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Effect of Castration on Hypophysis Cerebri of the Male Albino Rat.

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In agreement with other authors, it was found that the hypophysis of the male albino rat increased in size as a result of castration.

As seen in the table, by means of the paper weight method on serial sections, it was found that this increase in size is due solely to an increase in size of the pars anterior. Pars posterior and pars in-

TABLE I.

Group	No. animals	Av. age days	Av. body wt. gm.	Av. body length cm.	Av. wt. whole gland	Pars Anterior wt.	Pars Anterior %	Pars Posterior wt.	Pars Posterior %	Pars Intermedia wt.	Pars Intermedia %
I. Controls	8	88.5	251	21.5	7.4	6.09	82.25	.79	10.92	.50	6.82
II. "	8	109.0	254	22.0	8.6	7.08	82.36	.95	11.06	.57	6.58
Aver.		98.7	252	21.8	8.0	6.59	82.30	.87	10.99	.54	6.70
III. Test	9	88.8	202	20.3	10.9	9.42	86.72	.83	7.70	.46	4.18
IV. "	11	106.0	215	20.9	12.3	10.77	87.53	.88	7.26	.55	4.52
V. "	7	106.0	223	21.3	13.2	11.52	87.34	.93	7.17	.54	4.16
Aver.		100.0	213	20.8	12.0	10.52	87.21	.88	7.38	.52	4.31

Explanation of grouping:

Group I—Control, littermates of Group III-Test, were killed at the same average age. These glands were preserved in a mixture of 10% formalin and saturated mercuric chloride. Had a control operation.

Group II—Control, littermates of Group IV and V Tests, were killed at the same average age. This material was fixed in Zenker-formol solution. Had a control operation.

Group III—Test—Castrated approximately 68 days. Same fixative as Group I Control. The epididymis was removed with the testis.

Group IV—Test—Castrated approximately 88 days. Same fixative as Group II Control. The epididymis was removed with the testis.

Group V—Test—Castrated at approximately 88 days. Same fixative as Group II Control. The epididymis was left intact.

termedia are practically identical in absolute weight in the control and test animals.

Large, vacuolated basophilic cells typical of those described as "castration cells" or "signet ring cells" were found in the glands of the test animals.

Allowing the epididymis to remain intact did not alter the results from total castration, either volumetrically or histologically.

A significant decrease in the body weight, and body length of the castrated animals was also found.

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Effect of Insulin on Blood Sugar of Rabbits During Infection.

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It is generally believed that the effect of insulin is diminished during infection in diabetes patients, and that temporarily more must be given to maintain a normal blood sugar level. To obtain information on the subject the following experiments were performed:

Healthy rabbits were injected intravenously with 0.5 unit of insulin per kg. of body weight. The blood sugar was determined by the Folin-Wu-Benedict method before insulin injection and thereafter at 15 to 30 minute intervals for 3½ hours. After at least 2 curves were obtained on successive days, the rabbits were inoculated intracutaneously with 0.1 cc. of a 1-400 dilution of a culture of Type I pneumococci. Usually on the next day, when the tem-

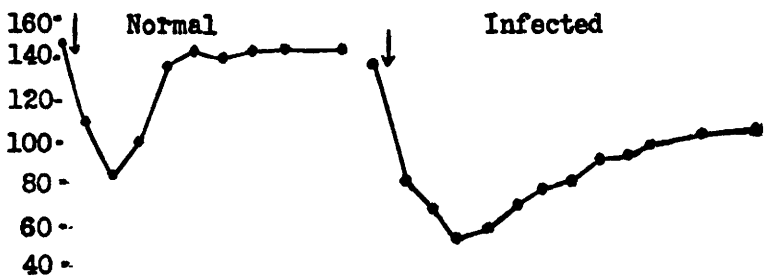

FIG. 1.

Blood sugar levels at 15 minute intervals after the injection of insulin into a normal rabbit and after it had been infected with pneumococci. Arrows indicate the time of insulin injection.