KELENJAR PENCERNAAN

Desy Andari

Lab Histologi

FK UMM

Kelenjar Kelenjar GIT

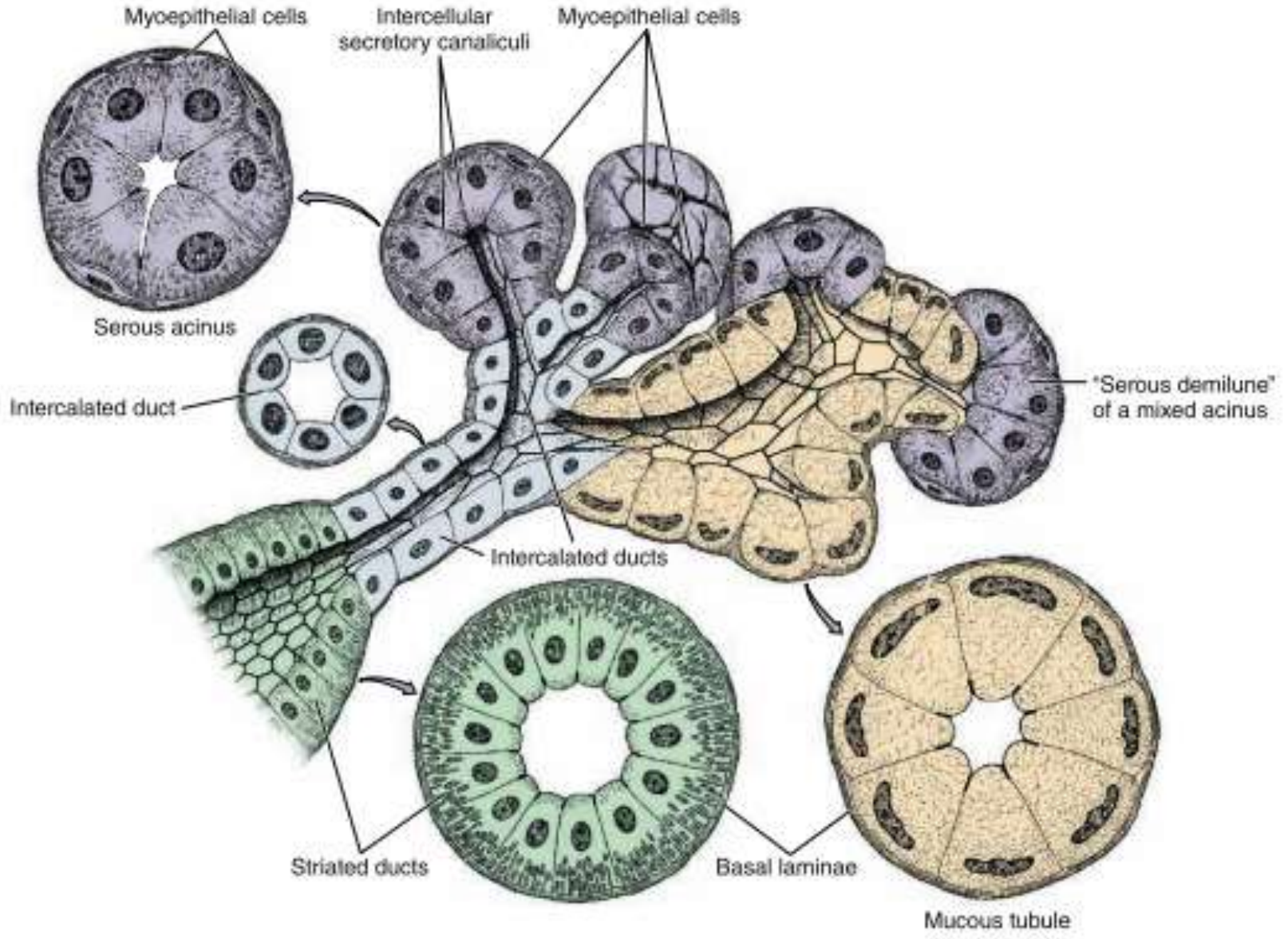
- Intrinsic Gland
- Kelenjar Saliva
- Hepar
- Pancreas
- Vesica felea

KELENJAR SALIVA

- Glandulae salivary
- 3: parotis, sublingualis dan submandibularis
- Unit sekretorik selular→ Asini + duktus ekskretorius >>>
- Lobulus>>>

Kelenjar Saliva….cont

- Asinus (serous dan mucous)→ duct. Intercalaris (ep.kuboid rendah+sel mioepitelial kontraktil<)→ duct. Interlobularis→ duct. Interlobaris

