

- 45years old chronic alcoholic addict presented with severe epigastic pain radiating to back.abdominal exam shows, tender epigastrium and purplish discoloration of flanks.....

whats invest ?

diagnosis?

- 50 years old man chronic alcoholic addicts, is having recurrent attacks of abdominal pain, chronic small bowel diarrhea and now he also turned out to be diabetics..he is anaemic..
- Invest ?
- Diagnosis?

GIT Secretions

(Pancreatic Secretion)

Components of Pancreatic Secretion

1. Exocrine

- i. Digestive enzymes
 - Secreted by acinar cells
- ii. HCO_3^-
 - Secreted by duct cells

2. Endocrine

- i. Insulin
- ii. Glucagon

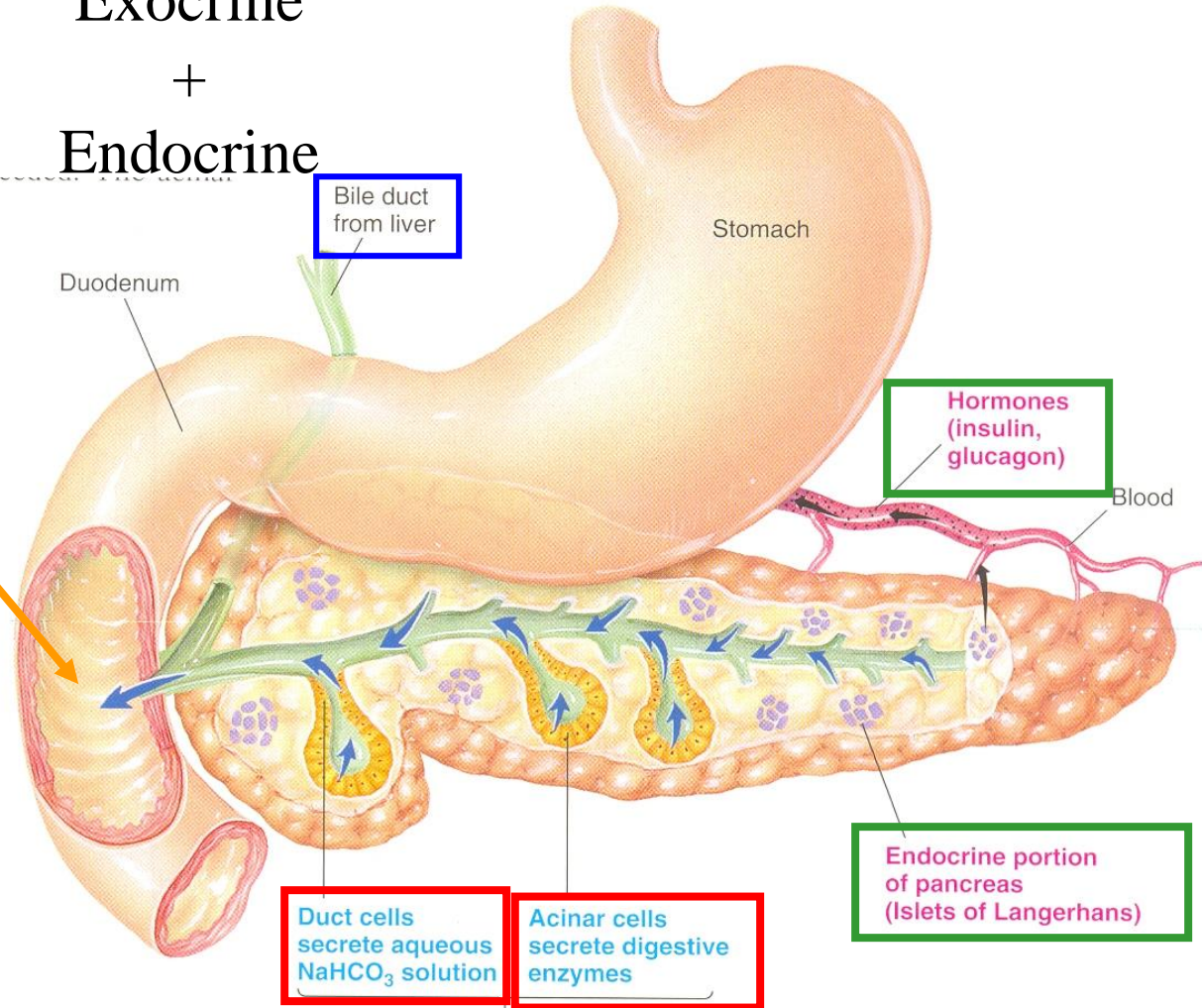
Pancreatic Secretion

Exocrine

+

Endocrine

Papilla of Vater & Sphincter of Oddi



Duct cells
secrete aqueous
 NaHCO_3 solution

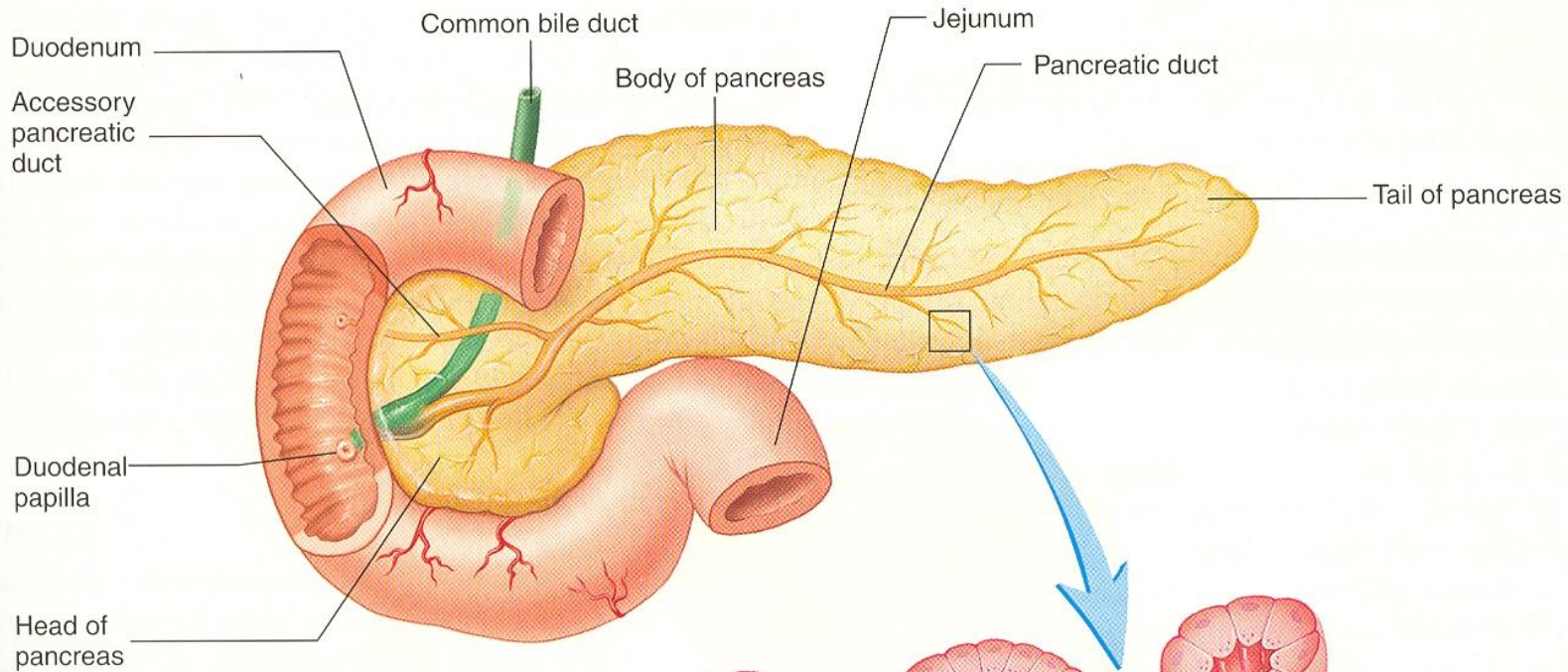
Acinar cells
secrete digestive
enzymes

Exocrine portion of pancreas
(Acinar and duct cells)

Hormones
(insulin,
glucagon)

