

on this diet. *Blood pressure:* The average blood pressure reading was about 10 mm. of mercury less after having been on the special diet for about 4 months than either before or after the return to normal diet. *Weight changes:* There was a gradual decrease in weight for the first 3 months on the diet. *Metabolism studies:* Basal rates by the indirect method were run by the hospital technician. Also, metabolic rates and respiratory quotients were found with a closed-chamber apparatus. With the former, rates of -11%, -11%, -2% were found, the highest value coming just before the low fat diet was abandoned. With the latter apparatus metabolic rates and R.Q.'s were found after starvation and during food utilization. Work with rats has shown that high metabolic rates, high dynamic action of food, and high respiratory quotients are to be expected when there is fat deficiency. The present studies showed no definite trend in metabolic rates (either before or after taking food), but higher respiratory quotients were encountered after the patient had been on the restricted regimen 6 months. These quotients were again lower 6 months after return to normal diet. The highest non-protein respiratory quotient (1.14) came in the sixth month on the diet. Eight months later the quotient under like conditions reached 1.01. *Objective clinical findings:* There was no significant change in the physical condition of the subject throughout the course of the study. Physical examinations made following resumption of normal diet were essentially negative. *Subjective findings:* The most noticeable feature was the marked absence of fatigue. Migraine attacks, which had been occurring at 7- to 10-day intervals, ceased after the subject had been on the diet for about 6 weeks.

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Experimentally Altering Galactin Content of the Rat Pituitary.

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In earlier communications we reported that the injection of the estrogens increased the galactin content of the male rat pituitary

* Contribution from the Department of Dairy Husbandry, Missouri Agricultural Experiment Station, Journal Series No. 504.

TABLE I.
Experimentally Altering Galactin Content of the Rat Pituitary.

No. of Animals	Sex	Physiological Condition	Aver. body wt. of exper., gm.	Aver. body wt. when sacrificed, gm.	Aver. pituitary wt., mg.	Bird units per pituitary gland	Bird units per mg. pituitary tissue	Bird units per 100 gm. body wt.
10	F	Normal	42	123	5.1	1.4	.275	1.14
10	F	Ovariectomized (60 days)	42	149	7.3	0.86	.118	0.58
10	F	" (20 ")	150	174	7.9	2.73	.346	1.57
10	F	" + 500 I.U. theelin/day (20 days)	147	150	9.0	3.96	.440	2.64
5	F	Ovariectomized (18 days)	144	152	7.5	3.40	.453	2.24
5	F	" + 1000 I.U. Progynon-B/day (18 days)	145	138	16.3	5.87	.360	4.25
6	F	Ovariectomized + 200 I.U. Progynon-B/day (6-14 days)	149	144	14.4	10.00	.694	6.94
8	M	Normal	50	164	4.1	0.91	.222	0.55
8	M	Castrated for 35 days, then 25 I.U. theelin/day for 14 days		115	7.9	1.75	.222	1.52
		50 " " " " " 18 "						
		100 " " " " " 12 "						
9	M	Normal	232	211	6.2	1.05	.162	0.50
9	M	500 I.U. theelin/day for 18 days	232	199	8.9	1.69	.199	0.85

gland and that the galactin content of pituitary glands taken from male rats castrated for 60 days was not altered.

This report consists of further attempts experimentally to change the galactin content of the rat pituitary gland. Animals were paired upon the basis of body weight. At the close of the experimental period the control and experimental animals were sacrificed, their pituitary glands removed and assayed by injecting them over the crop glands of the same pigeons. The results are summarized in Table I.

Ovariectomy brings about a definite decrease in the galactin content of the pituitary gland. The injection of estrogenic hormones (theelin and Progynon-B†) into ovariectomized animals increased the galactin content of their pituitary glands over that of the ovariectomized, non-treated controls. It is interesting to note that the injection of 200 I.U. daily of Progynon-B brought about a greater increase in galactin content than did the daily injection of 1000 I.U. of Progynon-B. The mammary glands of the injected animals were quite extensive and well filled with secretion. Inasmuch as we have found that the pituitary glands of pregnant rats are somewhat lower in galactin than those of normal estrous cycle females and in light of the above observations it would seem that the estrogens do not cause a galactin storage or inhibition of galactin secretion during pregnancy. Theelin injections into castrated males increased the galactin content per pituitary gland but did not change the concentration of galactin per 1 mg. of fresh pituitary tissue, while theelin injections into normal males, 500 I.U. daily, increased the galactin content per pituitary gland as well as the concentration within the gland.

† The theelin and Progynon-B used in these experiments were kindly supplied by Dr. Oliver Kamm of Parke, Davis and Co., and Dr. E. Schwenk of the Schering Corporation, respectively.