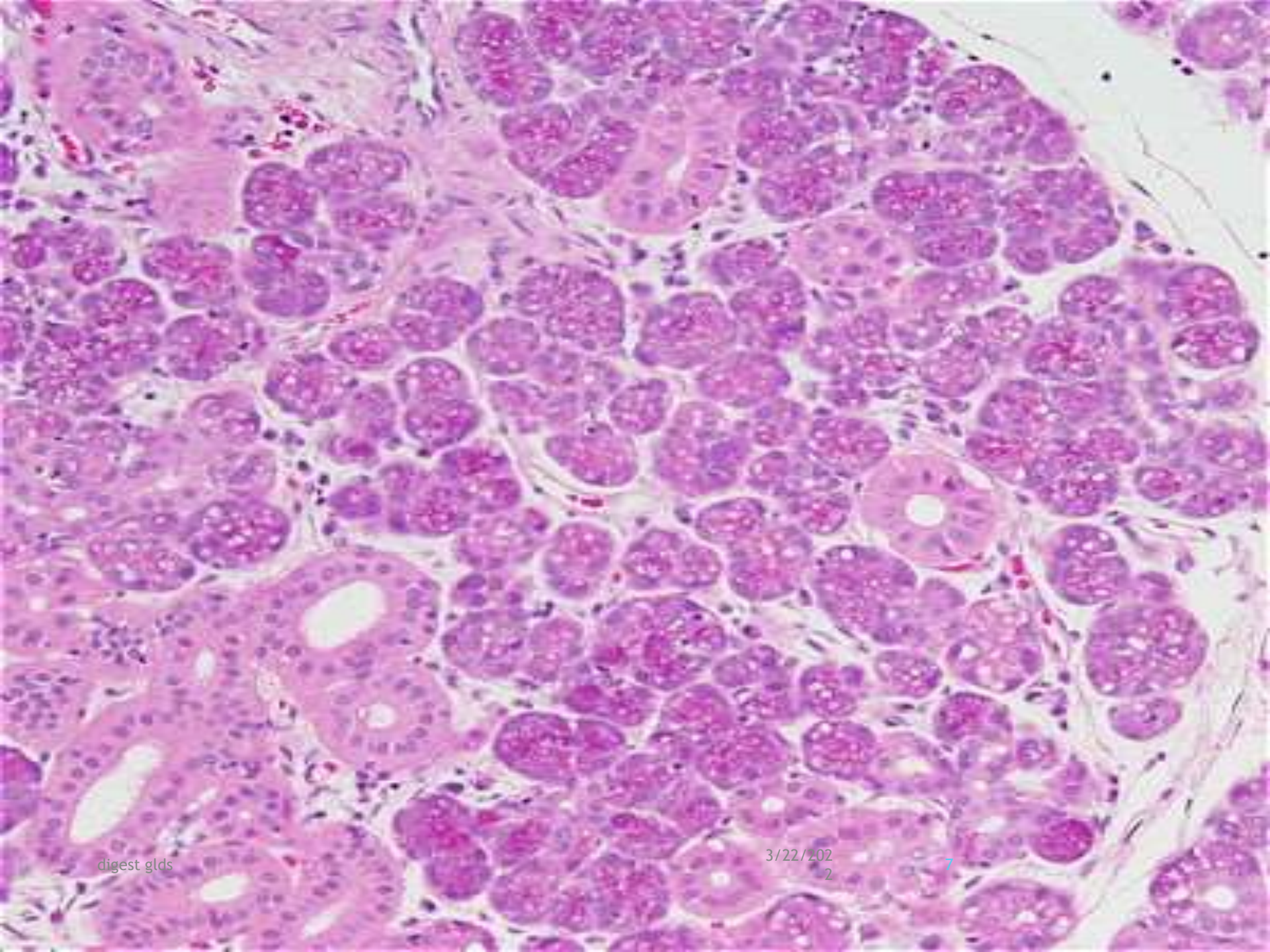


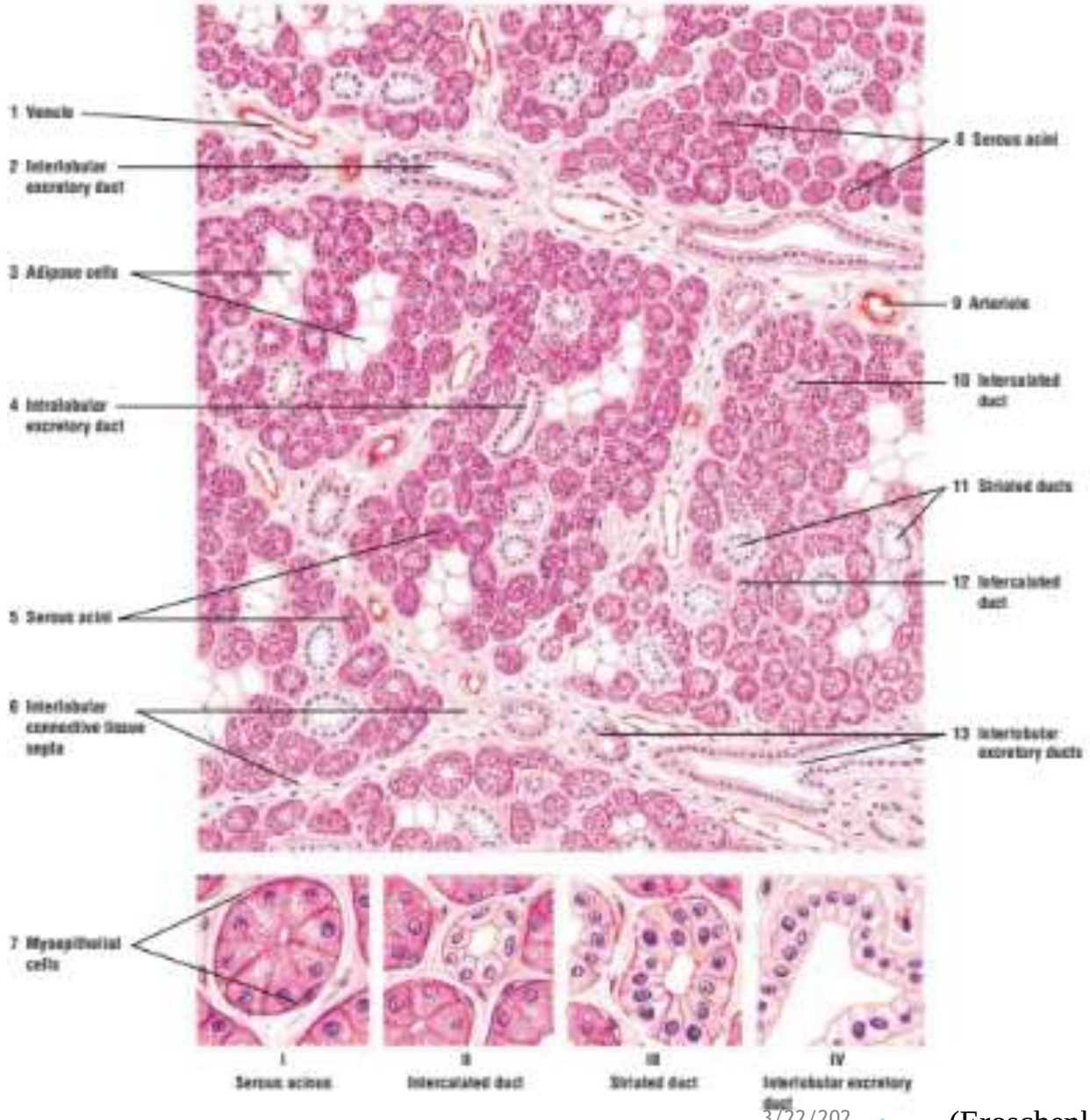
Mescher, 2016

Epithelial components of a submandibular gland lobule

Kelenjar Saliva….cont

- Kelenjar Parotis:
  - Terbesar
  - Depan-bawah telinga luar
  - Bentuk tubuloaciner kompleks
  - Sekresi: Serous murni, α-amylase





(Eroschenko, 2008)

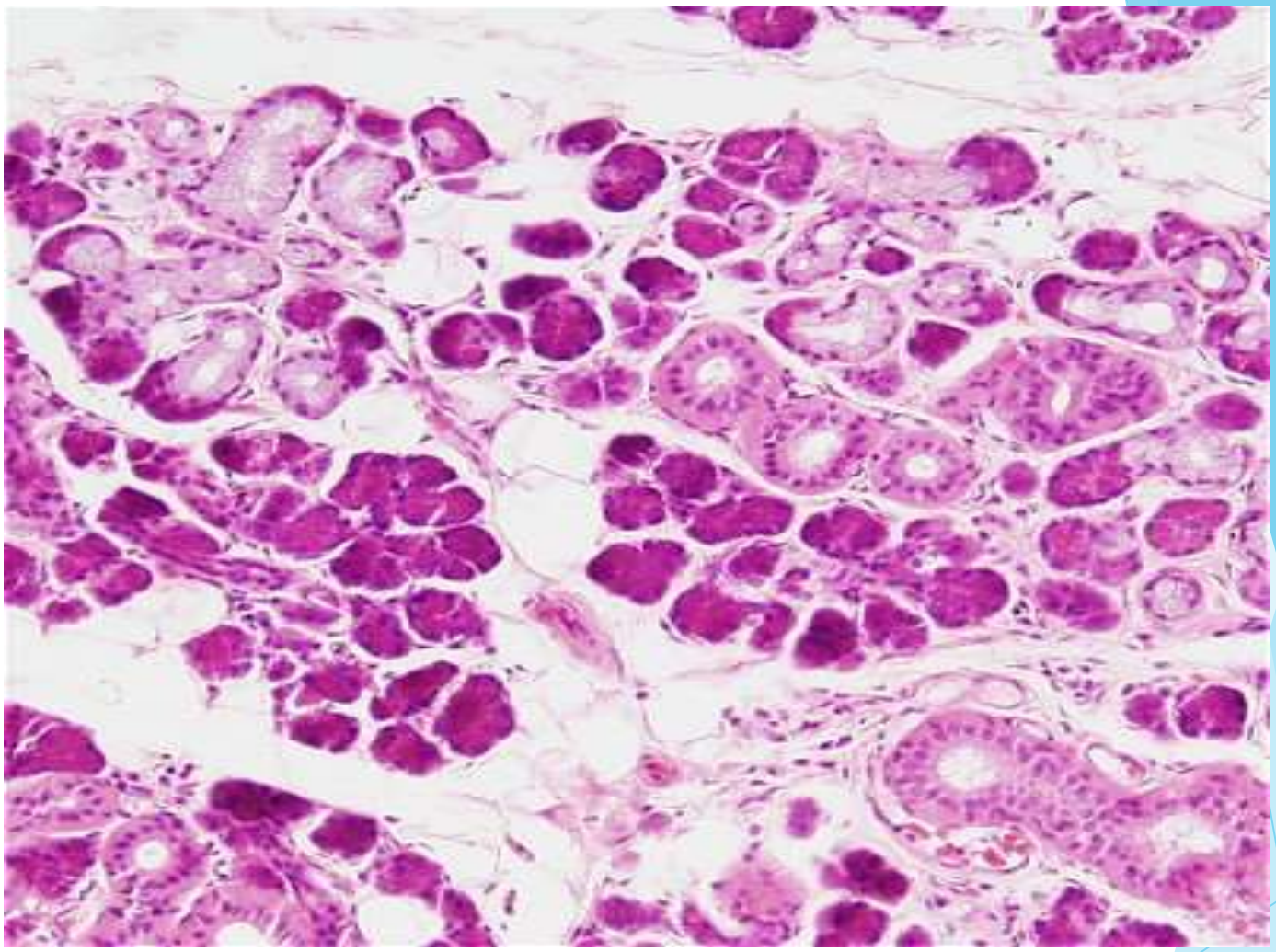
Kelenjar liur parotis. Pulasan: hematoksilin dan eosin.
Atas: pembesaran sedang. Bawah: pembesaran kuat.

Kelenjar Saliva….cont

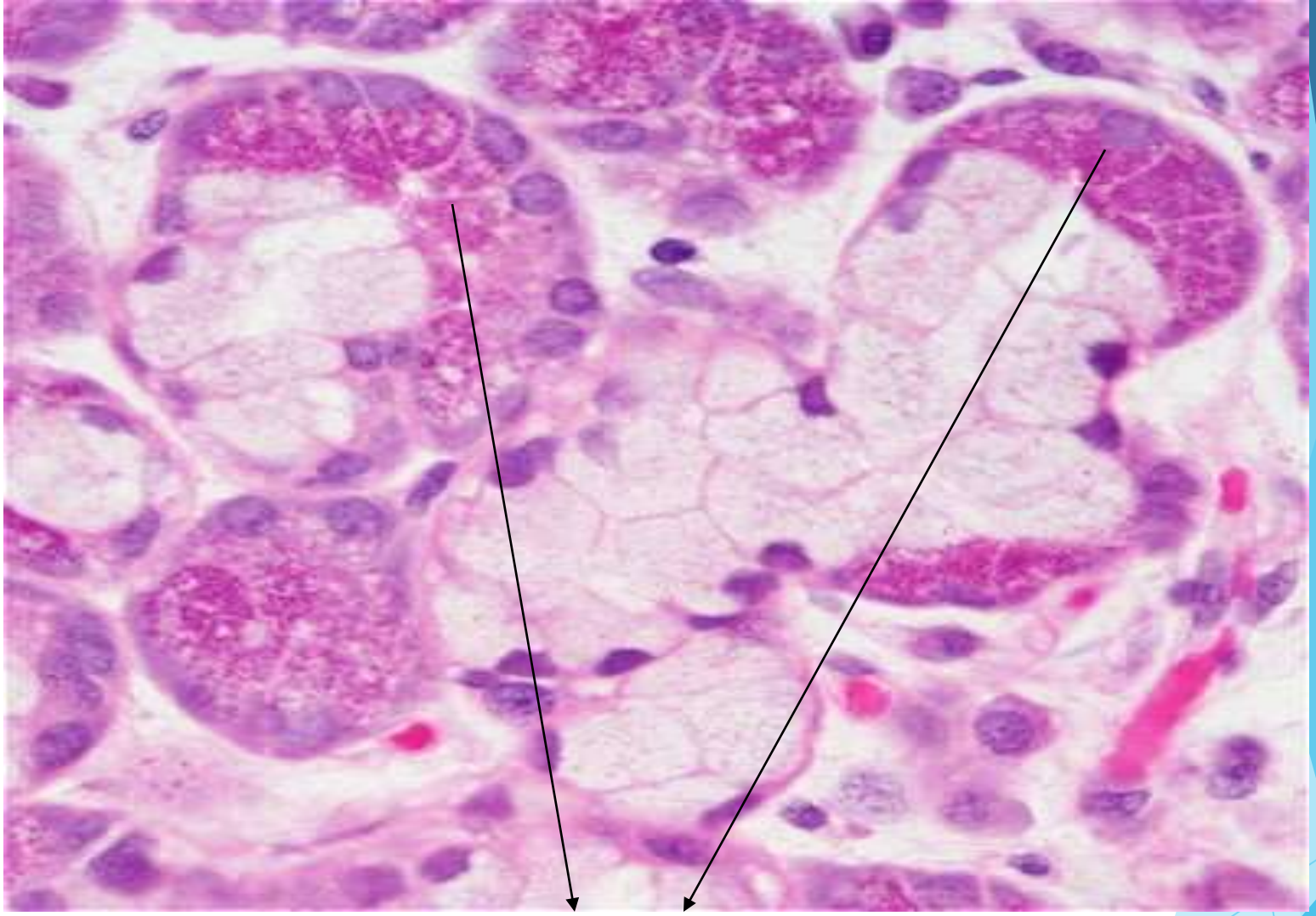
- Kelenjar Submandibularis:
  - < parotis
  - Bawah mandibula di dasar mulut
  - Sekresi: muco-serous (2/3 saliva), lysozyme
  - Demilune Gianuzzi

