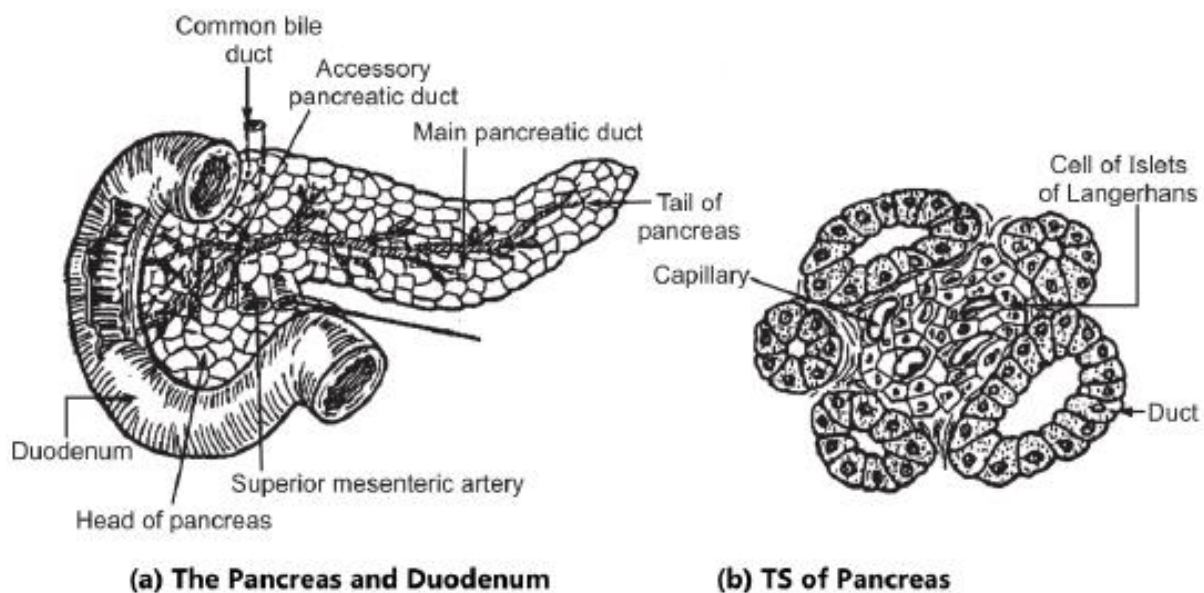


PANCREAS

It is a yellowish-gray colored gland situated in the epigastric and left hypochondriac regions of the abdominal cavity at the level of the first and second lumbar vertebrae. It is about 12–15 cm long with a broad head situated in the curve of the duodenum, the middle part of the body situated behind the stomach, and a tapering tail reaching to the spleen on the left side.

It is a compound gland composed of a large number of lobules. Each lobule is composed of many alveoli consisting of secretory cells. The lobule pours its secretions through a tiny duct into the pancreatic ducts; that extends the whole length of the gland and finally pours these secretions into the duodenum. The pancreatic duct before pouring its contents into the duodenum; joins with the common bile duct coming from the liver. The union of these ducts forms a dilated portion called the ampulla of Vater. Opening of this ampulla in the duodenum is controlled by the sphincter of Oddi. Sometimes common bile duct and pancreatic ducts open separately into the duodenum. The lobules are separated by a delicate connective tissue network. In this connective tissue, between the alveoli are found small groups of specialized cells. These are described as the Islets of Langerhans.

They constitute the endocrine part of the gland and secrete the hormones: insulin and glucagon that are directly poured into the blood.



FUNCTIONS OF PANCREAS

Pancreas is both an exocrine and an endocrine gland. The exocrine secretion of the gland is pancreatic juice that is poured into the duodenum and contains enzymes that digest carbohydrates, proteins, and fats.

The composition of Pancreatic juice is as follows:

About 600 - 800 ml of Pancreatic juice is produced per day.

The pH of this juice is 8 - 8.4.

Water

Mineral salts

Trypsinogen

Chymotrypsinogen

Amylase

Lipase

The entry of acidic chime in the duodenum stimulates intestinal cells to secrete hormones; secreting, cholecystokinin, and pancreozymin which in turn stimulates the secretion of pancreatic juice. The chemical digestion of food caused by the pancreatic juice containing enzymes.