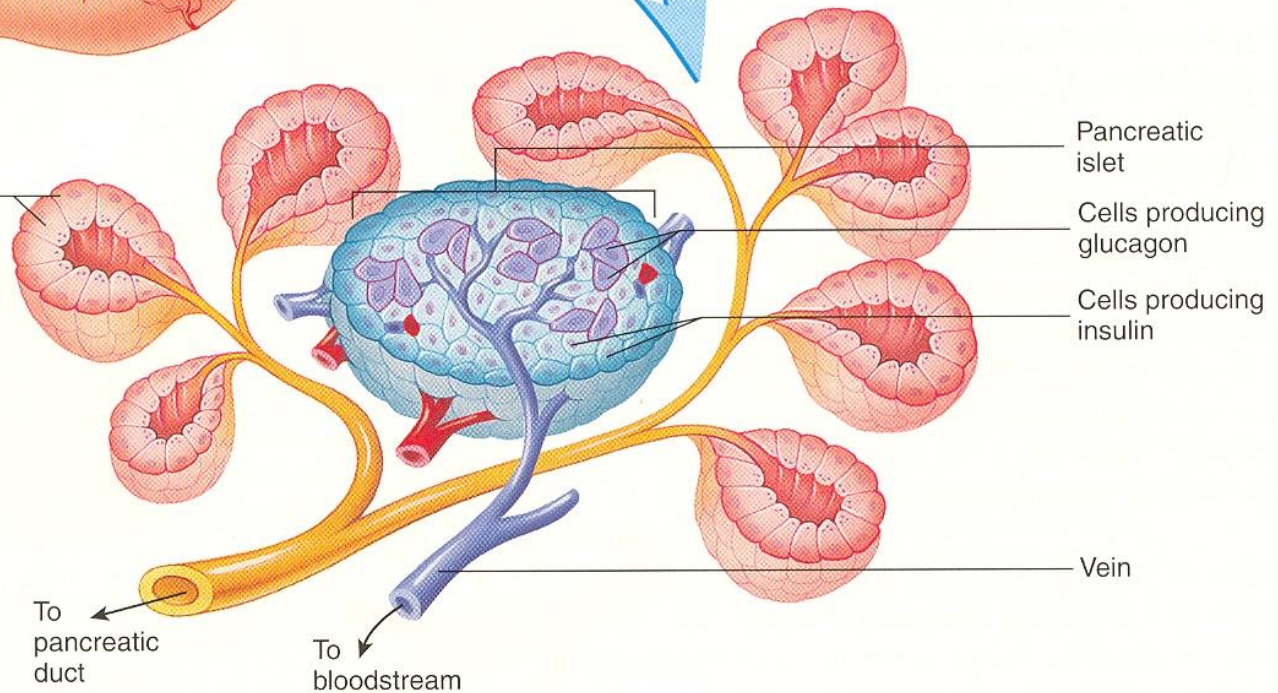
Endocrine portion
of pancreas
(Islets of Langerhans)

The glandular portions of
the pancreas are grossly
exaggerated.



(a)

Acini cells
(secrete enzymes)



(b)

Pancreatic Digestive Enzymes

- For digestion of Proteins
 - Trypsin
 - Chymotrypsin
 - Carboxypeptidase
 - Elastase
- For digestion of Carbohydrates
 - Pancreatic Amylase
- For digestion of Fats
 - Lipase
 - Cholesterol Esterase
 - Phospholipase
 - Colipase (Activated by Trypsin)
 - Bile salt activated Lipase

About 1 liter per day

Regulation of Pancreatic Secretion

Acid from stomach releases secretin from wall of duodenum; fats and amino acids cause release of cholecystokinin