Kelenjar Saliva….cont

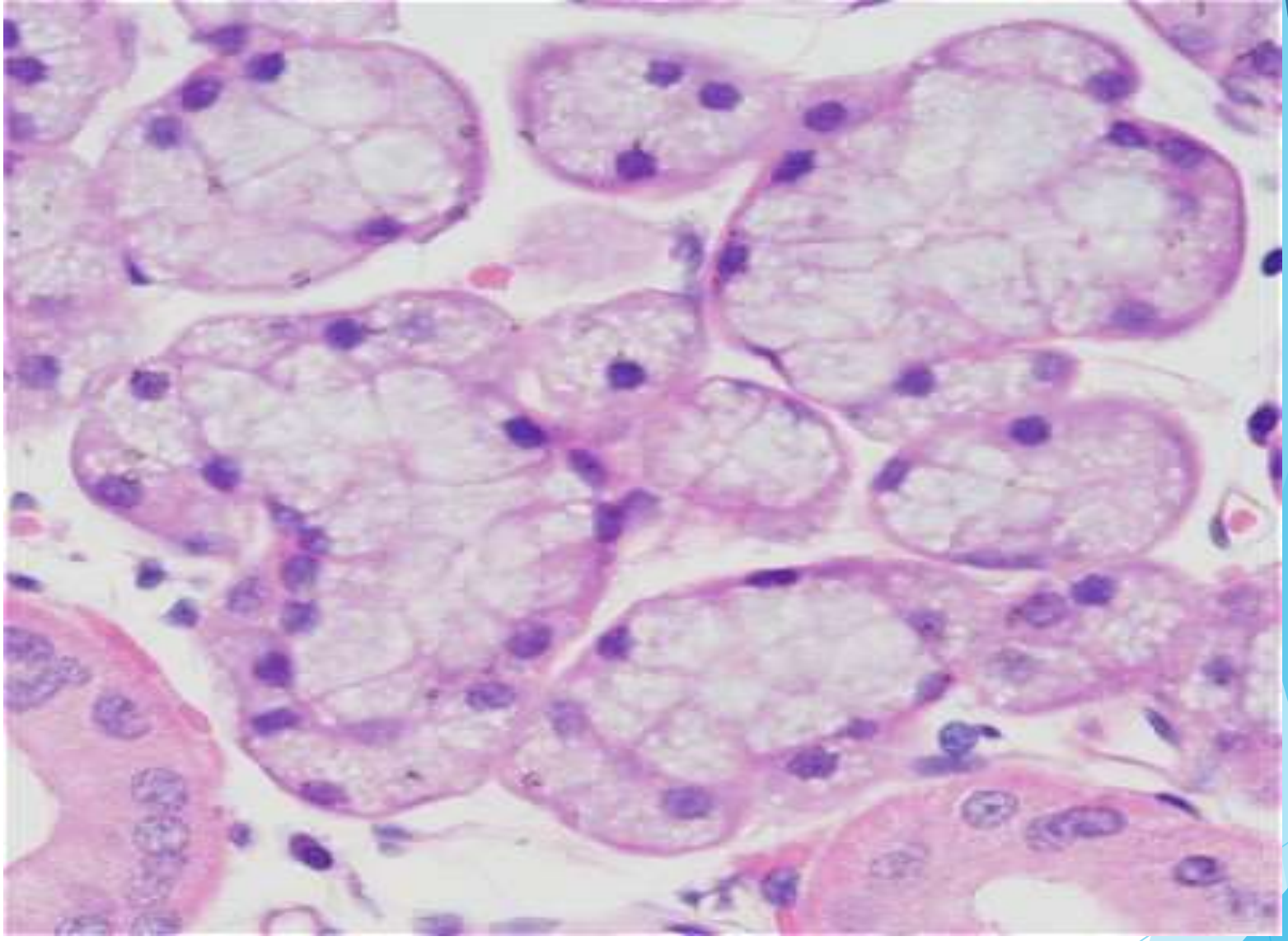
- Kelenjar Sublingualis
  - Terkecil
  - Bawah lidah
  - Sifat sekresi: sero-mucous
  - Saluran kecil2 kebawah lidah



Kelenjar submandibular



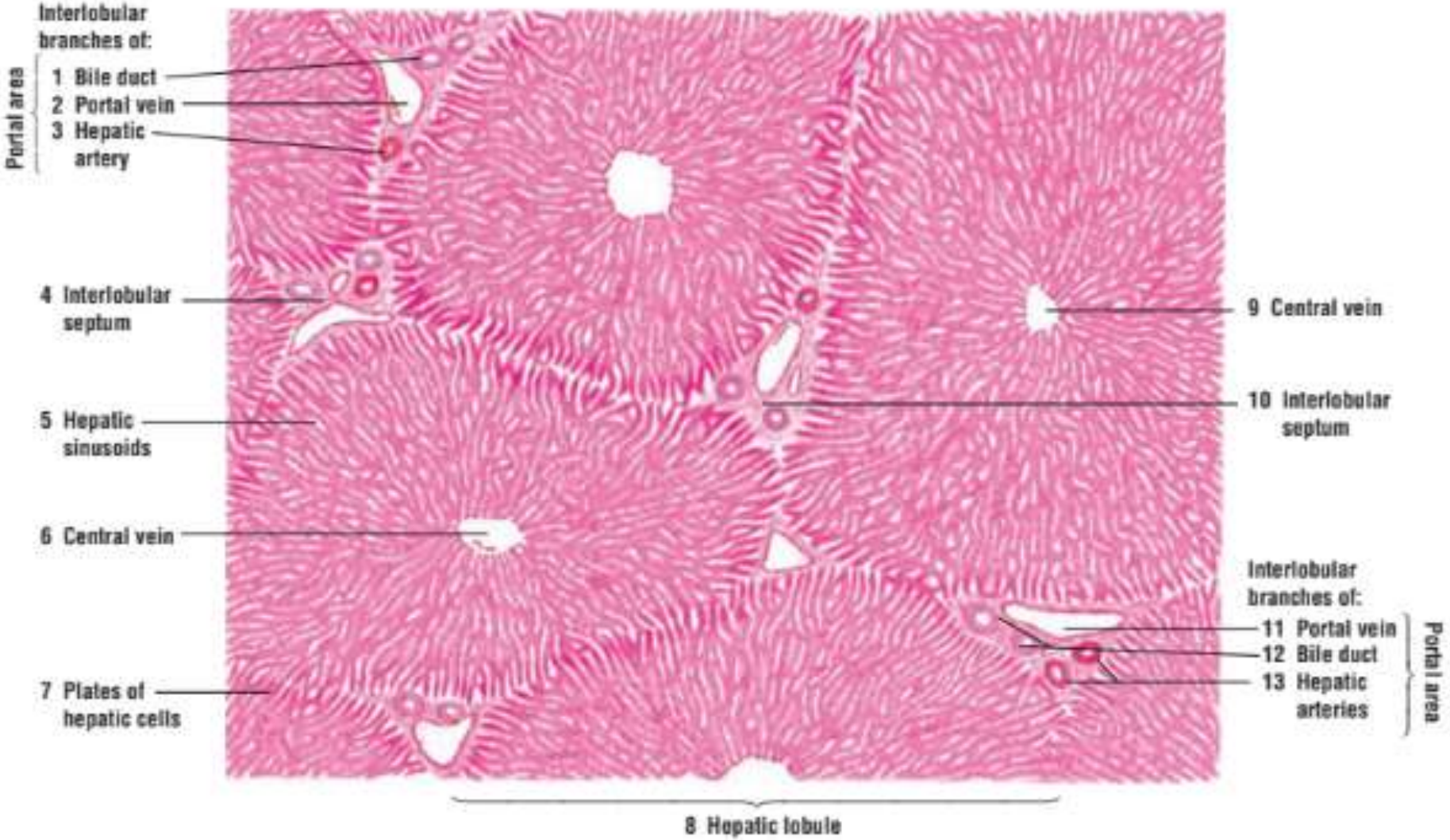
Demilune Gianuzzi



Kelenjar mucous

HEPAR

- Eksokrin & endokrin
- Terbesar (±1,5 kg or 2% BW)
- Komponen Hepar:
  - Parenchym – lempeng2 hepatosit
  - Sinusoid
  - Sel Kupffer (stellate macrophage)
  - Sel Ito (hepatic stellate cells)



(Eroschenko, 2008)

Lobulus hati primata (pandangan menyeluruh, potongan transversal). Pulasan: hematoksilin dan eosin. Pembesaran lemah.

