synthesis of FSH. The FSH concentration of the rats sacrificed 4 h after the single injection rose slightly above that of the uninjected or cortex-injected controls; this may not simply be a 'rebound' phenomenon, because the second injection of the SME extract further increased the FSH concentration.

Support for the concept of a hypothalamic FSH-SF has been provided by NIKITOVITCH-WINER et al.[4], who employed hypophysectomized females with pituitary autografts under the kidney capsule. Such grafts become cytologically de-differentiated and lose their functional status. Upon infusion of median eminence extracts into the renal artery, the grafts were reactivated, as evidenced by the re-appearance of PAS + 'gonadotrophs' and ovarian follicular development. Thus, both FSH and LH synthesis, as well as release, had occurred in response to the hypothalamic extracts. CRITCHLOW et al.[5], using a similar method, demonstrated the presence of a hypothalamic factor with ACTH-synthesizing activity, while the in vitro study of SINHA and MEITES[6] revealed the presence of a thyrotropin-synthesizing substance.

CLEMENTI et al.[7], studying the effects of a single intracarotid injection of hypothalamic extract on the ultrastructure of the growth hormone (GH) producing cells of the rat pituitary gland, have shown that these cells undergo changes which are associated with the release and resynthesis of GH with time. It would be of interest to know if a second injection of the hypothalamic extract could accelerate the ultrastructural alterations observed during the resynthetic phase.

Additional experiments are being designed that will utilize male rats with median eminence lesions, in order to explore further this conjectured FSH-SF phenomenon. It remains to be determined whether the hypothetical FSH-SF is identical with or different from FSH-RF.

Résumé. Après une période de 45 min, une seule injection intrajugulaire des extraits hypothalamiques provoque une chute maximale du niveau de FSH hypophysaire, qui atteste la présence de FSH-RF. Quand une seconde injection des extraits est administrée 45 min plus tard, la FSH hypophysaire est rétablie à une vitesse supérieure à celle observée chez les animaux qui n'ont reçu qu'une seule injection. Les résultats indiquent la présence possible d'un «FSH-Synthesizing Factor» (FSH-SF).

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The Action of Estrogens on the Sebaceous Glands of the Guinea-Pig's Nipple

In acne vulgaris the sebaceous glands play a very important role. On the other hand, the sex hormones are also of importance, as is proved by the occurrence of this disease at puberty. The treatment of acne vulgaris with estrogens in women seems to be indicated: 'Seit den von EBLING, LASHER, HASKIN, ROTHMAN zwischen 1948 und 1953 beschriebenen Versuchen ist allgemein bekannt,... dass die östrogene Wirkung zur Atrophie der Talgdrüsen führt'[1].

We controlled, in the nipple of the guinea-pig, the generally accepted fact that there is an atrophy of the sebaceous glands under the influence of estrogens. Estrogens provoke a very marked acanthosis of the nipple. According to our previous experiments[2,3], acanthosis is regularly accompanied by a noticeable increase in the size, and apparently in the number, of the sebaceous glands.

Experiments were made to show whether a nipple with acanthosis due to the action of estrogen, represents an exception to our previous results.

Materials and methods. We administered per os 0.05 µg of hormoestrol (p.p'-dioxydiphenylhexane) every day to 36 male guinea-pigs. The animals were divided into groups and the nipples were excised 1, 2, 5, 10 and 20 days after the beginning of the experiment. We also excised the nipples of 6 control guinea-pigs who received no treatment. The sebaceous glands of both the treated and control animals were examined microscopically for a possible change in size and number.

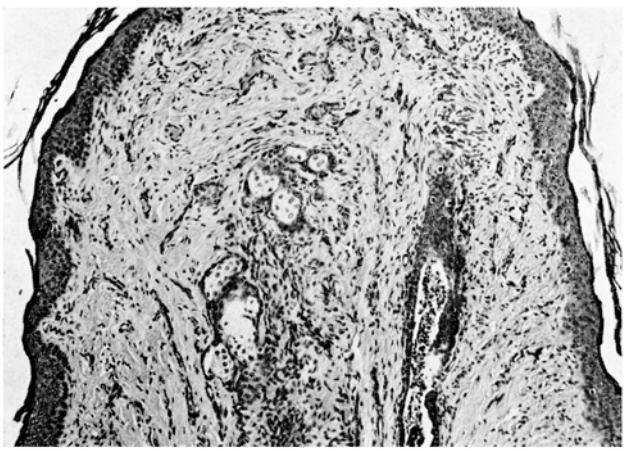

Fig. 1. Nipple of control guinea-pig. Epidermis is normal. Sebaceous glands are small. × 125.

