

## Peiping Section.

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7112 P

### Production of Ovulation by Anterior Lobe of Pituitary of Thyroid-ectomized Rabbit.

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In this study 14 litters of albino rabbits of homogeneous stock have so far been used. The control animals were all littermates except in 2 instances. The rabbits used for testing the quantity of the principle causing ovulation were albino rabbits purchased locally.

One hundred and thirty-nine to 333 days elapsed between thyroidectomy and death. At the time of killing the anterior pituitary lobes of the successfully operated animals (16) and their controls (14) were carefully dissected under a binocular magnifier and weighed to  $\pm 0.02$  mg. by means of a torsion balance. A careful search was made for thyroid tissue grossly; material which appeared possibly to be thyroid tissue was examined histologically. In 3 animals appearing to suffer from thyroid deficiency small amounts of thyroid were found. The individual anterior pituitary lobes were thoroughly ground in an agate mortar and suspended in 5.0 cc. of 0.9% NaCl solution. A part of such a suspension was then injected intravenously into one or more normal adult rabbits which were killed for examination of the ovaries about 24 hours later.

Among 10 litters in which thyroidectomy appeared to be complete and in which littermate controls were available, the mean body weights and standard deviations were: thyroidectomized,  $1.57 \pm 0.217$  kg.; control,  $2.49 \pm 0.380$  kg. The mean weights of the anterior lobes of these 2 groups were: thyroidectomized,  $34.0 \pm 5.41$  mg.; control,  $24.69 \pm 8.11$  mg. Statistically therefore the body-

weights and weights of anterior lobes were altered significantly by thyroidectomy.

The doses of fresh anterior lobe tissue necessary to cause ovulation in at least part of a group were found to be larger than those Wolfe and Cleveland used.<sup>1</sup> In recipient animals weighing about 3 kg., 5 mg. of fresh anterior lobe per kg. were required; in smaller animals (about 2 kg.) it was necessary to inject 7.5 to 10.0 mg. per kg. In using the anterior lobes of an operated and a control animal we usually administered doses proportional to the anterior lobe weights to recipient animals of practically identical weights. Our results indicate that the concentration of the hormone causing ovulation was reduced in the pituitary of the thyroidectomized animal. The absolute amount of the hormone present was certainly not increased and may have been reduced inasmuch as ovulation occasionally occurred only in the test animal receiving anterior lobe suspension from a control donor; moreover anterior lobe suspension from a control animal always caused ovulation, if a similar suspension from a thyroidectomized animal had a similar effect.

## 7113 P

### Fate of Bronchial Ligatures.

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It is well known that non-absorbable ligatures and sutures applied to some tubular structures in the body tend to migrate. The special mode of migration of such material in the intestine, common bile duct, Fallopian tubes, and large arteries has been determined in detail. The present work concerns the behavior of ligatures applied to a tertiary bronchus, and the resultant effect upon the bronchial continuity, in dogs.

The first branch (about 4 mm. in diameter) of the stem bronchus of the right lower lobe was exposed, and ligated with silk. In 9 dogs, it was singly ligated; in 8 other dogs it was ligated at 2 points and divided between the ligatures. After postoperative periods varying from 3 days to 6 months, the animals were killed and the region of ligation was examined grossly and microscopically (using serial microscopic sections).

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<sup>1</sup> Wolfe and Cleveland, *Anat. Rec.*, 1931, **51**, 213.