HEPAR…..cont

- Sel hepar→ hepatocyt
- Bentuk Polihedral (kuboid besar)
  - Dinding permuk. Bebas: mikrovili (space of Disse)
  - Sitoplasma: (eosinophilic)
    - Organella
    - Inclusion: glikogen, fat (TG)
  - Inti di sentral
- 25% binucleat

Continue

- Membran 2 sel hepar yang berdekatan:

Canaliculi biliaris

Canalis Hering (ductulus biliaris)

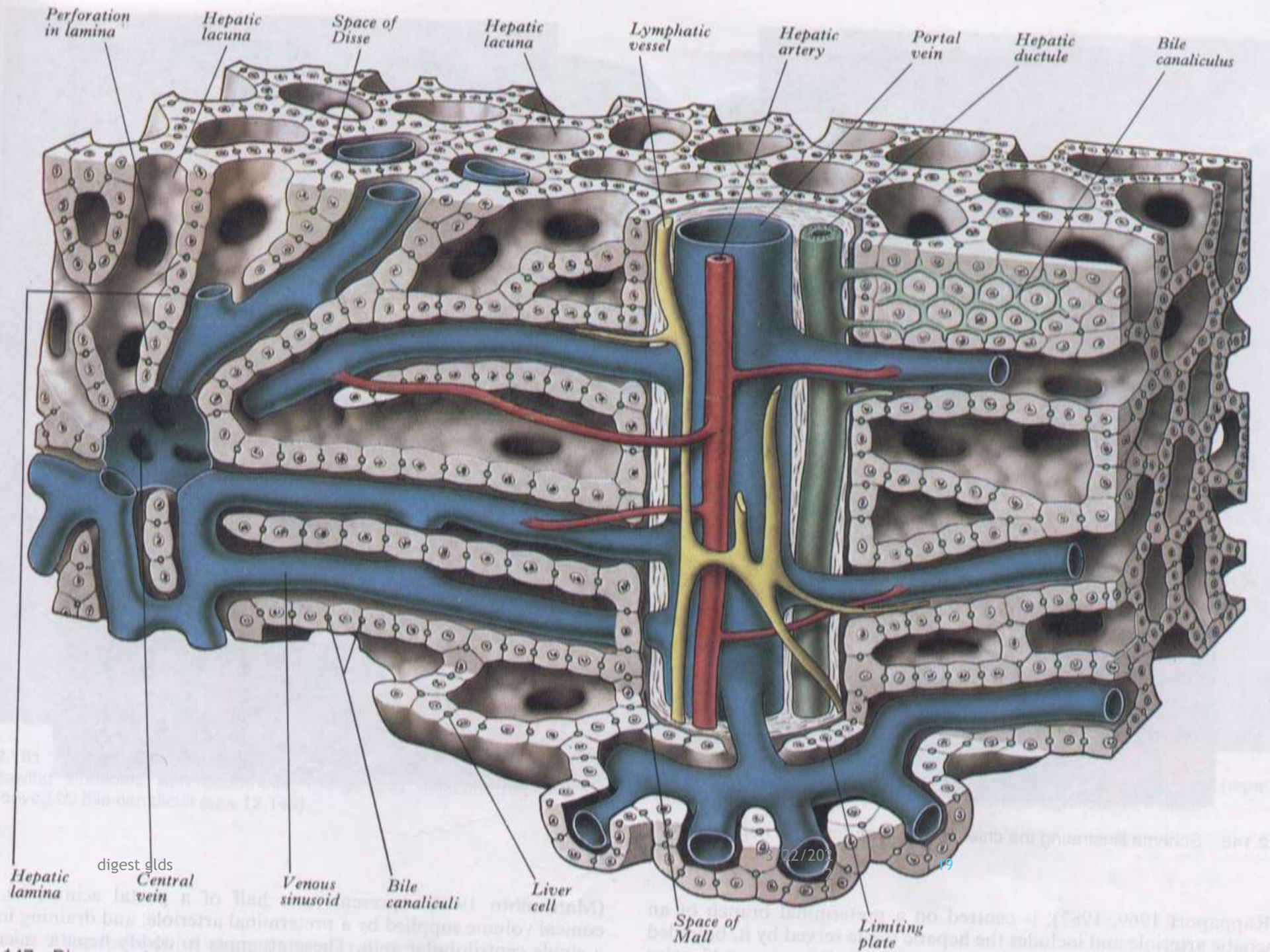
Ductus Interlobularis

(ductus biliaris)

Duct. hepaticus

Sinusoid

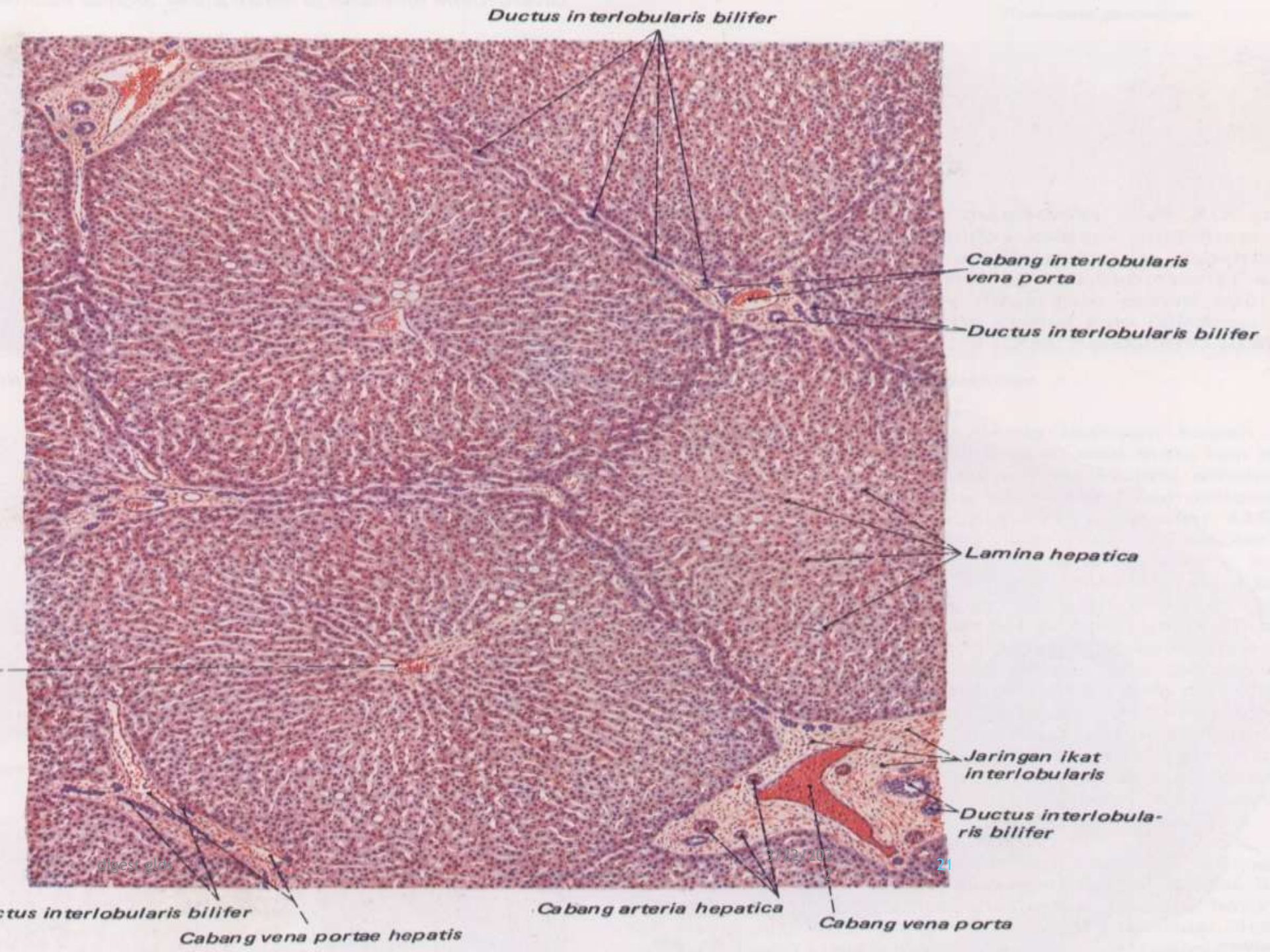
- Sistem kapiler – fenestrated
- Dinding:
  - Sel endotel
  - Sel kupffer – macrophage (monosit)
- Space of Disse: antara kapiler & hepatosit
  - Berisi:
    - Fat
    - Serabut reticular

