

the kidney on the same side were also congested. The glands were compared microscopically. The appearance of the left adrenal was very striking. Adrenalin instead of being limited to the medulla was disseminated throughout the gland, being especially concentrated in the cells of the zona glomerulosa. Adrenalin in the zona fasciculata and zona reticularis was found between the cell columns, but was absent from the cells. The total quantity of adrenalin was much greater in the left adrenal than in the right, as indicated by the staining. There was considerable vacuolization in the zona fasciculata.

Experiment 3. The lumbar and lumbo-adrenal veins were tied on the left side, the right adrenal being left intact. The animal in this case was a dog. Eighteen days later the animal was killed, and the two adrenals fixed. No great difference was observed between the two glands. There was less lipoid in the ligated gland, there being great numbers of large lipoid bodies in the cortex of the normal gland, while these were largely absent from the ligated gland.

Experiment 4. The lumbo-adrenal vein where it enters the vena cava was tied off on both sides, but the veins to the lumbar muscles were not touched. This animal, a rabbit, gained in weight during the next thirty-two days. It died seven days after the operation. Upon microscopic examination the presence of adrenalin was not found. Lipoids were very scant in amount.

Experiment 5. After removal of the right adrenal the lumbo-adrenal vein from the left gland was tied off, the vein from the lumbar muscles being left intact. The animal was operated upon at 4 p. m.

At nine o'clock the next morning the pupils were small, greatly dilated, and constricted much less than did those of a normal cat when exposed to a bright light. The most striking thing, however, was the marked pilomotor effect. The hair was erect all along the dorsal surface, and to a certain extent on the tail. The heart was beating at the rate of 140 per minute, whereas before the operation the rate was 250. The rectal temperature was 35.7° C.

Forty-one hours after the operation, the pupils had become nearly normal, while the pilomotor effect still persisted. At