

Histophysiology of Endocrine glands

The endocrine glands are those which liberate their secretions directly into the blood or lymph and without any duct. Therefore these glands are also known as ductless glands. The secretions produced by these glands are of vital importance for various metabolic processes and physiological activities to continue in the body. The secretions secreted by these glands are known as hormones which assist the nervous system in co-ordinating or integrating various body activities.

The various glands which are endocrine in nature are:

Islets of Langerhans, Testis, ovary, Thyroid
Adrenal & Pituitary.

Islets of Langerhans — These are endocrine in nature are found distributed in the Pancreas are clusters of specialized cells. These clusters are formed of four types of cells called beta cells, which

(2)

Constitute the maximum part of the cluster and secrete the hormone insulin. The alpha cells constituting nearly 20% of the cluster and believed to secrete a second hormone called glucagon, the C-cells and D-cells which are in very low percentage and their function is not known. These hormones are necessary for the conversion of excess sugars into glycogen in liver and muscles and also for the conversion of glycogen back into glucose, when the sugar contents of the blood fall below the normal level. Deficiency of insulin results diabetes in human beings. In one category type 1 diabetes the cause is an absolute deficiency of insulin secretion. Individuals at

increased risk of developing this type ⁽³⁾
of diabetes can often be identified by
serological evidence of an autoimmune pathologic
process occurring in the pancreatic islets
and by genetic markers.

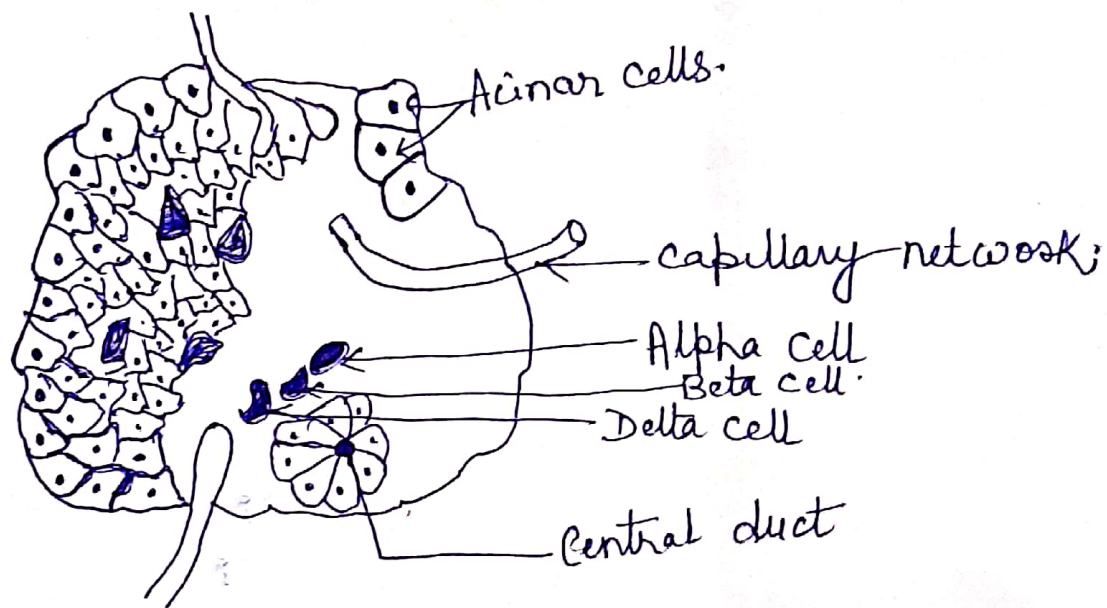


fig. T.S. Islet of Langerhans of mammal