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## Thyreotropic Hormone of Anterior Pituitary.

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A number of investigators have reported the production of hyperplasia of the thyroid in the guinea pig by the injection of anterior pituitary extracts (Loeb and Bassett,[1] Janssen and Loeser,[2] Junkmann and Schoeller,[3] Aron[4]). Loeb and Aron have reported failure to obtain this effect in the albino rat. We have previously reported the production of hyperplasia of the thyroid of the rat with a marked hyperthyroidism by means of a crude alkaline extract of anterior pituitary and a killed staphylococcus culture.[5]

We have recently prepared a highly purified extract of the anterior pituitary containing the thyreotropic factor. This has been obtained from the residues after the removal of the growth hormone. It has been freed of prolactin by isoelectric precipitation of this fraction, and further purified by salt precipitation and fractionation by alcohol and acetone. Assayed by the Junkmann and Schoeller method 0.3 mg. total solids contains one unit.

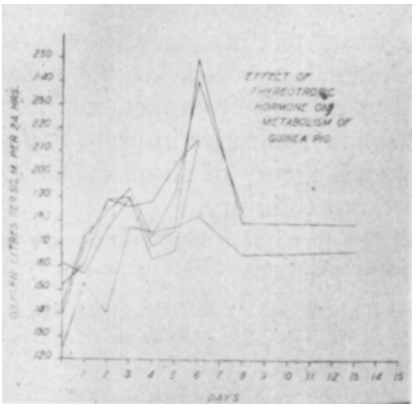


CHART 1.

Showing the rise in metabolic rate of guinea pigs receiving daily injections of the thyreotropic hormone.

[1] Loeb and Bassett, PROC. SOC. EXP. BIOL. AND MED., 1929, **26**, 860.

[2] Janssen and Loeser, *Arch. f. exp. Path. u. Pharmakol.*, 1932, **163**, 517.

[3] Junkmann and Schoeller, *Klin. Wchnschr.*, 1932, **11**, 1176.

[4] Aron, *Rev. Française d'Endocrinologie*, 1930, **8**, 472.

[5] Anderson, *Canad. Med. Assn. J.*, 1933, **28**, 23.

Chart 1 shows the rise in metabolic rate of 5 guinea pigs given daily injections of the thyreotropic extract. These are representa-

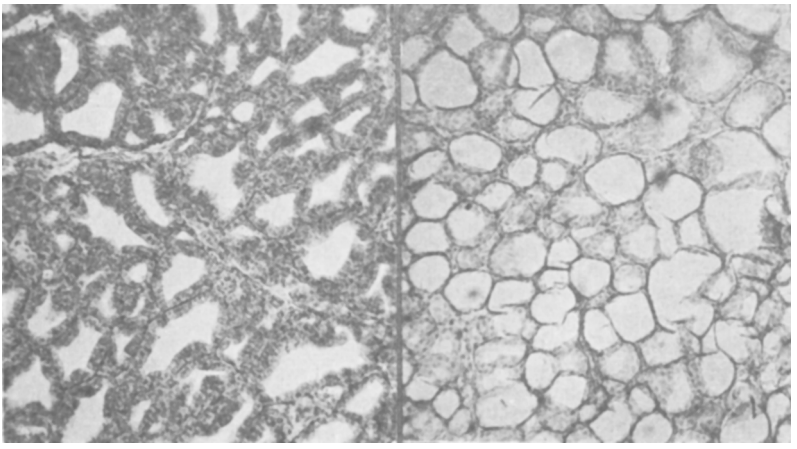

FIG. 1 A. FIG. 1 B.

A. Shows marked hyperplasia of the thyroid of a guinea pig receiving the thyreotropic hormone. Animal was killed when metabolic rate was increased 50%.
B. shows the thyroid of an untreated guinea pig.

tive curves of a series of 12 animals. Those animals which were killed when the metabolic rate was elevated showed hyperplasia of the thyroid (Fig. 1).

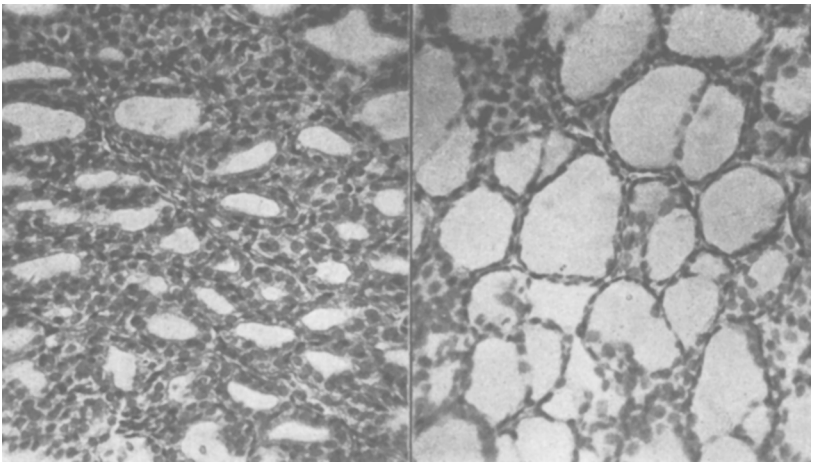

FIG. 2 A. FIG. 2 B.

