that the carefully controlled oral administration of viosterol produces a higher and more lasting concentration of blood calcium with fewer dangers of local complication than the present method of injecting calcium salts intravenously.

7305 P

Action of Pregnancy Urine Extract (Follutein) on the External Genitalia of Female Guinea Pigs.*

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Injections of Follutein† into sexually immature female guinea pigs produce an enlargement of the clitoris. Animals treated over a long period show a considerable enlargement. The clitoris takes the form of a typical penis which protrudes when the surrounding tissues are subjected to pressure. The prepuce, the corpus cavernosum, and the glans are well differentiated. The size of the enlarged clitoris is considerably smaller than the size of a male penis, in animals of corresponding age. Adult female guinea pigs treated with Follutein respond likewise, although the growth of the clitoris is less pronounced than in the young females.

Experiments were made on a group of 48 animals. After the administration of 3-5 cc. of Follutein over a period of about 10 days, changes can be observed in the clitoris. These become very pronounced after a more prolonged administration over 4-6 weeks.

The results do not imply necessarily a specific action. The histological examination of an experimentally enlarged penis-like clitoris reveals a general enlargement of the organ. No definite specific effect is noticeable in any of its tissues.

A marked increase in circulation and pronounced swelling in the external genital region appear after treatment. Vascular changes as a result of injections of pregnancy urine have been noticed previously by Papanicolaou.[1] He advanced the hypothesis that the luteinizing effect on the ovaries, as well as the stimulating action

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† Follutein was supplied by E. R. Squibb and Sons, New York.

[1] Papanicolaou, G., PROC. SOC. EXP. BIOL. AND MED., 1931, **28**, 807.

upon other glands, might be interpreted as being primarily due to vascular changes.

Preliminary work on ovariectomized animals shows that the growth potentiality of the clitoris almost disappears after complete removal of the ovaries. There is, however, an indication of a circulatory stimulation. This suggests that at least 2 separate factors are involved. One factor induces congestion and swelling and acts primarily on the clitoris itself; the other factor induces growth and acts secondarily through the stimulation of the ovaries.

The transformation of the clitoris into a penis is not necessarily a specific reaction. Since the clitoris has fundamentally the same morphological structure as the penis, it possesses the potentiality to develop into a penis-like organ, when subjected to a growth stimulus.

Injections of Follutein into male guinea pigs have a comparable effect on the penis. Swelling of the external genital region and increased circulation and swelling of the penis are induced. When the injections are administered into very young males, before the full growth of the penis, pronounced growth effect is noticeable. This effect disappears, apparently, through castration, comparable to the effect in the female after ovariectomy. In the adult normal male guinea pig the growth effect is not apparent but the congestion effect is present.

7306 P

Formation of Agglutinins Within Lymph Nodes.

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Experiments were planned to determine whether or not lymph nodes form antibodies against antigens injected into the peripheral lymphatic capillaries.

On 2 successive days killed cultures of *B. paratyphosus-B* were intradermally injected into the right ear of a large series of mice. The cervical lymph nodes on the right side became much enlarged while those on the left side appeared normal. At varying intervals up to 12 days after the last injection groups of 10 animals were etherized, bled for serum and the lymph nodes which drain the lymphatics of the ears excised. The right nodes were pooled in one