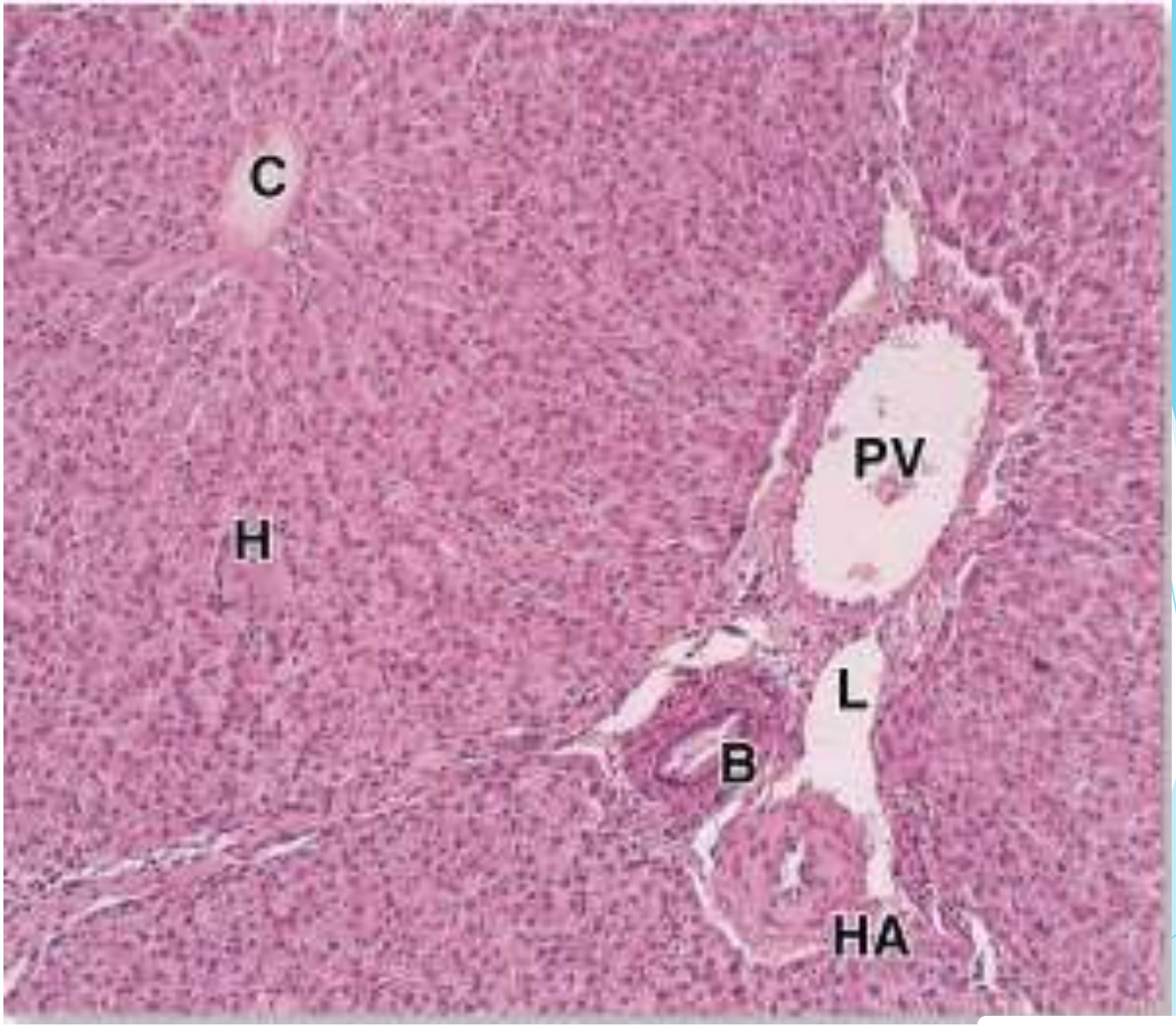

Perforation in lamina
Hepatic lacuna
Space of Disse
Hepatic lacuna
Lymphatic vessel
Hepatic artery
Portal vein
Hepatic ductule
Bile canaliculus
Hepatic lamina
Central vein
Venous sinusoid
Bile canaliculi
Liver cell
Space of Mall
Limiting plate

digest glds

Triad Portal = Segitiga Kiernan

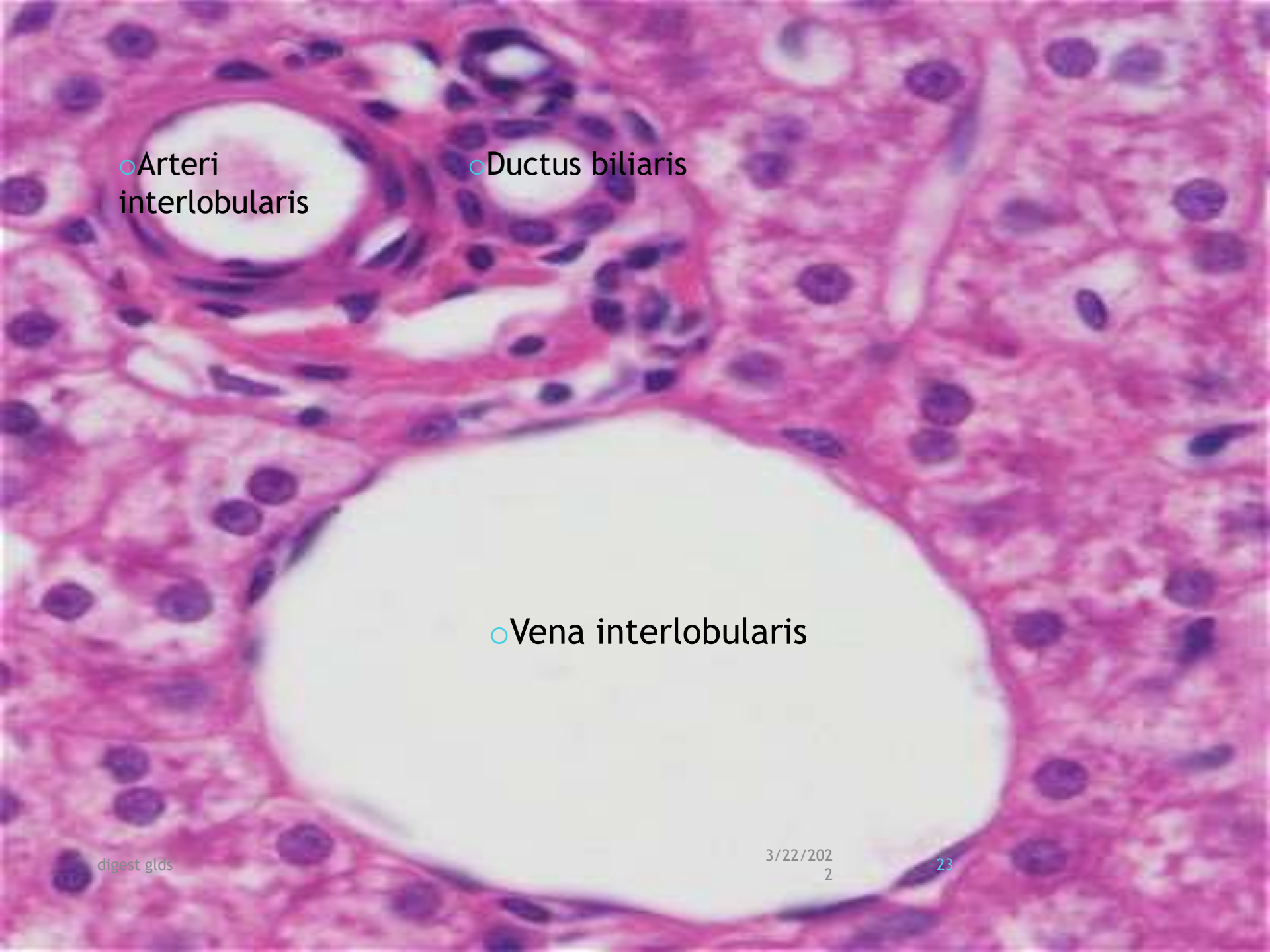
- Isi:
  - Vena interlobularis
  - Arteri interlobularis
  - Ductus biliaris
  - Pembuluh limfe
  - Serabut saraf unmyelinated
  - Jaringan ikat


Ductus interlobularis bilifer
Cabang interlobularis vena porta
Ductus interlobularis bilifer
Lamina hepatica
Jaringan ikat interlobularis
Ductus interlobularis bilifer
ctus interlobularis bilifer
Cabang vena portae hepatis
Cabang arteria hepatica
Cabang vena porta



