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The effects of complete extirpation of the hypophysis in the dog (Preliminary report).

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A series of 66 dogs were operated through the oral route and the hypophysis removed by cautery. Five of these animals (Nos. 4, 30, 34, 35, 40) showed no clinical symptoms, and when killed for examination 96, 95, 95, 146 days after operation, no trace of hypophysis was found microscopically. One animal (No. 38) died 15 days after operation. This dog showed the symptoms of so-called cachexia hypophyseopriva. Autopsy showed absence of hypophysis, a blackening of the region about the infundibulum and a severe pneumonia. The pneumonia was probably an aspiration type and was diagnosed as such two days after the operation. Dog No. 52 remained alive for 259 days after hypophysectomy. This dog was adult at the time of operation, weighing 18 K. After hypophysectomy the dog gained 7 K., became sluggish, and somewhat somnolent. There was no demonstrable decrease in the size of the testes (weighed 31 g. at the time of death) and there was no microscopic trace of the hypophysis at autopsy.

Two dogs (Nos. 14 and 39) are still alive, two years and nine months and one year and nine months after hypophysectomy respectively. Dog 39 was adult at time of operation, weighing 5.8 K. After the operation this dog gained six kilos in weight, became extremely sluggish and somnolent (sleeps practically all the time), shows altered disposition (grouchy) and is devoid of sex interest (tested with bitch in heat). There is no gross decrease in the size of the testes as determined by external measurement. This animal showed polyuria and polydypsia for some time following the operation. Dog 15, a female pup, weighed 3 K. at time of operation. After the operation the pup gained four kilos, while the control gained six kilos. This hypophysectomized dog has an infantile appearance, is rather fat, and shows practically no development of the mammary

glands. She was caged with male dogs for a year and never became pregnant, but she is neither sluggish nor somnolent. The remainder of the series are eliminated because when killed for examination vestiges of hypophysis were found, or the dog died of pneumonia or meningitis soon after operation. The dogs with hypophysis remnants showed no symptoms of hypophyseal deficiency.

All the dogs (except No. 52) that died following the hypophysectomy operation, the cause of death was either meningitis or pneumonia (probably aspiration pneumonia). These dogs died within 3 to 10 days following the operation.

1. Completely hypophysectomized dogs may live indefinitely without showing any of the Fröhlich syndrome.

2. Some of the completely hypophysectomized dogs show Fröhlich's syndrome in varying degrees (retarded growth, adiposity, somnolence, loss of sex urge).

3. The fact that all completely hypophysectomized dogs do not exhibit the Fröhlich syndrome seems to indicate that the hypophysis itself is not the only factor involved in this malady. The obvious varying or uncontrollable additional factor is the injury to the base of the brain in these operations.

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The auto-hemolysin of paroxysmal hemoglobinuria.

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The essential characteristic of the condition known as paroxysmal hemoglobinuria is the occurrence, as a result of exposure to cold, of hemoglobinæmia and hemoglobinuria, usually accompanied by a chill and rise of temperature. In the blood of these patients there is present an auto-hemolysin which is readily demonstrated by the simple procedure well known as the Landsteiner reaction. In its simplest form it consists simply