2

Common bile duct

1

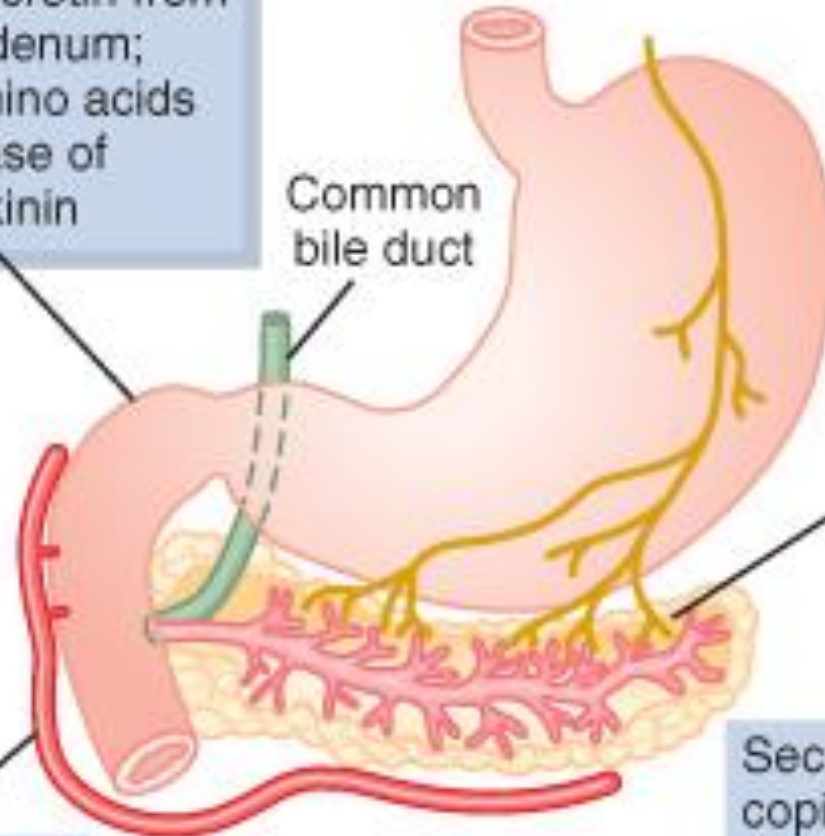
Vagal stimulation releases enzymes into acini

Secretin and cholecystokinin absorbed into blood stream

3

Secretin causes copious secretion of pancreatic fluid and bicarbonate; cholecystokinin causes secretion of enzymes

4



Hormonal control of pancreatic secretion

Hormone	Site of secretion	Stimulus	Function
Secretin	"S" cells of duodenum	Acidic gastric juice	1.Mild effect on GIT motility(↓) 2.Pancreatic secretion of bicarbonate 3.Bicarbonate secretion by Bile duct
Cholecyst- tokinin	"I" cells of duodenum & jejunum	Digestive products of fats, fatty acids & monoglycerids	•Strong contraction of gall bladder •Inhibition of stomach contraction •Pancreatic secretion of enzymes

Effects of Pancreatic failure

- Effect on Pancreas
- Effect on digestion
- Effects on absorption

Effects of Pancreatic failure

1. Effect on Pancreas

- Blockage → accumulation of Pancreatic enzymes → overcoming the Trypsin Inhibitor → activation of Trypsinogen → formation of Trypsin and other Proteolytic enzymes → digestion of Pancreas itself

2. Effect on digestion

- Loss of digestive enzymes
 - Copious fatty feces
 - ½ to 1/3 effect on carbohydrate & protein digestion
 - Undernutrition

3. Effects of Pancreatic failure on absorption

- More effect on Fats absorption
 - Steatorrhea
 - Acid inhibits lipase
 - ↓ alkaline secretion by pancreas → ↓ pH
- Impaired absorption of
 - Carbohydrates
 - Proteins
 - Calcium
 - Vitamin K
 - Calcium

Summary Slide

Pancreatic Secretion

- Components of Pancreatic secretion
 - Pancreatic Digestive Enzymes
 - For digestion of Proteins, Carbohydrates and Fats
 - Bicarbonate and water
 - Functions of HCO_3^-
- Regulation/ control of Pancreatic Secretion (Factors affecting)
- Phases of Pancreatic secretion
- Diseases of pancreas
 - Pancreatic failure

Summary (gastric secretions) (previous lecture)

- Nerve supply of stomach
- Characteristics and composition of Gastric secretion
- 3 types of gastric glands
- Gastric pit from body of stomach
- 1. Surface Mucous Cells
- 2. Oxyntic (Gastric) glands
 - Functions of HCl

Basic mechanism of Hydrochloric Acid Secretion

