

Endocrine Functions of Pancreas



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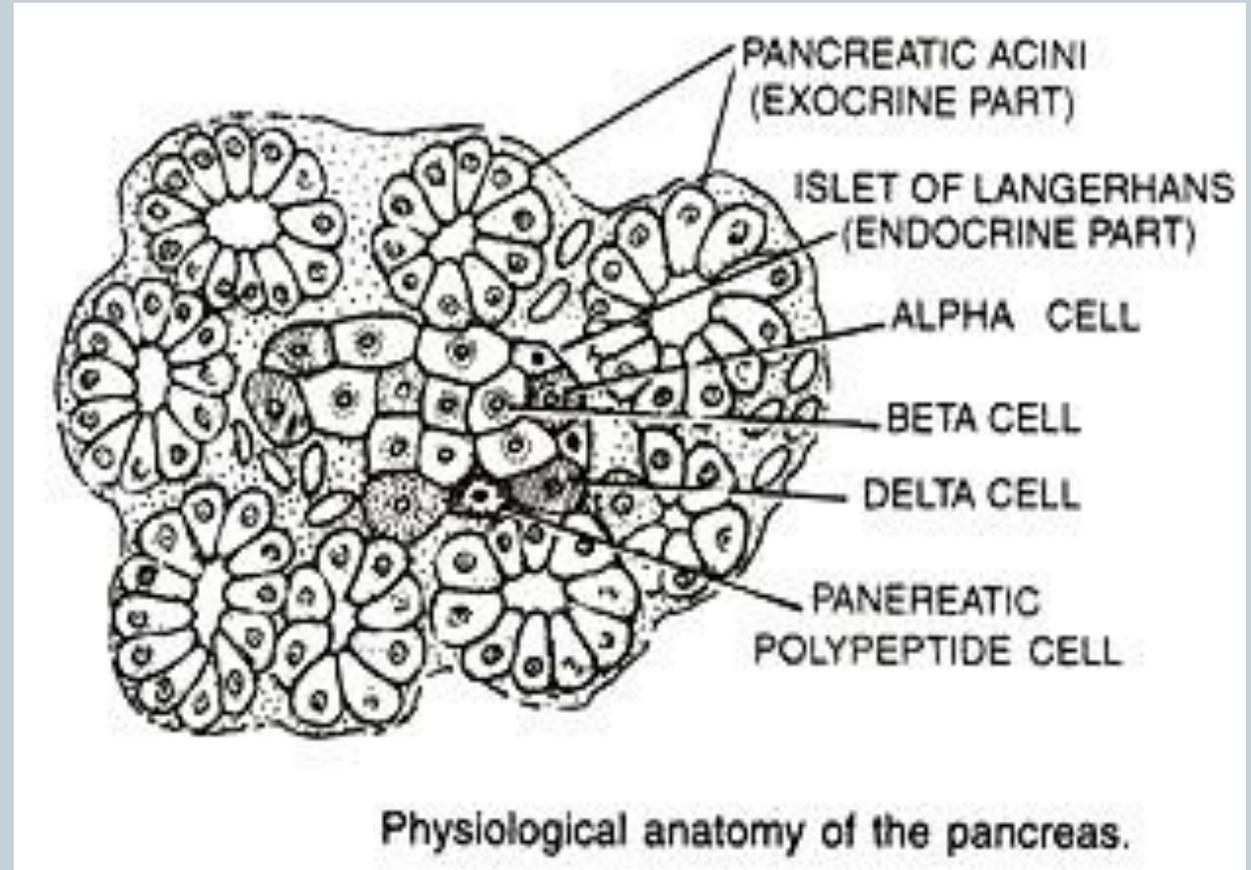
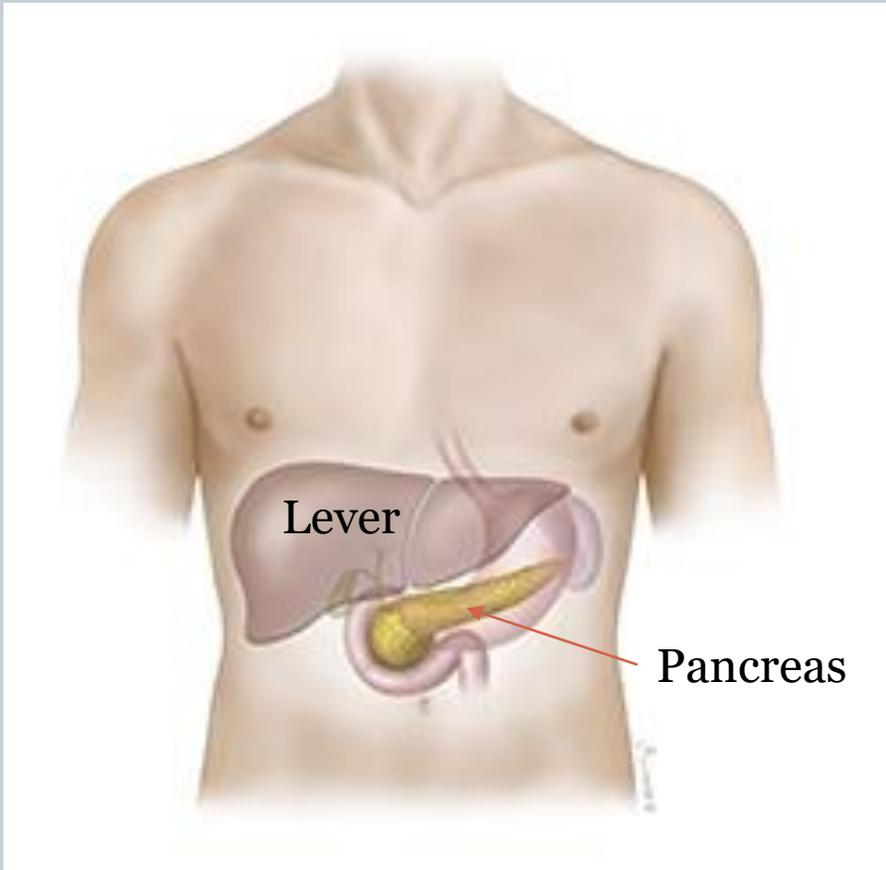
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Introduction



- The Pancreas is a large retroperitoneal gland and is both exocrine and endocrine in its function
- It lies inferior to the stomach in a bend of the duodenum
- The endocrine cells of the pancreas are scattered in groups throughout the organ and are known as the islets of Langerhans

Location and Structure of Pancreas



Islets of Langerhans



- These are specialized glandular cells , which developed as outgrowths of the gut endoderm and differed histologically from the rest of the pancreatic tissues
- These were discovered by Paul Langerhans in 1869
- There are three type of cells in islets of Langerhans
 - Alpha Cells
 - Beta Cells
 - Delta Cells or D cells

Hormones of Islets of Langerhans



The following are the hormones of Islets of Langerhans

- Insulin
- Glucagon

Insulin and its function



Secreted by beta cells of Islets of Langerhans

Functions

Insulin is a pancreatic hormone which acts to lower blood sugar.

It stimulates

- Carbohydrate metabolism
- Fat metabolism, and
- Protein metabolism

Its deficiency causes

- Diabetes mellitus which results into following
 - ✦ Hyperglycemia and Glycosuria
 - ✦ Diuresis – Increased flow of urine

Glucagon and its function



Glucagon is secreted by alpha cells of the islet of Langerhans

Functions :

- Glucagon increases blood sugar level by stimulating the dissolution of glycogen and movement of soluble glucose into the blood

Thank You

