The histological picture of the adrenals, thyroids, testes, and ovaries of the theelin-treated animals differed in no respect from those of the 2 control groups.

Our experiments indicate that theelin has no effect upon the somatogenic, thyreotropic, or adrenotropic activity of the anterior pituitary of rats.

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Experimental Production of Glandular Cystic Hyperplasia of Endometrium with Estrogenic Substances of Parturient Urine.

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In a recent review of the important gynecological condition of glandular cystic hyperplasia of the endometrium, attention was called to the wide divergence of opinion concerning the amount of estrogenic substance necessary to produce it.[1] The enormous proliferation of the endometrium and the finding of increased amounts of an estrous inducing substance in the blood and urine of a certain percentage of these cases point to an excessive production of estrogenic hormones, as a result the disease is commonly referred to as an hyperestral one, or is said to exhibit hyperestrinism. Evans,[2] Novak,[3] Siebke,[4] Zondek,[5] Frank,[6] Kurzrok[7] and Fluhmann[8] all seem to favor this view. On the other hand the occurrence of the disease in sterile women, its close relation to amenorrhea and its occurrence near the menopause and after partial castration indicate that there is a decreased function of the ovary and a lowered ovarian secretion. Seitz[9] and Mazer and Goldstein[10] have taken this latter view.

1 Burch, John C., Phelps, Doris, and Wolfe, J. M., *Arch. Path.*, 1934, **17**, 799.

2 Evans, H. M., *J. A. M. A.*, 1935, **104**, 464.

3 Novak, Emil, *Surgery, Gynecology and Obstetrics*, 1935, **60**, 330.

4 Siebke, Harold, *Zentralblatt f. Gyn.*, 1929, **53**, 2450.

5 Zondek, Bernhard, *Acta Obstet. et Gyn. Scandinavica*, 1934, **13**, 309.

6 Frank, Robert T., Goldberger, Morris A., Spielman, Frank, *J. A. M. A.*, 1934, **103**, 393.

7 Kurzrok, Raphael, *Endocrin.*, 1932, **16**, 361.

8 Fluhmann, C. F., *Surgery, Gynecology and Obstetrics*, 1931, **52**, 1051.

9 Seitz, L., *Munchen Med. Wochr.*, 1930, **77**, 133.

10 Mazer and Goldstein, W. B. Saunders, Philadelphia, 1932.

Due to the rapidly changing opinion as to the rôle of the estrins in the hypophyseal-ovarian complex, and their close relationship to glandular cystic hyperplasia of the endometrium, it seemed important to us to consider the question of the amount necessary to produce glandular cystic hyperplasia of the endometrium.

Leaving aside all questions of the accuracy of the biological methods employed in the assay of the estrin content of the human blood and urine, the difficulties encountered in obtaining a sufficiently large number of specimens from the same women in the various phases of the disordered menstrual cycle is so great that it seemed wiser to us to study the changes produced in the castrate guinea pig endometrium by known quantities of labor urine containing a high percentage of estrogenic substances and to measure these changes in terms of vaginal estrous. The guinea pig was selected as our experimental animal on account of its occasional exhibition of the spontaneous occurrence of the condition; the ease of its experimental production in the castrate by injections of estrogenic substance and the well marked estral changes in this species.

Thirty-four adult, castrated female guinea pigs were injected with varying amounts of the same batch of boiled labor urine. Sections of the endometrium were taken for microscopic study on the 21st or 28th day. Vaginal smears were taken daily and carefully checked. The results can be most easily considered by dividing the animals into 3 groups.

In the first of these were 5 animals, who received from .0075 cc. to .005 cc. per gram of body weight of the boiled labor urine containing the estrin. All showed well marked estrous smears and all had a well developed endometrial hyperplasia of the cystic glandular type. In the second group nine animals received .004 cc. to .005 cc. which was gradually reduced to .002 cc. during the course of the experiment. None of these ever showed any estral changes in the smears and hyperplasia was found in only 4. In the third group, 20 animals received amounts of .002 or less. The amount given each animal was not varied from day to day, but was kept at the same level. None came into estrous and all had hyperplasia.

The experiments show that the amounts of estrogenic substance necessary to produce glandular cystic hyperplasia in guinea pigs is less than that required for vaginal estrous.