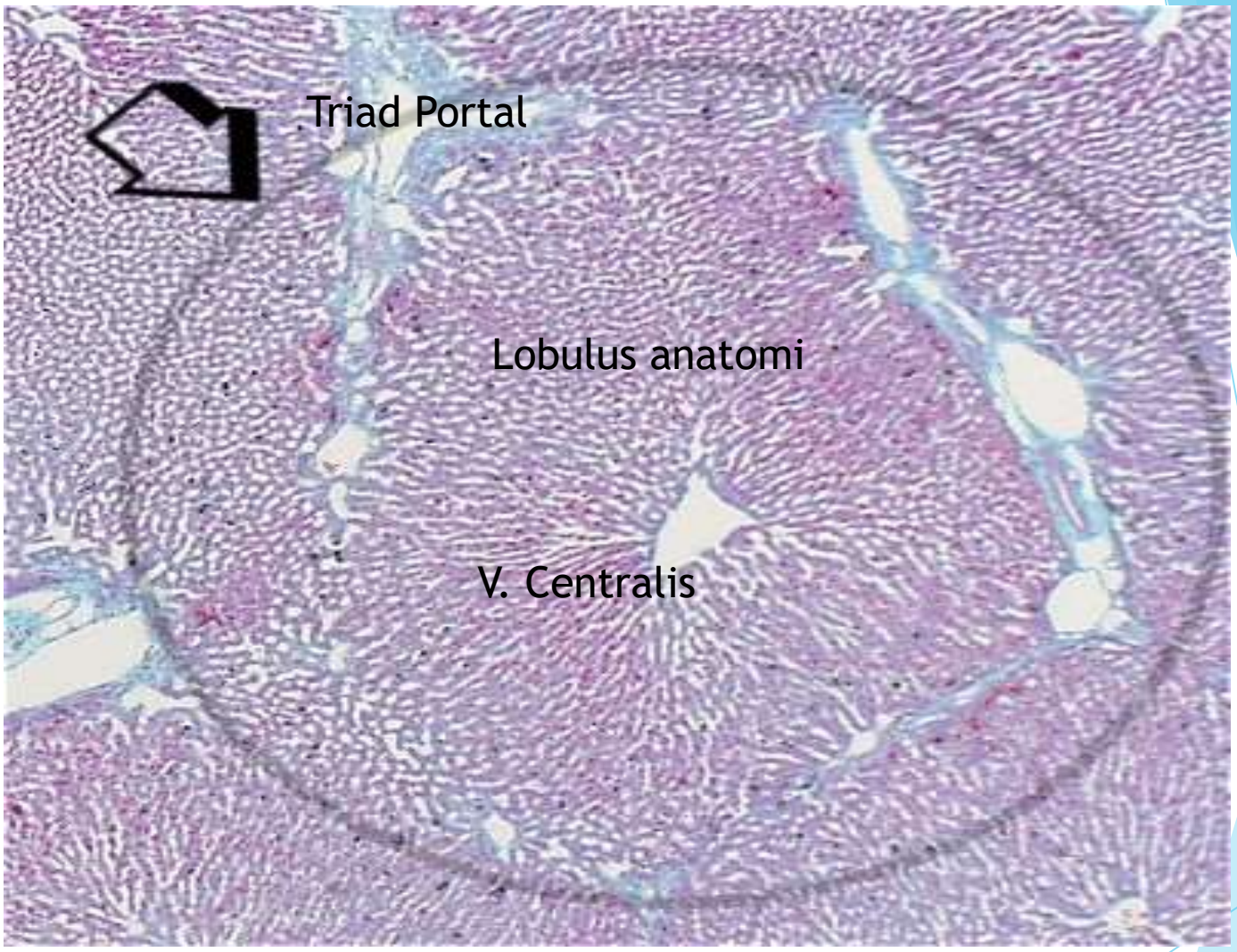
(Mescher, 2016)

Micrograph of a lobule shows the central vein (C), plates of hepatocytes (H), and in an adjacent portal area a small lymphatic (L) and components of the portal triad: a portal venule (PV), hepatic arteriole (HA), and bile ductule (B). (X220; H&E)


Arteri interlobularis
Ductus biliaris
Vena interlobularis

LOBULASI HEPAR

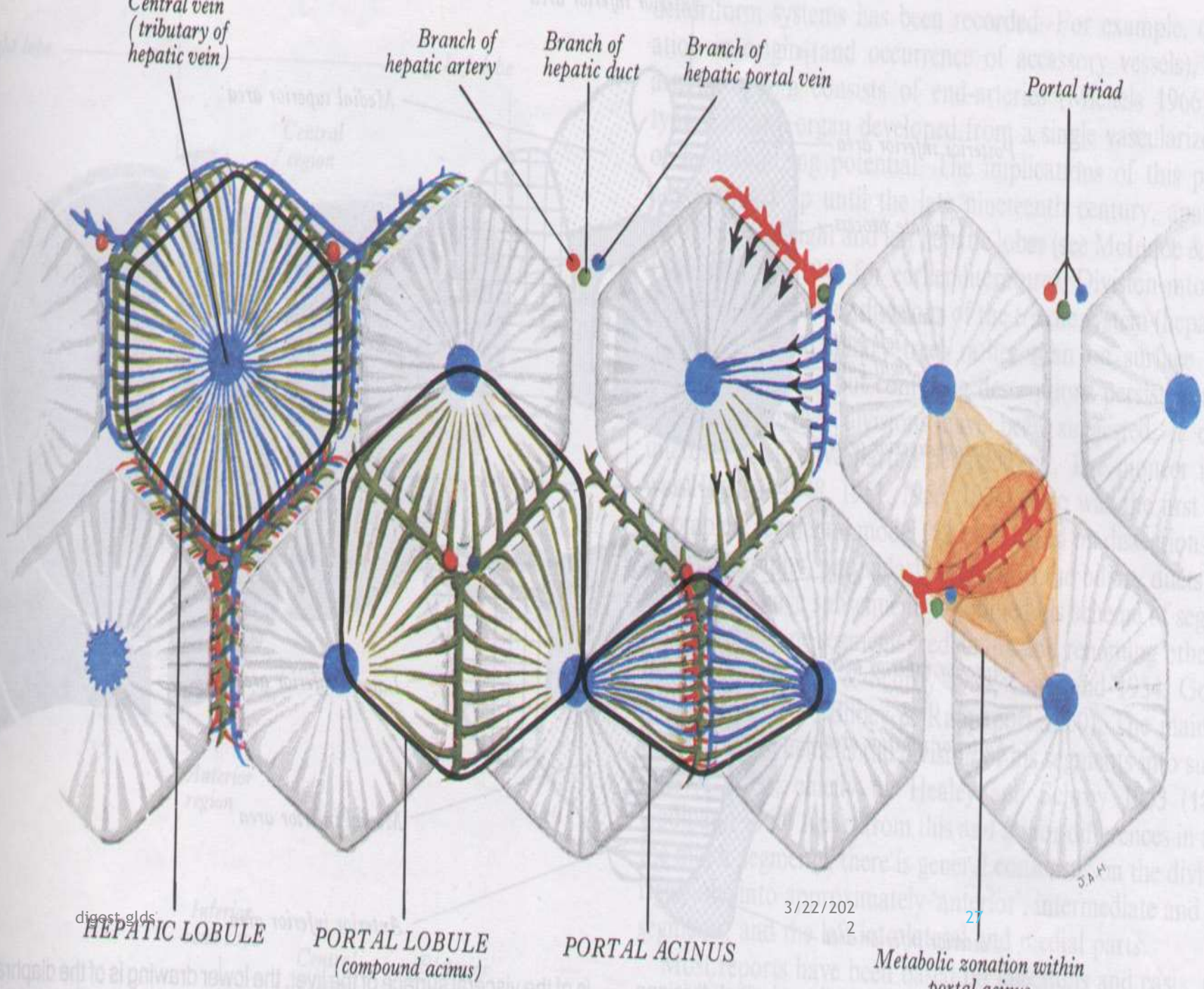
- Lobulus klasik/lobulus anatomis (endokrin):
  - Pusat V. Centralis
  - Tepi: Triad Portal
- Lobulus Portal (eksokrin):
  - Pusat : triad portal
  - Tepi: garis imaginer yang menghub. 2 V centralis


Triad Portal
Lobulus anatomi
V. Centralis

Continue

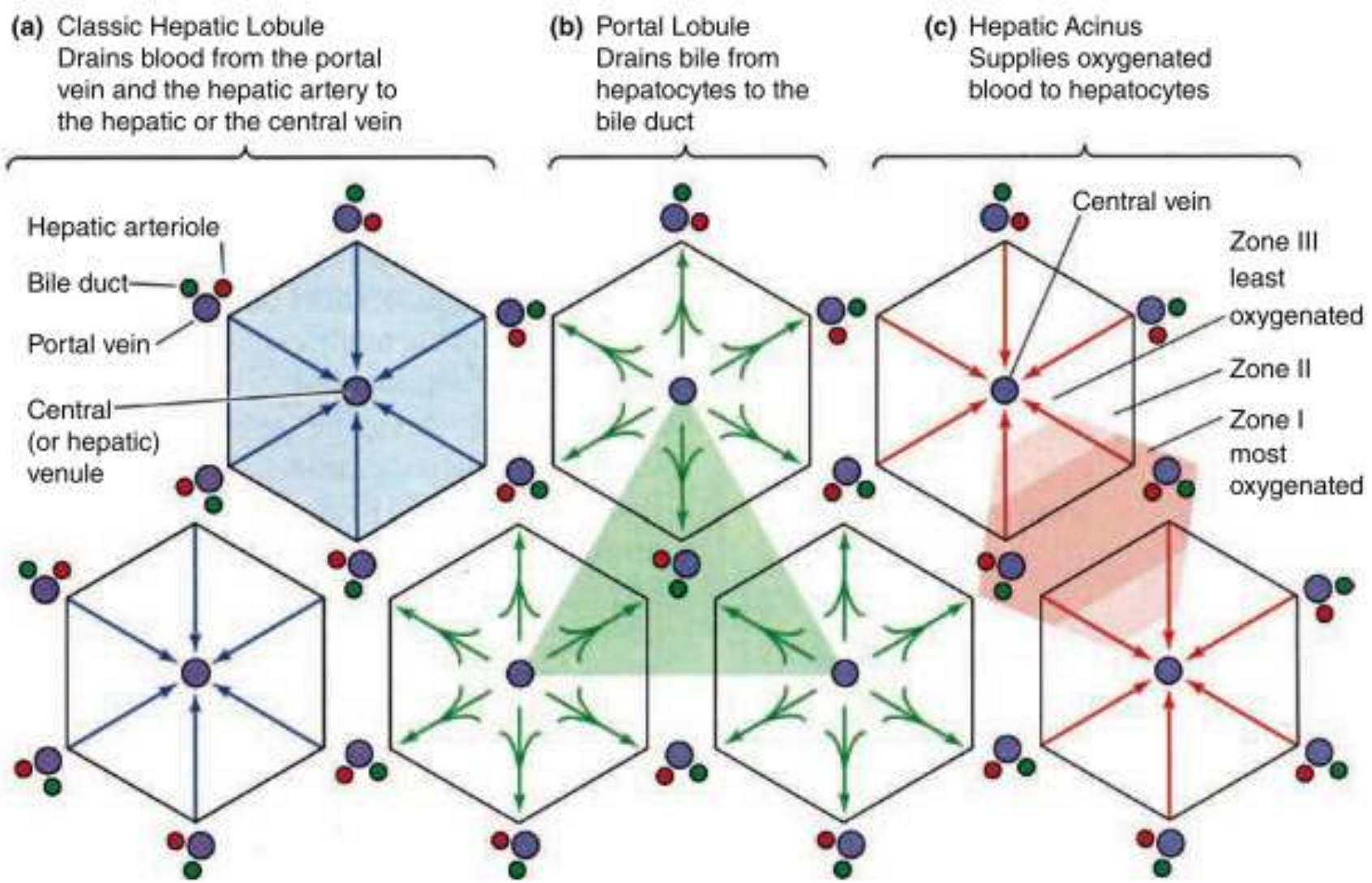
- Hepatic acini (Rappaport)=lobulus fungsional (oksigenasi)
  - Pusat: cabang terminal V. Porta & A. hepatika
  - Tepi: Parenchym hepar yang dapat darah dari pembuluh darah tersebut.

