of rhythmic contractions of innervated or of denervated jejunal segments of unmedicated dogs. The drug opposes inhibition of the intestine by reflexly activated sympathetic nerves or inhibition by the sympathin released as a result of the activity of these nerves. The effects of the drug on intestinal motility are prevented by atropinization.

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Effect of Anol and Dihydrotheelin on Mammogenic Activity of Pituitary Gland of Rabbits.*

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It has been shown that estrogen stimulates the production of a mammogenic hormone entity by the anterior pituitary which is directly responsible for the growth of the mammary gland.[1, 2] More recently, Gomez and Turner[3] reported that anol stimulated the growth of the mammary glands of ovariectomized rabbits, rats and male mice and suggested that like estrogen, the action of anol upon the mammary gland is probably indirect by way of the pituitary gland. It is interesting, therefore, to determine the effect of various estrogens and chemical substances having the dual activity of estrogenesis and carcinogenesis upon the mammogenic activity of the anterior pituitary gland. In the present communication, the effect of anol and dihydrotheelin is reported.

A group of 8 young adult virgin female rabbits were each given by subcutaneous injection once daily 0.1 mg of anol‡ for 25 days:

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1 Gomez, E. T., Turner, C. W., and Reece, R. P., PROC. SOC. EXP. BIOL. AND MED., 1937, **36**, 286.

2 Gomez, E. T., and Turner, C. W., *Mo. Agr. Exp. Sta. Res. Bul.*, 1937, 259; PROC. SOC. EXP. BIOL. AND MED., 1938, **37**, 607.

3 Gomez, E. T., and Turner, C. W., 1938, in press.

‡ The anol used in this study was prepared by the British Drug Houses, Ltd., London. This anol contains 10 rat units of estrogenic activity per milligram of the crystalline material.

a second group of 10 rabbits with 20 rat units of dihydrotheelin daily for 25 days and a third group of 6 rabbits with 0.1 mg of anol and 20 rat units of dihydrotheelin simultaneously once daily for 25 days. All injected animals were sacrificed 24 hours after the last injection. In addition, a group of 24 young adult virgin females and another of 10 young adult male rabbits were sacrificed as control donors. The pituitaries of animals from each group were combined, weighed and assayed as a unit for mammogenic activity by the male mice technic described by Lewis, *et al.*[4] According to this method of assay, a mouse unit of mammogen is defined as the minimum amount of pituitary tissue or extract which when injected once daily over a period of 6 days will produce definite mammary growth stimulation of one or more glands of 50 ± 10% of 10 male mice each weighing 10 to 25 g.

TABLE I.
Effect of Anol and Dihydrotheelin on Mammogenic Activity of Anterior Pituitary Gland of Rabbits.

Condition of donor rabbits	Total dosage per test mouse mg of pituitary	No. of test mice used	No. of test mice: Showing mammary stimulation (+)	No. of test mice: Showing no mammary stimulation (—)
Normal young adult females	20	4	0	4
	40	4	0	4
	80	5	0	5
Normal young adult males	60	4	0	4
Young adult virgin females injected with 0.1 mg of anol daily for 25 days	3	2	0	2
	6	2	0	2
	9	2	0	2
	12	3	0	3
	15	5	4	1
	13	10	6	4
Young adult virgin females treated with 20 rat units of dihydrotheelin daily for 25 days	6	2	0	2
	9	2	0	2
	12	2	0	2
	15	2	0	2
	18	2	0	2
	20	10	5	5
Young adult virgin females treated with .1 mg of anol and 20 r.u. of dihydrotheelin simultaneously daily for 25 days	3	2	0	2
	6	2	0	2 (?)
	9	3	2	1
	7.5	8	5	3

[4] Lewis, A. A., Turner, C. W., and Gomez, E. T., *Endocrinology*, 1938, in press.

A summary of results of the assay of each group of pituitaries is given in Table I. It may be seen from this table that 12 to 13 mg of fresh pituitary tissue from rabbits which had received 25 daily injections of anol was required to establish a mouse unit of mammogen; whereas 20 mg was required with pituitaries from animals which had received 20 rat units of dihydrotheelin daily for 25 days. Seven to 7.5 mg of fresh pituitary tissue from rabbits which had received 0.1 mg of anol and 20 rat units of dihydrotheelin simultaneously daily for 25 days was required to establish a mouse unit. Dosages as high as 60 mg and 80 mg of fresh pituitary tissue from adult males and young virgin female rabbits respectively, were ineffective in stimulating the growth of the mammary glands of male mice. These results were interpreted as indicating that the pituitary of normal adult males and young adult virgin female rabbits contain little or no mammogen.

Both the anol and dihydrotheelin definitely stimulate the production of mammogen by the pituitary gland of rabbits. Though the relation of the anol and dihydrotheelin to the production of mammogen has not been established in this experiment, the present results seemed to indicate that at the dosage level administered anol was more effective insofar as the stimulation of the production of mammogen by the pituitary gland is concerned. It is interesting to note that anol is capable of inducing growth in both the ducts and lobule-alveolar systems of the mammary gland.[3] The simultaneous injections of anol and dihydrotheelin considerably increases the mammogenic activity of the pituitary gland of rabbits as compared to the pituitaries of animals which had received either anol or dihydrotheelin alone. Further studies to determine the effect of dosages and length of administration of anol and dihydrotheelin as well as other naturally occurring and synthetic estrogens are now in progress.

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Phlorhizin Glycosuria and Hypoglycemia Unaffected by Excess Ingestion of Na and K Salts.

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The daily ingestion of sodium salts in large amounts (1 to 2 g per kg of body weight per day) was found by Thompson, McQuar-