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The experimental production of achylia gastrica in the dog.

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Bylina,[1] studying pancreatic secretion, applied hot water (70° R.) to the gastric mucosa in order to produce a temporary achylia. An achylia, which lasted from six to seven days, resulted from one application.

It occurred to us that permanent achylia might be produced by application of hot water at intervals. Our method has consisted in injecting into the stomach via a gastrostomy from 250 to 300 cc. of water at 70° to 75° C., allowing it to remain in the stomach for one minute. This has been repeated at six to ten day intervals. The gastric secretory response to a meal, 1 mg. of histamine and 2 mg. of histamine, has been followed.

Our experiments have been under way for two months. We have found that the gastric glands neither respond to a meal, nor to 1 mg. of histamine. In some tests, in which we used 2 mg. of histamine to excite the gastric glands, one week after the last application of water, we obtained from 5 to 10 cc. of mucous which contained free acid. We find that it is difficult to maintain the nutrition of these animals, which difficulty we hope to overcome.

Our observations show that hot water, lower in temperature than that used by Bylina, can be used to cause a temporary achylia, and that the achylia can be maintained by intermittent applications of the hot water at from six to ten day intervals.

[1] Bylina, A. S., *Babkin, Aüssere Sekretion der Verdanungsdrusen*, page 274, Berlin, 1914.