  Bentuk seperti pastel (belah ketupat)



45 Diagram of the histological

digest.glds



(Mescher, 2016)

Concepts of structure-function relationships in liver

Fungsi Hepatosit

- Produksi empedu→ lemak di duodenum
- RER: sintesis dan sekresi protein serum (alb, mikro glob, transferin,dll)
- SER: biosintesis kolesterol, detoksifikasi obat dan racun, enzim→garam empedu.
- Lisosom: menghancurkan sel yg rusak
- Mitokondria: sintesis ATP
- Peroxisome: metab. Alkohol, H_2O_2, purin→ as.urat
- Storage glucose (glycogen granule), TG (lipid droplet)

PANCREAS

- Belakang lambung
- Muara ke duodenum
- Eksokrin - endokrin

PANCREAS….cont

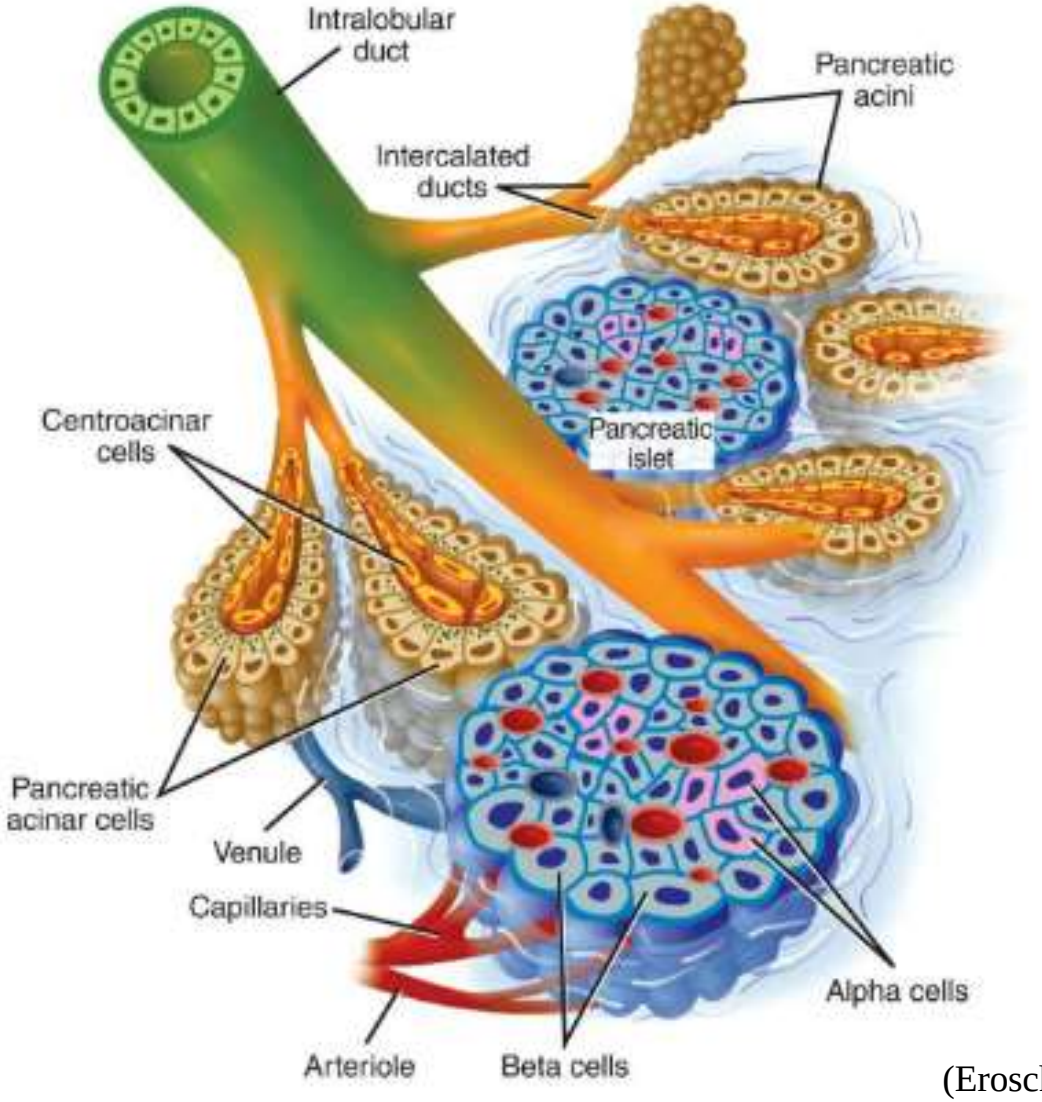
- Eksokrin:
  - Bentuk tubuloaciner
  - Hasil sekresi: serous murni, HCO_3^-, berbagai macam protease, α-amylase, lipase, dll
  - Regulasi: cholecystokinin dan sekretin

PANCREAS

- Endokrin:
  - = pulau Langerhans
  - Tersebar di antara asinus eksokrin
  - Pucat dgn p.d >>>
  - Dibatasi jaringan ikat reticular halus

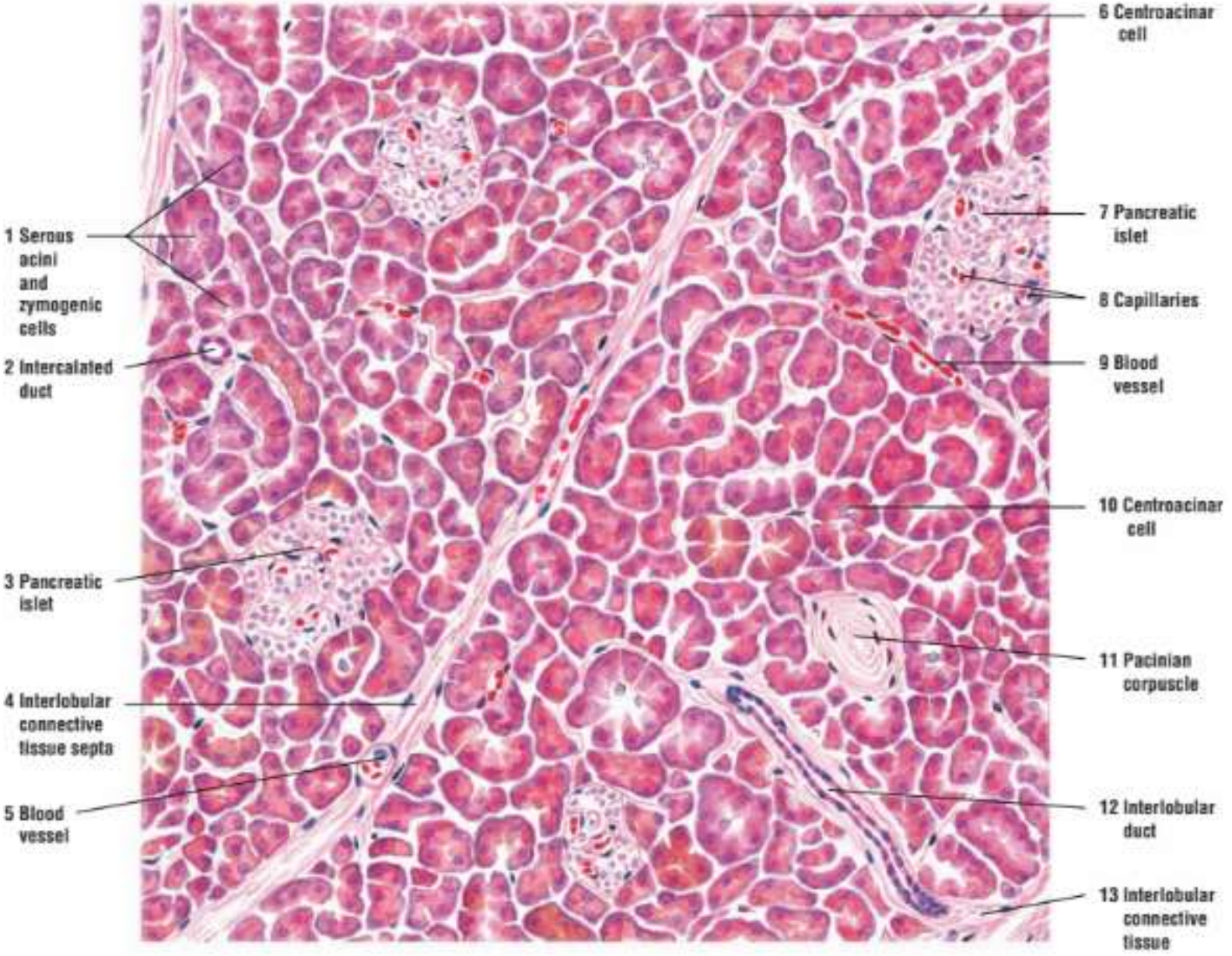
Endokrin: P. Langerhans

- Sel alfa:
  - Letak di perifer
  - Granule tidak larut dalam alkohol
  - Hasil: glukagon
- Sel beta:
  - Jumlah 60 – 90%
  - Granule larut dalam alkohol
  - Hasil: insulin
- Sel delta: hasil somastostatin dan gastrin
- Sel polipeptida pancreas (PP)



