contact when in its natural position. Thus it was observed in a number of cases, that when the body fluid obtained from the cranial cavity, as described above, is used, the first cultures to show activity are those containing explants of the tissue lining the cranium.

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Acute Dilatation of the Stomach.*

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In a previous communication we[1] have reported that the total loss of gastric juice from the body causes death in the dog in from 5 to 10 days, with symptoms of depression and marked changes in the blood chemistry. These may be summarized as follows: a progressive decrease in the concentration of blood chloride, an increase in the CO_2 capacity, an increase in the pH, and a late increase in the N P N and Urea N. Water and salts are not absorbed to any appreciable extent in the stomach or duodenum and it is therefore clear that any factor such as obstruction at the pylorus or in the duodenum, gastric or duodenal fistula, or profuse persistent vomiting, will lead to this loss of gastric juice constituents through failure of reabsorption in the lower intestine. It is likely that the property of the gastric mucosa, by virtue of which it can continue to separate the elements for its secretion from the altered blood plasma until death is produced, is of major importance in the pathogenesis of these disorders. In the present communication we wish to report a case of acute post-operative dilatation of the stomach together with evidence which indicates that here also the failure of reabsorption of gastric juice is the cause of death.

The patient, a female of 70, was brought to the hospital with a strangulated femoral hernia. The findings are unimportant for the

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[1] Dragstedt, L. R., and Ellis, J. C., PROC. SOC. EXP. BIOL. AND MED., 1929, xxvi, 305.

purpose of this paper except for the blood chemistry report, which is as follows: Chloride 196 mg., CO_2 60 cc.; Urea N 14.0 mg., and N P N 31 mg.

There had been no vomiting. A blood transfusion (500 cc. citrated blood) was given and a section of gangrenous ileum, imprisoned in the hernial sac, resected. 3000 cc. of Ringer's solution was given by vein daily for the next 5 days but the patient gradually became weaker and changes in the blood chemistry more marked. On the 6th day the blood chloride had decreased to 180 mg., CO_2 capacity 86 cc., N P N 46 mg., and Urea N 32 mg. On the 9th day the patient vomited 60 cc. of brownish fluid, containing no free acid and a total chloride concentration of 0.35%. Gastric lavage had not been done because of auricular fibrillation. The daily intravenous injection of Ringer's solution was continued, but in spite of this the blood chloride continued to fall and on the 10th day reached 156 mg. Death occurred on the 12th day. Autopsy revealed an enormously dilated stomach, reaching to the pelvis, and containing about 3 liters of thin brown fluid. Unfortunately this was lost, but it is probable that its composition was similar to the vomitus secured on the 9th day. A carcinoma of the neck of the gall bladder, extending to and producing stenosis of the pylorus was the other significant finding.

This case lends support to the view expressed in 1922[2] that the cause of acute dilatation of the stomach is reflex inhibition of the gastric motor mechanism through the vagi and splanchnics as a result of the operative trauma which produces intense stimulation of visceral sensory nerves. As a consequence of this extreme relaxation, gastric juice could not be forced through the narrowed pylorus and was lost to the body either through accumulation in the stomach or vomiting. Whereas in this case the important factor was the failure of reabsorption of gastric juice in the majority of cases of acute dilatation, uncomplicated by pyloric stenosis the loss of pancreatic juice and bile probably also occurs because of the secondary mechanical occlusion of the inferior horizontal portion of the duodenum by the mesentery of the small intestine.

[2] Dragstedt, L. R., and Dragstedt, C. A., *J. Am. Med. Assn.*, 1922, lxxix, 612.