The final concentration of added substances ranged from 0.02-0.04 M. 50 to 150 mg. wet rabbit liver slices were used per 3 cc. medium.

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Observations on Histologic Structure of Anterior Pituitaries of Old Female Rats.*

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Considerable information is now available concerning the histologic structure of the anterior pituitary of the female rat during the normal estrous cycle,[1] and after various experimental procedures.[2, 3] However, as far as the writers are aware, there are available in the literature no reports of definite histologic studies on the anterior pituitaries of old female rats. Below are presented certain observations on a histologic condition found in the anterior pituitaries of old female rats which we have not observed in the anterior lobes of younger animals.

We have examined the pituitaries of 26 old breeding female rats of the experimental colony strain of the Wistar Institute. A majority had given birth to from 4 to 6 litters; all had delivered at least one litter. At autopsy the animals ranged in age from 543 to 848 days, the average age being 632 days. Three animals were found to have small subcutaneous tumors in the mammary region; subsequent histologic examination revealed that these were fibroadenomata of the mammary gland. The pituitaries were variable in weight, ranging from 10 to 45 mg., the majority weighing less than 17 mg. In 2 animals the right lateral halves of the anterior lobes were markedly and irregularly enlarged, causing a definite anterior and dorsal bulging of the anterior lobe tissue. The enlarged areas were extremely congested and very soft. In both, the posterior lobe appeared to be compressed and reduced in size. These enlarged

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1 Wolfe, J. M., and Cleveland, R., *Anat. Rec.*, 1933, **55**, 233.

2 Severinghaus, A. E., *Physiol. Rev.*, 1937, **17**, 556.

3 Wolfe, J. M., *Albany Medical Annals*, 1937, **56**, 102.

areas were thought to be adenomata of the pituitary. In 2 other animals small, markedly congested, papilla-like enlargements of anterior lobe tissue projected up from the dorsal surface of the gland.

Serial sections of all pituitaries were made and studied by methods previously described.[1] In 15 rats, 58% of those studied, were found localized areas of cells which were histologically different from those making up the normal portions of the gland. In some glands these areas were small, containing only a few cells. In most cases, however, they were larger, measuring from 0.5 to 1.0 mm. in their greatest dimension. In 2 animals they constituted practically all of the lateral half of the gland.

The cells in these areas differed from the normal cells in that they were generally markedly hypertrophied. Cells as large as 40 x 50 micra in size were sometimes observed. A majority of these enlarged cells were considered to be chromophobes but in some glands enlarged eosinophiles were also found. In the hypertrophied chromophobes, the nuclei were large and as a rule appeared to contain little chromatin. The nucleoli were very large and prominent. The negative image of the Golgi apparatus was greatly increased in size. The cytoplasm varied in color from a dense blue to a light blue; that of the latter cells was often fragmentary. Many cells contained varying numbers of small clear vacuoles in the cytoplasm. In the enlarged eosinophiles the negative image of the Golgi apparatus was greatly increased in size; most cells exhibited a reduced granular content.

In the smaller areas of hypertrophied cells, the cells were usually closely packed together and there was little dilatation of the capillaries. However, in the large areas the capillaries were extremely dilated in some instances, throwing the anterior lobe cells into narrow cords separated by wide sinusoidal-like blood spaces. In the regions of marked capillary dilatation the degree of hypertrophy of the cells was seldom as great as in those regions where the blood supply was less abundant. In the 2 animals in which adenomata were diagnosed grossly, the whole lateral halves of the glands were made up of chromophobes showing varying degrees of hypertrophy. The capillaries were markedly dilated. Large masses of intercellular colloid were found throughout the anterior lobe tissue. There was a compression of the normal anterior lobe tissue which surrounded the area of the hypertrophied cells. We have tentatively regarded these areas as adenomata of the pituitary, although it has not been definitely established that they possess all the characteristics of true tumors.

These studies indicate that in old rats of this strain there is a tendency for atypical areas of hypertrophied cells to appear. The cells in these areas are histologically similar to those found in the adenomata of the pituitary described above.

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Observations on Dolman's Test for Determining the Presence of Staphylococcal Enterotoxin.

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Numerous observations indicate that staphylococci are frequently present in cases of food poisoning. It is often difficult, however, to determine whether or not this organism is the etiological agent. The studies of Jordan and McBroom,[1] Woolpert and Dack,[2] and Dolman, Wilson and Cockcroft,[3] suggest that toxin produced by staphylococci is responsible for the clinical symptoms. Little is known about the pathological lesions in cases of food poisoning resulting from staphylococci because only one death has been reported.[4]

Dolman and his associates[3] published a method by which they could determine whether or not the staphylococcus found in the food in cases of poisoning is the etiological agent. Furthermore, with this test they showed that the gastro-intestinal fraction in staphylococcal toxin was not destroyed by heat for 20 minutes at 100°C. The thermolability of this fraction is very different from that of the hemolysin, leucocidin and skin-necrotizing fractions. The technic of this test consists in injecting intraäbdominally into kittens toxin prepared from the cultures of staphylococci. If the animal shows marked lassitude and weakness, with unsteadines which appears shortly after the injection and if these symptoms culminate in the first of a series of intermittent paroxysms of

[1] Jordan, E. O., and McBroom, J., PROC. SOC. EXP. BIOL. AND MED., 1931, **29**, 161.

[2] Woolpert, O. C., and Dack, G. M., *J. Inf. Dis.*, 1933, **52**, 6.

[3] Dolman, C. E., Wilson, R. J., and Cockcroft, W. H., *Canad. Public Health J.*, 1936, October, 489.

[4] Blackman, S. S., *Bull. Johns Hopkins Hosp.*, 1935, **57**, 289.