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On a Sex Difference of the Histamine Content of Blood of the Rat.

BRAM ROSE.* (Introduced by J. S. L. Browne.)

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During the course of recent investigations on the histamine content of the blood of the rat, it was noted that there was a difference in the control values obtained in female as compared with those obtained in male animals. The whole blood histamine content of 40 male and 34 female rats was studied and the average blood histimine content of the male group was found to be 0.035 gamma per cc (expressed as base) whereas that of the female group was 0.06 gamma per cc (Fig. 1). The animals were of the hooded strain, ranging in weight from 140 to 220 g, and all of the same colony.

The blood histamine was determined by the method of Barsoum and Gaddum[1] as modified by Code.[2] The assays were done on the isolated guinea-pig ileum suspended in Tyrode solution at 37°C.

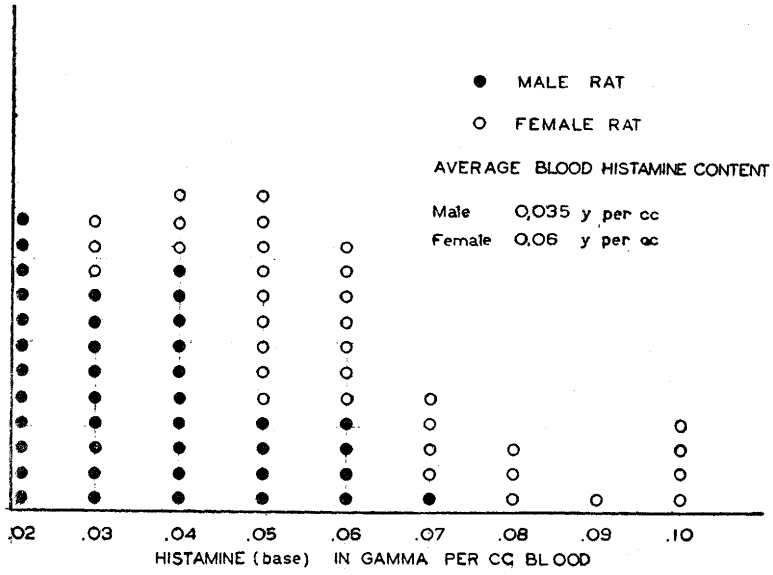

FIG. 1.

Showing the distribution of individual determinations in the male and female groups.

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1 Barsoum and Gaddum, *J. Phys.*, 1935, **85**, 1.

2 Code, C. F., *J. Phys.*, 1937, **89**, 257.

The animal was anesthetized with ether and the sample of blood then removed from the inferior vena cava.

The significance of this difference has not yet been worked out although the effect of adrenalectomy in both male and female, and of ovariectomy in the female has been studied. Neither of these two procedures alter the resting blood histamine as obtained by this method. It is, however, interesting to note that the histamine content of the ovary is 10 times that of the testis (Gaddum).[3] Also that recently Ungar and Dubois[4] have shown the presence of a histamine-like substance in human pregnancy urine.

Conclusions. The histamine content of the whole blood of the normal female rat is higher than that of the normal male rat.

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Effect of Local Application of Testosterone in an Ointment on Growth of Penis in the Rat.*

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The purpose of this experiment was to determine whether local application of testosterone to the penis in mammals would result in growth and development of this organ. This was suggested by the experimental evidence of absorption and systemic effects of androgens when applied to the skin[1] and the particularly intensified action of androgens on combs of chickens when applied locally.[2]

Twenty-four-day-old albino rats from our colony were used in these experiments. The treated and control animals in each group were arranged so that comparisons were made between litter mates. Each treated animal received 0.075 mg testosterone† daily by local application or subcutaneous injection for 22 days. The prepuce was drawn back and a measured amount of testosterone ointment or

3 Gaddum und Dale, *Gefässerweiternde Stoffe der Gewebe*, G. Thieme, 1936, p. 42.

4 Ungar, G., et Dubois, J., *C. R. de la Soc. de biol.*, 1937, **125**, 963.

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1 Moore, C. R., Lamar, J. K., and Beck, N., *J. Am. Med. Assn.*, 1938, **111**, 11.

2 Fussgänger, R., *Med. Chem. Z.*, 1934, **2**, 194.

† We wish to thank Dr. Ernst Oppenheimer of Ciba Pharmaceutical Products for the testosterone used in this work.