

milk secreted declined gradually so that by the 10th to 20th day of injection only a few drops of milk could be expressed from the nipples. In spite of continued milk secretion, there appeared to be a gradual involution of the mammary gland. In 2 similar cases in which galactin alone was injected, milk secretion stopped in 3 days after the first injection. Lactation was reinitiated in these animals within 3 days with 5 mg. of galactin and 0.2 dog unit of eschatin, injected immediately after the cessation of lactation and maintained throughout the observation period of 10 days.

*Summary.* The lactogenic hormone (galactin) in conjunction with the adrenal cortical hormone (eschatin) and glucose was capable of initiating or reinitiating lactation in hypophysectomized guinea pigs with properly conditioned mammary glands. Though simultaneous injections of these 2 hormones and glucose support the maintenance of lactation in hypophysectomized lactating guinea pigs, the involution of the mammary glands was only slightly, if at all, prevented.

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#### Influence of Suckling upon Galactin Content of the Rat Pituitary.\*

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We have reported<sup>1</sup> that the pituitary glands from 48 hour post-partum rats contained, on the average, 7.72 bird units of galactin per gland. In this experiment the young were with the mother continually up until the time when she was sacrificed.

In the light of Selye's<sup>2</sup> work upon the nervous control of lactation it became exceedingly interesting to study the influence of suckling upon the galactin content of the rat pituitary. The litters of 10 rats were removed 36 hours after parturition and then returned to their mothers 12 hours later, without receiving any nourishment from other lactating rats during this 12-hour period. Frequent observations were then made to see if the young were nursing.

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<sup>1</sup> Reece, R. P., and Turner, C. W., *Proc. Soc. Exp. Biol. and Med.* (in press).

<sup>2</sup> Selye, Hans, *Am. J. Physiol.*, 1934, **107**, 535.

Immediately after a nursing period of 3 hours the mother rats were sacrificed, their pituitaries removed, weighed and assayed. For controls the litters of 10 rats were removed 36 hours after parturition and the mother rats sacrificed 15 hours later. The pituitaries were assayed by injecting the macerated tissue, suspended in distilled water, intradermally over the crop gland of common pigeons. The pituitary glands were injected into a sufficient number of pigeons so as to obtain a minimal response of the crop gland.

TABLE I.

Rat No.	Body Wt. gm.	Total Pituitary Wt., mg.	Bird Units per Pituitary Gland	Bird Units per 1 mg. Pituitary Tissue	Bird Units per 100 gm. Body Wt.
36*	266	12.5	5.50	.44	2.07
38*	232	9.8	2.37	.24	1.02
41*	225	9.4	2.67	.28	1.19
24*	213	10.4	1.50	.14	0.70
21*	206	10.6	5.50	.52	2.67
18*	191	8.4	2.00	.24	1.05
42*	190	9.9	3.50	.35	1.84
40*	187	9.7	2.50	.26	1.34
28*	183	9.2	2.25	.24	1.23
39*	175	9.2	2.87	.31	1.64
Aver.	206	9.9	3.06	.30	1.48
26†	230	13.7	10.50	0.77	4.57
46†	227	10.4	10.25	0.99	4.52
23†	217	11.5	6.75	0.59	3.11
49†	207	10.5	9.25	0.88	4.47
50†	191	9.2	8.50	0.92	4.45
43†	176	8.1	9.25	1.02	5.26
44†	169	7.4	8.67	1.17	5.13
47†	167	7.3	9.00	1.23	5.39
45†	162	7.2	11.37	1.58	7.02
48†	156	7.0	8.50	1.21	5.45
Aver.	190	9.2	9.20	1.04	4.94

\* Experimental animals (suckled).

† Control animals (non-suckled).

From the results presented in Table I, it appears that the cessation of nursing and the accumulation of milk in the glands permits an augmentation of the galactin content in the pituitary gland (9.20 bird units of galactin as compared with 7.72 units). Following the stimulus of suckling and the removal of milk from the mammary glands the galactin appears to be discharged to a remarkable extent, the pituitary glands from the non-suckled rats containing 3 times as much galactin as the pituitaries from suckled rats.

*Conclusion.* The stimulus of suckling or the removal of milk from the mammary glands markedly decreases the galactin content of the rat pituitary gland.