period of 14 days with an aqueous ammoniacal gonadotropic extract of pig pituitary in addition to A.P.L. At autopsy all of these ovaries were greatly enlarged and contained numerous fresh corpora lutea. Their weights ranged from 99-170 mg.

These experiments show that even if the ovary loses its sensitivity to the anterior pituitary-like hormone of pregnancy urine, it still responds readily to extracts obtained from the hypophysis.

7183 C

Influence of the Uterus on Ovary and Mammary Gland.

HANS SELYE. (Introduced by J. B. Collip.)

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While Caesarian section normally initiates lactation in the rat, it has been found that milk secretion does not occur if the uterus is filled with paraffin immediately after the foetuses have been removed.[1] Furthermore, no oestrus is usually observed in such rats for several weeks after the operation; while in the controls, the uteri of which have not been distended, normal cycles set in 3 days after the interruption of pregnancy. We have recently repeated these experiments, and it is the object of this paper to describe the morphological changes observed in the ovary, pituitary and mammary gland.

In 10 pregnant rats, the uteri were emptied through a small incision during the second half of gestation; then each horn of the uterus was injected separately with melted paraffin (melting point 42°C.) after tying the lower end with silk. When the uterus was well distended, the upper end, through which the injection was made, was also tied.

During the 6 weeks following the operation, only 2 of these animals came into oestrus—one had 2 cycles, the other, 4. At autopsy it was found that the ovaries were greatly enlarged (75-110 mg. as compared with 40-45 mg. in the normal controls), and contained many large corpora lutea similar in appearance to those observed during gestation (Fig. 1).

In a control series where the foetuses were removed, but the uterus was not filled with paraffin, the corpora lutea of gestation shrank

[1] Selye, H., Collip, J. B., and Thomson, D. L., *Endocrinology*, in press.

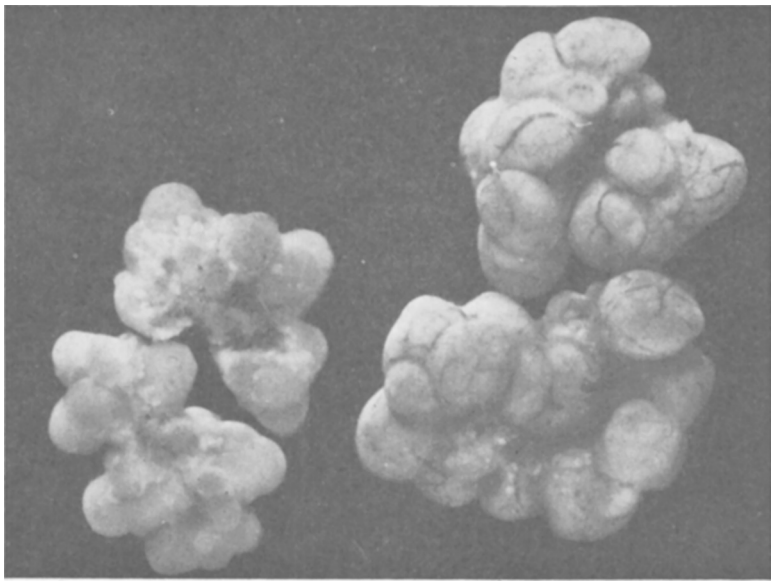

FIG. 1.
To the left, ovaries of normal control rat; to the right, ovaries of a rat 6 weeks after foetuses have been replaced by paraffin. Note the large corpora lutea similar to those present during gestation.

rapidly after the operation, and were as small as the corpus luteum of a normal cycle within 6 days after operation.

Histologically, the corpora lutea of the experimental animals consisted of cells rich in cytoplasm with a large vesicular nucleus; they showed no signs of round cell infiltration or of invasion by connective tissue, and resembled closely the corpora lutea of gestation. Sections stained with Sudan III showed, however, that besides the small lipoid granules characteristic of the active corpus luteum of gestation, larger fat globules appear in many of the cells. In none of these ovaries did we find mature follicles.

The pituitary was greatly enlarged in all these rats, weighing 11-17 mg. as compared with 7-8 mg. in the normal controls.

From these findings it appears that uterine influences may inhibit the involution of the corpus luteum of gestation, the maturation of follicles and oestrus in the rat. It is interesting to note, however that the mammary glands of these animals have not been maintained in the pregnancy stage, but have involuted completely.

We found, furthermore, that distention of the uterus with paraffin will also inhibit post-partum milk secretion. Ten lactating rats, the uteri of which were filled as described above on the day of parturition, failed to nurse their young in spite of active suck-

ling, and their mammary glands showed definite signs of involution as early as 4 days after the operation. This finding is particularly interesting in view of the fact that complete hysterectomy performed on the day of delivery does not interfere in any way with lactation.

7184 C

Survival of Adrenalectomized Rats After Cortical Hormone Treatment.

ROBERT GAUNT AND JO HOWLAND GAUNT. (Introduced by W. W. Swingle.)

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Within the last few years much work has been done concerning the survival of rats after adrenalectomy.[1] We had supposed that animals kept alive by injections of the cortical hormone following adrenalectomy would show approximately the same life-span after injections were stopped as those untreated after removal of the adrenals. However, in the course of other investigations in which we made prolonged cortical hormone injections into adrenalecto-

TABLE I.
Table Showing Survival Periods of Adrenalectomized Rats after Withdrawal of Cortical Hormone Treatment.

No.	Sex	Extract Used	cc. per day	No. Days Injected	Days Survival After Withdrawal		Accessory Tissue Found
					Died	Killed	
300	♀	Eschatin (P. D. & Co.)	1	26		112	3 macroscopic
301	♀	"	1	10		138	1 "
303	♀	"	1	21	31		0
307	♀	"	1	20		120	1 "
311	♀	"	1	24	60		0
332	♀	Swingle-Pfiffner	1	4	8		0
336	♀	"	1	19	15		0
337	♀	"	1	4		90	1 "
338	♀	"	.75	6		87	1 "
340	♀	"	1.5	9	2		0
341	♂	Eschatin and Swingle-Pfiffner	.5	22	26		0
342	♂	"	"	23	24		0
343	♂	"	"	22		49	1 "
344	♂	"	"	17		44	1 "
345	♂	"	"	18	24		0
346	♂	"	"	22	25		0

[1] Gaunt, R., *Am. J. Phys.*, 1933, **103**, 494.