A. shows the thyroid of an hypophysectomized rat after injections of 2 cc. daily of the thyreotropic extract for 8 days.
B. shows the thyroid of a control rat of this series.

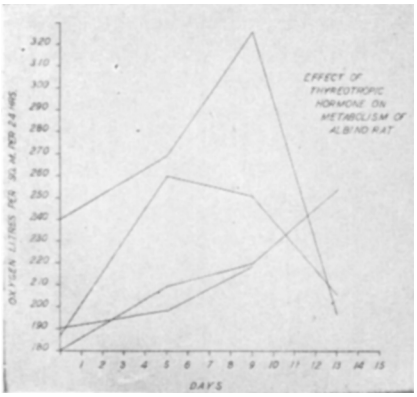


CHART 2.

Showing the rise in metabolic rate of rats receiving daily injections of the thyreotropic hormone.

A purified thyreotropic extract administered to a group of 8 hypophysectomized rats prevented the atrophy of the thyroid which invariably occurs in the untreated hypophysectomized animal (Fig. 2). Chart 2 shows the effect of a thyreotropic extract on the metabolic

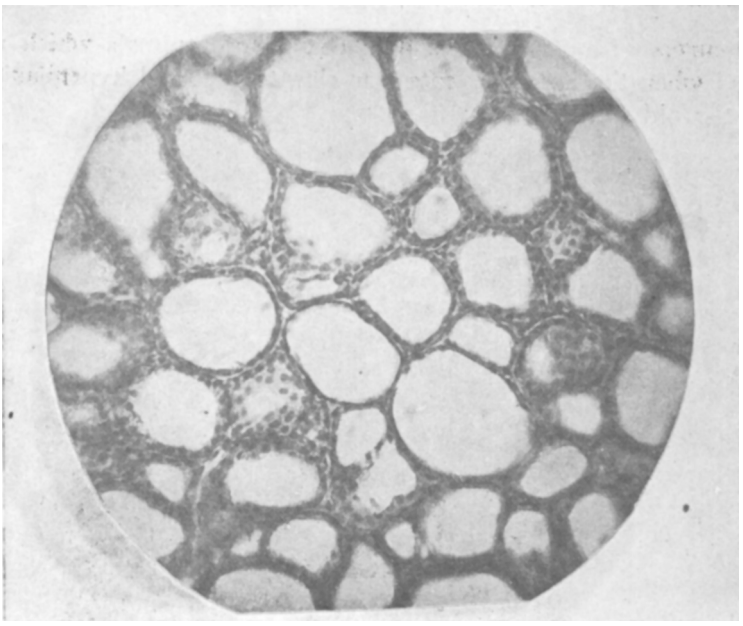

FIG. 3.

Shows the thyroid of a rat receiving 4 cc. daily of the thyreotropic extract for 13 days, during which time the metabolic rate had been increased 50% and then returned to normal. Some of the alveoli show an atrophic type of epithelium.

rate of 4 rats. The thyroid from one of the rats killed on the ninth day of injection showed a marked hyperplasia. The thyroid glands of the 3 rats which were treated for 13 days showed an unusual picture. In 2 cases there was a generalized hyperplasia, but scattered throughout the gland were large alveoli with a flat, atrophic type of epithelium. The thyroid of the third rat is shown in Fig. 3. Many of the alveoli have a normal epithelium, while others show an atrophic type.

*Summary.* We have reported the physiological effects of a highly purified extract of the anterior pituitary containing the thyreotropic hormone, which gives complete replacement therapy in the hypophysectomized rat and also produces a hyperplasia of the thyroid with hyperthyroidism in both the rat and the guinea pig.

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## Tobacco Sensitiveness in Angina Pectoris and Coronary Artery Disease.

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Harkavy, Hebald and Silbert[1] reported the incidence of tobacco hypersensitiveness in 68 cases of thrombo-angiitis and in 122 controls. In this study it was found that 83% of thrombo-angiitis cases were hypersensitive to various tobacco extracts when tested by the intradermal method. Thirteen out of 20 patients were demonstrated by the passive transfer method to have reagins for tobacco. Only 10% of the control smokers reacted to tobacco.

The present investigation deals with results of a similar study in patients with arteriosclerosis of the coronary arteries who presented the clinical syndrome of angina pectoris, with diagnostic electrocardiographic changes. The tobacco employed in these tests was separate extracts of Burley, Maryland, Virginia, and Xanthis (Turkish tobacco), prepared according to the method of Coca. An extract consisting of a mixture of tobaccos obtained from the Allergy Department of the New York Hospital through the courtesy of Dr. Cook was also employed.

Of 36 patients with coronary artery disease, all of whom were

[1] Harkavy, Hebald and Silbert, PROC. SOC. EXP. BIOL. AND MED., 1932, **30**, 104.