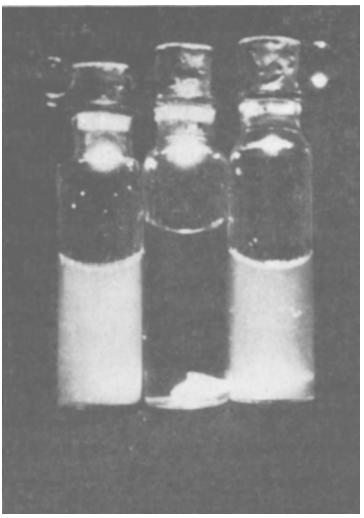

FIG. 1. *Milk Secretion.*

Mammary glands were removed from rats and dropped into dilute formalin. On the right is seen a gland from a normal lactating rat, the milk having made the solution turbid. The gland in the center bottle was removed from a virgin rat injected daily with 200-day units of A.P.L., starting when the rat was 27 days old and continuing for 26 days. Although great development has taken place, there is no milk secretion. The gland on the left was taken from a rat similarly treated and then castrated, showing abundant milk production.

gland of the A.P.L. treated rat, but only in the presence of the pituitary.

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Effect of Hypophysectomy Upon Pregnancy and Lactation.

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The considerable enlargement and structural changes of the pituitary during pregnancy and lactation seem to indicate that the internal secretion of this organ plays a very important rôle during this period. Therefore repeated attempts have been made to determine whether pregnancy can be maintained after hypophysectomy, but the results of such experiments are contradictory.

Whereas Aschner[1] found that abortion takes place in hypophysectomized pregnant dogs, Allan and Wiles[2] observed that pregnancy

[1] Aschner, B., *Pflügers Arch. ges Physiol.*, 1912, **146**, 1.

[2] Allan, H., and Wiles, P., *J. Physiol.*, 1932, **75**, 23.

and parturition are not interfered with in the hypophysectomized cat, although lactation is impossible. Pencharz and Long,[3] working with rats, stated that pregnancy is not interrupted by removal of the hypophysis, but the process of parturition becomes impossible and the foetuses die *in utero* after a somewhat prolonged gestation period.

Repeating these experiments on rats we were able to confirm the statement that pregnancy is usually prolonged (up to 26 days). If the pituitary is removed between the tenth and fourteenth day of gestation, death and resorption of the foetuses may occur; but when the pregnancy proceeded normally until term, in 22 out of 24 cases the mechanism of parturition was not interfered with, and the litters were born alive; in the 2 exceptional cases hemorrhage occurred at term and the foetuses died *in utero*. We further established that the milk secretion always sets in normally at birth, but stops after a few hours, so that the hypophysectomized mother is unable to nurse her young.

As has been pointed out previously,[4] milk secretion will also stop immediately if the pituitary is removed in various stages of lactation.

These experiments indicate that the endocrine functions of the pituitary are not indispensable during the second part of pregnancy and parturition in the rat. Milk secretion can also begin in their absence but stops a few hours after the litter has been born.

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Effect of Prolonged Administration of the Anterior Pituitary-Like Hormone on Pituitary and Thyroid.

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Changes in the anterior lobe of the pituitary after administration of the anterior pituitary-like hormone (A.P.L.) of pregnancy urine or placenta have been observed by numerous investigators,[1, 2, 3] but

[3] Pencharz, R. I., and Long, J. A., *Science*, 1931, **74**, 206.

[4] Collip, J. B., Selye, H., and Thomson, D. L., *Nature*, 1933, **131**, 56.

[1] Baniecki, H., *Arch. f. Gynäkol.*, 1928, **134**, 693.

[2] Zondek, B., and Berblinger, W., *Klin. Wochschr.*, 1931, **10**, 1061.

[3] Zondek, B., *Hormone des Ovariums unde des Hypophysenvorderlappens*, Berlin, 1931.