PHYSIOLOGY OF THE STOMACH AND DUODENUM

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The stomach mechanically breaks down ingested food and, together with the actions of acid and pepsin, forms chyme that passes into the duodenum. In contrast with the acidic environ ment of the stomach, the environment of the duodenum is alkaline, owing to secretion of bicarbonate ions from both the pancreas and the duodenum. This neutralises the acid chyme and adjusts the luminal osmolarity to approximately that of plasma. Endocrine cells in the duoden um produce cholecys tokinin, which stimulates the pancreas to produce trypsin and the gallbladder to contract. Secretin is also produced by the endocrine cells of the duodenum. This hormone inhibits gastric acid secr etion and promotes production of bicarbonate by the pancreas. Johann Conrad Brunner , 1653–1729, Professor of Anatomy , Heidelberg, Germany , and later Strasburg, France. Anatomy and physiology of the stomach /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF -

The stomach acts as a reservoir for food and commences the process of digestion Gastric acid is produced by a proton pump in the parietal cells, which in turn is controlled by histamine acting on H

2 receptors The histamine is produced by the endocrine gastric ECL cells in response to a number of factors, particularly gastrin and vagus nerve stimulation PPIs abolish gastric acid production, whereas H -receptor 2 antagonists only markedly reduce it The gastric mucous layer is essential to

the integrity of the gastric mucosa

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