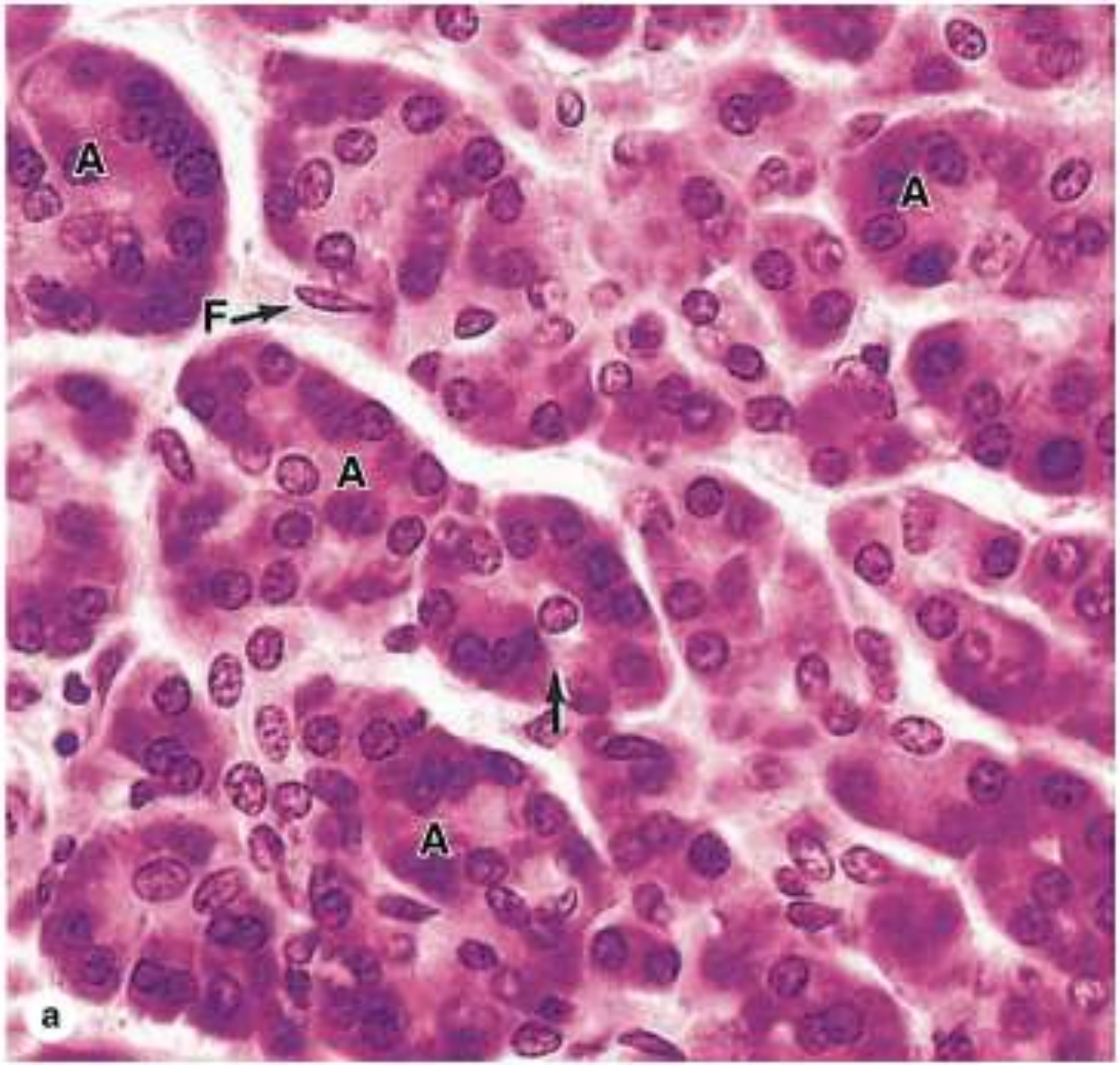
(Eroschenko, 2008)

A section from the pancreas is illustrated, with emphasis on the details of the duct system of the exocrine pancreas.



Pankreas eksokrin dan endokrin (pandangan seksional). Pulasan: hematoksilin dan eosin. Pembesaran lemah.

(Eroschenko, 2008)



(Mescher, 2016)

Micrograph of exocrine pancreas shows the serous, enzyme- producing cells arranged in small acini (A) with very small lumens. Acini are surrounded by only small amounts of connective tissue with fibroblasts (F). Each acinus is drained by an intercalated duct.

CONTINUE

- P.Langerhans lebih banyak di bagian cauda.
- Dipisahkan dari acini oleh jar. Reticular
- Pengecatan HE tidak jelas
- Cat khusus:
  - Masson’s trichrom
  - Chrom hematoxilin phloxin
  - Aldehyd fuchsin

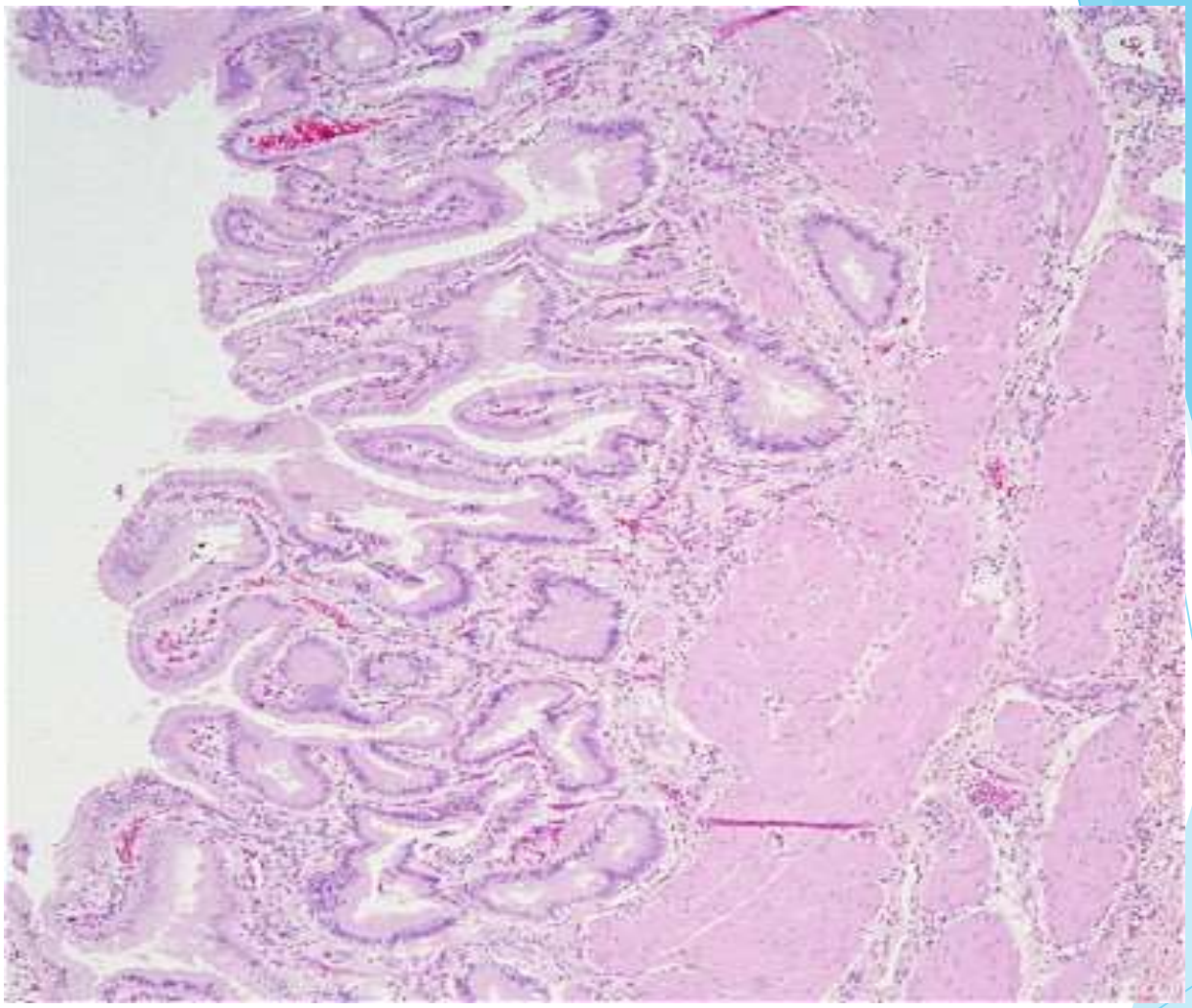
VESICA FELEA

- Bentuk: buah pear, berongga
- Melekat di bawah hati
- Fundus, corpus, leher
- Fungsi: menyimpan, memekatkan dan melepaskan empedu.
- Saluran: ductus cysticus – bergabung dg ductus hepaticus communis – ductus choleduchus→ lumen duodenum

Dinding Vesica Felea

- Mucosa: Ep. Columnar simplex, lamina propria tipis (p.d >>)
- Muscularis: otot polos.
- Perimuscular: j.i kollagen, P.d dan saraf
- Serosa – peritoneum

Pada mucosa bisa didapatkan divertikel/sinus Rockitansky Aschoff



Vesica felea

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