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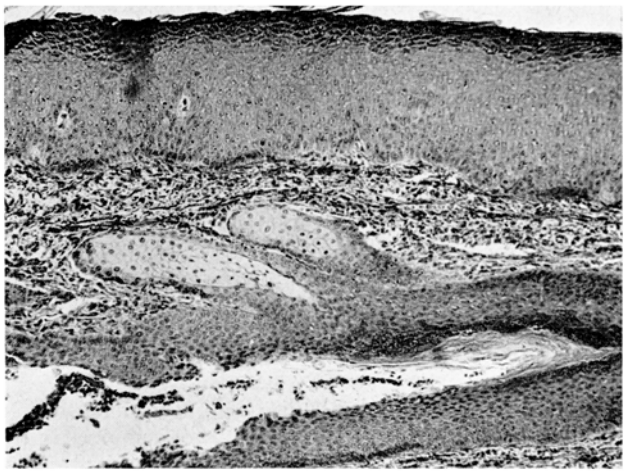

Fig. 2. Nipple of guinea-pig treated with hormoestrol 0.05 μg for 20 days. Acanthosis and sebaceous glands are increased.

Control guinea-pigs		
Guinea-pig No.	Sebaceous glands of left nipple	right nipple
1	+±[a]	+
2	±	+
3	+	±
4	±	±
5	±	+
6	±	±

Treated guinea-pigs with hormoestrol 0.05 μg		
Guinea-pig No.	Sebaceous glands of left nipple	right nipple
1	+++	+++
2	+±	+
3	+++	++±
4	+	+±
5	++	++
6	+±	+++

[a] The size of the sebaceous glands is given by the following symbols (±, +, +±, ++, ++±, +++). The difference between the control and the treated guinea-pigs is highly significant: $X^2 = 10{,}741$.

Results and discussion. 10 and 20 days after the beginning of the experiment, we noted that under the influence of estrogen there is a net increase in the size and apparently in the number of the sebaceous glands together with a marked acanthosis (Figures 1 and 2, Table).

This result is in contradiction to results obtained by different authors. 'It is now well known from the results of DE GRAAF, EBLING, LAPIÈRE and others that estrogens cause a reduction in size of the sebaceous glands'[4].

Our results confirm once more the parallelism between acanthosis and the augmentation of the sebaceous glands.

The development of the sebaceous glands in the nipples of guinea-pigs under the influence of an estrogen, shows that under certain conditions estrogens can (contrary to what is believed) provoke a hypertrophy of the sebaceous glands. This perhaps explains why there is no unanimity in the indication of estrogens in the treatment of acne vulgaris[5].

Résumé. Les glandes sébacées au niveau de la tétine du cobaye augmentent sous l'influence d'oestrogènes.

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Localization of the Hypocalcemic Factor in the Pituitary Gland

A hypocalcemic effect of the pituitary extract has been shown in rabbits[1-3] and rats[4]. To date, to our knowledge, no study has been undertaken to establish its localization. The present study is concerned with its existence only in the anterior lobe of the pituitary gland.

Material and method. Seventy albino rats, weighing 150–200 g and 300 guinea-pigs were used for this study. All rats were placed on a low calcium diet for 3 days prior to the experiment. Pituitary glands of 300 guinea-pigs were removed immediately after decapitation. Anterior and posterior lobes were separated, frozen immediately on dry ice and stored. The 2 pools were thawed and homogenized in chilled physiologic saline. The crude homogenates were then subjected to centrifugation at 11,000 *g* for 10 min at 4 °C and the supernatant was used. All bioassay rats were anaesthetized with pentobarbitol. Tracheostomy was performed. A fine polyethylene catheter was inserted into the heart through the jugular vein for infusion and for extraction of blood. 1 mg of heparin was administered to each animal to prevent clotting of the blood. The anterior or posterior lobe extracts of 10 guinea-pigs, 1.5 ml, was injected into each bioassay rat within 1 min.

The experimental animals were divided into 3 groups as follows: animals in group 1 were injected anterior lobe extract, in group 2 posterior lobe extract and in group 3 physiologic saline. Blood samples were obtained at 0, 10, 20 and 30 min. Blood calcium was determined by the method of REHELL[5]. All samples were run in duplicate.

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