

removal of the stellate ganglia and cutting the vagi in the neck, in the cat.

The investigation is being continued.

189 (1936)

The effect of thyroidectomy in two sittings upon depancreatized, non-glycosuric, but hyperglycemic dogs.

By G. A. FRIEDMAN and J. GOTTESMAN.

[From the Department of Clinical Pathology, College of Physicians and Surgeons, Columbia University, New York City.]

Dogs almost always show an increase in bloodsugar contents from removal of comparatively small amounts of pancreatic tissue. Of six dogs in whom hyperglycemia without glycosuria became manifest after partial pancreatectomy, in two the right lobe was removed first and at a later date lobectomy on the other side followed. In three hyperglycemic dogs the right lobe was completely removed, but while performing the lobectomy on the left side a tiny piece of thyroid tissue was left in connection with the superior parathyroid. In one dog both lobes were removed at the same time. In all of them three parathyroids were left in situ.

In the completely thyroidectomized diabetic dog the bloodsugar became normal on the day following the last operation. On the third day tetany developed which was kept in check by intravenous injections of calcium lactate. The bloodsugar had remained normal. On the fifth day a severe attack of tetany developed. Calcium lactate injections were not tried and the animal died.

The results of these experiments are in accord with those previously reported: one-sided lobectomy does not check hyperglycemia, neither does partial ligation in glycosuric dogs. Complete thyroidectomy in the hyperglycemic dog brought the bloodsugar to normal as the same procedure in glycosuric dogs when tetany did not ensue or when it was checked by calcium lactate.

Some new points were brought out in those dogs in whom at a second lobectomy a minute fragment of thyroid tissue was left.

In all of them the bloodsugar dropped to normal after incomplete removal of the gland on the left side at the beginning, but it increased later and has remained high.

While their weights were, 9, 7, and 10.8 kilos, respectively, the former dog showed a gain in body weight of 2.6 kilos thirty-eight days after the last operation; the second one 0.6 kilo fifteen days after the last operation; and the third dog 0.4 kilo fourteen days after the last operation. They all gained the losses in body weight which followed pancreatectomy.

As these dogs showed after incomplete thyroidectomy, high bloodsugar and a tendency to adiposity, we believe, therefore, to have produced in these animals a condition resembling the pre-diabetic state in man, *i.e.*, hyperglycemia and increase in body weight.

190 (1937)

A chemical method of assaying strophanthus preparations.

By ARTHUR KNUDSON and MELVIN DRESBACH.

[From the Laboratories of Biochemistry and Physiology, Albany Medical College, Albany, N. Y.]

The method is based on the same principles as one for digitalis recently reported by us.¹ It is a colorimetric method making use of Baljet's² reaction, which takes place between the active principles of strophanthus and dilute alkaline picrate solution, giving an orange red color.

The method consists of first decolorizing the tincture, or other solutions of strophanthus, with lead acetate and then removing excess lead acetate with sodium phosphate. The decolorized solution is then treated with an alkaline picrate solution; the characteristic color develops in 20 minutes. As a standard for comparison a Ouabain solution is used in which the color is developed in a similar manner.

In the table below are given the results of this method compared with those by the Hatcher and Brody³ cat bioassay method.

¹ Knudson, A., and Dresbach, M., *Jour. Pharm. and Exp. Therap.*, 1922, xix, 268. This method will be reported in full in the *Jour. Pharm. and Exp. Therap.*

² Baljet, Henry, *Schweiz. Apoth. Ztg.*, 1918, lvi, 71-73 and 84-88.

³ Hatcher, R. A. and Brody, J. G., *Amer. Jour. Pharm.*, 1910, lxxxii, 360-372.