a basis to determine the normal expectancy for each animal for each succeeding hour (based on the findings of previous work on the normal diurnal tide of the albino rat[1]). Let $X_1, X_2, - - - , X_{16}$, represent the actual blood count of each of the 16 animals at any given hour. Let $Y_1, Y_2, - - - , Y_{16}$, represent the count normally expected for each animal for that hour had the drug not been administered. $X_1/Y_1, X_2/Y_2, - - - , X_{16}/Y_{16}$, then represent the ratio of actual to normal, or a measure of the effect of the drug at any time. Then $\frac{X_1/Y_1 + X_2/Y_2 + - - - + X_{16}/Y_{16}}{16}$ equals the average measure of the effect, or gives a value by which the point on the normal curve must be multiplied in order to obtain the level of leucocytosis caused by the drug at a given hour.



A sample curve, plotted against the normal diurnal tide, is shown on the accompanying chart. The composite curve referred to above is found to be atypical of any individual but demonstrates a high degree of leucocytosis for the average of the group. The peak of leucocytosis may occur at any point from 5 to 11 hours after injection of the drug. This series of peaks accounts for the atypical composite curve. It was found that the increase in total count is caused by an excessive number of polymorphonuclear neutrophiles, which on the average increased to 144% of their normal expectancy. Lymphocytes dropped at first and then paralleled the normal at the

level of about 75% of normal. Other cell types seemed to be unaffected.

These results were exactly opposite to the author's findings (unpublished) with amidopyrine and other cyclic drugs. Climenko[2] reports inhibition of leucogenic activity in the rabbit by certain cyclic compounds.

Conclusions. 1. The injection of a single dose of sodium amytal into albino rats caused a slight leukopenia 2 hours later, followed by a decided leucocytosis whose peak was reached at from 5 to 11 hours after injection. 2. The leucocytosis was caused by an increase in polymorphonuclear neutrophiles. 3. All counts returned to a level slightly above normal in from 11 to 19 hours.

8267 P

Oophorectomy and Maintenance of Pregnancy in the Rat.

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It is generally agreed that removal of the ovaries during pregnancy, in the rat, invariably results in the untimely interruption of this condition.[1-4] Evidence is presented in this report, however, which demonstrates that under certain experimental conditions this rule does not hold, and that the rat may carry through to term during the latter part of pregnancy in the entire absence of ovarian tissue.

Adult female rats were subjected to unilateral resection of a Fallopian tube, to insure an initial litter size reduction. This was followed by exactly time mating. Laparotomy, performed on the 12th or 13th day of pregnancy, involved removal of one ovary and of foetuses in the fertile horn in excess of one. Foetal removal was so effected as to leave the placentae intact and *in situ.* Two days later in each instance the remaining ovary was ablated. Of 10 animals used in this series all carried to term, but failed to deliver, and the

2 Climenko, PROC. SOC. EXP. BIOL. AND MED., 1935, **32**, 823.

1 Hain, A. M., *Q. J. Exp. Physiol.*, 1934, **24**, 101.

2 Johnson, G. E., and Challans, J. C., *Anat. Rec.*, 1930, **39**, 195.

3 Nelson, W. O., and Haterius, H. O., *Physiol. Zool.*, 1930, **3**, 300.

4 Selye, H., Collip, J. B., and Thomson, D. L., *Endocrinol.*, 1935, **19**, 151.