

Describe the cephalic phase of gastric secretion. What is the mediator in this process?

In the cephalic phase of gastric secretion, the parasympathetic vagus nerve (which is the mediator) controls muscular contractions, stimulates secretion of HCl and pepsinogen, stimulates mucous production and the release of gastrin from the antrum. What is interesting about this is that the parasympathetic system controls rest and relaxation, and normally has an inhibitory effect, but in this case excites the muscles in the stomach, causing them to contract.

Describe the intestinal phase of gastric secretion. Contrast it to the other two phases.

During the cephalic and the gastric phases, the effects of this phase are inhibitory. This is because the intestines are trying to slow down digestion so they have more time to prepare for food. Three hormones are released by the entry of chyme (liquid digested food) into the duodenum (the first 12 inches of the small intestine): the gastric inhibitory hormone (which inhibits gastric secretion and motility), secretin (which also inhibits gastric secretion), and cholecystokinin (which inhibits gastric emptying). So, basically, in the cephalic phase, the process is started, in the gastric phase, the food is digested, and in the intestinal phase, the digested food is brought into the intestines for absorption.