

idly and the appetite promptly returns. The animals remain well after the cessation of treatment. One animal treated on the fifth day of the disease recovered within forty-eight hours and thereafter remained well. Of the two fatal cases one animal died and the other was sacrificed. Both were in an advanced stage of the disease when first treated and had already developed severe secondary pulmonary infection. The amount of drug administered to dogs has been 1 gm twice daily. Eighteen cats suffering from a spontaneous disease commonly known as cat distemper or influenza have also been treated with the drug. Its effect in this condition is in all respects similar to that in canine distemper.

Sodium sulfanilyl sulfanilate therefore appears to be the first chemical agent to have such definite therapeutic action in an infection due to a filtrable virus. The range of its activity in virus diseases remains to be explored.

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#### THE EFFECT OF LIGATION OF THE LUMBOADRENAL VEINS ON THE COURSE OF EXPERIMENTAL DIABETES IN DOGS AND CATS<sup>1</sup>

HOUSSAY<sup>2</sup> was able to ameliorate the course of pancreatectomy diabetes by hypophysectomy. Subsequently, Long<sup>3</sup> produced a similar effect on depancreatized dogs and cats by complete adrenalectomy and maintenance with cortin. A new method for the alleviation of diabetes and some results obtained with this procedure are presented in this report.

In 20 cats and 4 dogs the lumboadrenal veins were ligated proximally and distally to the adrenal gland and the entire pancreas simultaneously removed. It should be emphasized that these animals at no time received either insulin, cortin or sodium chloride therapy. That the intensity of the diabetes is greatly diminished by the ligation of the lumboadrenal veins is shown by the following:

(1) *Survival.* The survival of completely depancreatized dogs and cats is usually less than 7 days. As a result of adrenal vein ligation, the range of survival has been increased in cats to 11–98 days; the average is about 20 days, excluding the cat living 98 days. The period of survival of dogs to date is 18, 11, 35 and 8 days. The first animal is still alive. The last 3 succumbed. However, the death of the dog on the eighth day was due to a post-operative complication and not diabetes.

(2) *Chemical Studies.* The values for blood sugar,

blood fat, glycosuria and ketonuria of these dogs and cats are much lower than those observed in depancreatized animals without ligation of lumboadrenal veins. Occasionally marked hypoglycemia was observed, and in two cats fasting rendered the urine free of sugar.

The D:N ratio was well below the value of 2.8, characteristically associated with pancreatectomy diabetes. Respiratory quotients above 0.70 were obtained in every animal studied. The changes in carbohydrate metabolism are not secondary to alterations in blood total base. In many of the animals, the blood electrolytes were normal in concentration.

Gross and microscopic autopsy findings revealed complete absence of pancreatic tissue. Histological examination of the adrenal and pituitary glands are being made to determine the involvement of these organs.

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#### THE LIQUEFACTION OF SPONTANEOUS TUMORS OF THE MAMMARY GLAND IN MICE BY HEPTYL ALDEHYDE<sup>1</sup>

RECENT data<sup>2</sup> have shown that certain characteristics of spontaneous tumors of the mammary gland in mice may be influenced by the daily administration of the true oil of gaultheria in the diet of those mice showing such neoplasias. These effects have to do with the clinical course and histological appearance of the tumors. It has been demonstrated that in early cases the connective tissue of the tumor seems to have been materially enhanced by a such a treatment. Similar results could not be produced by the use of redistilled synthetic methyl salicylate.<sup>3</sup> In an attempt to isolate the active agent of the true oil which had the above inhibitory action on spontaneous tumors, the true oil was subjected to fractional distillation. From this work, it was shown that the active inhibitory agent was contained in the low boiling point fraction, that is, in that fraction which distilled over below the boiling point of methyl salicylate.<sup>4</sup> It was demonstrated that the low fraction had a pronounced effect on: (1) the

<sup>1</sup> This research was aided by a grant from the National Research Council.

<sup>2</sup> B. A. Houssay, *Am. Jour. Med. Sci.*, 193: 581, 1937.

<sup>3</sup> C. N. H. Long, *Medicine*, 16: 215, 1937.

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<sup>2</sup> L. C. Strong, *Am. Jour. Cancer*, 28, 550, 1936.

<sup>3</sup> *Idem.*, *Am. Jour. Med. Sci.*, 192, 546, 1936.

<sup>4</sup> *Idem.*, (in press) *Am. Jour. Cancer*.