Májpatológiai alapok

MGYGT XIII. Kongresszusa Esztergom

2024.10.04.

Dr. Halász Judit

Patológiai, Igazságügyi és Biztosítási Orvostani Intézet

SEMMELWEIS
EGYETEM 1769

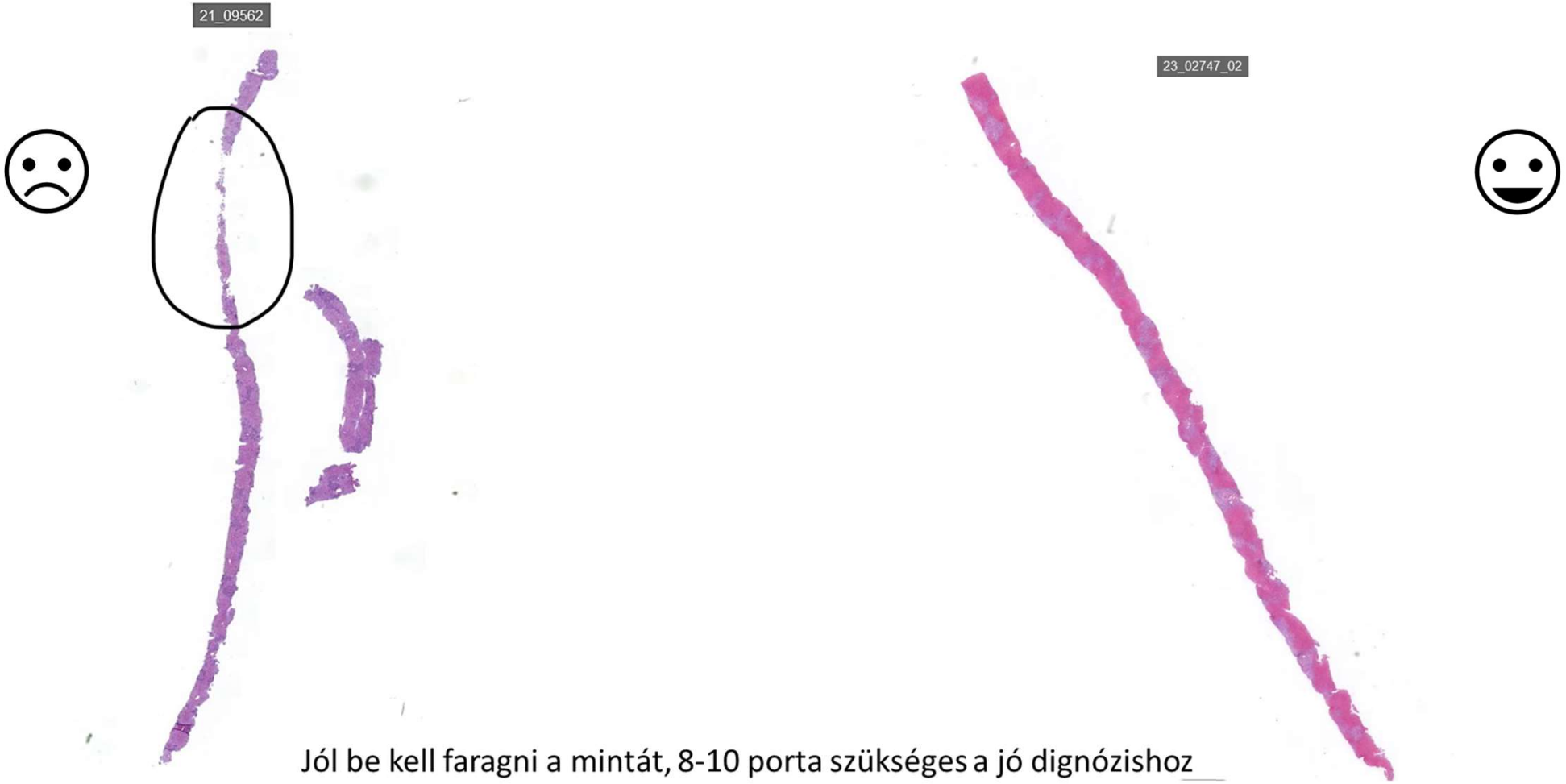
A májbetegségek felosztása

- **DIFFÚZ**
- **GÓCOS**

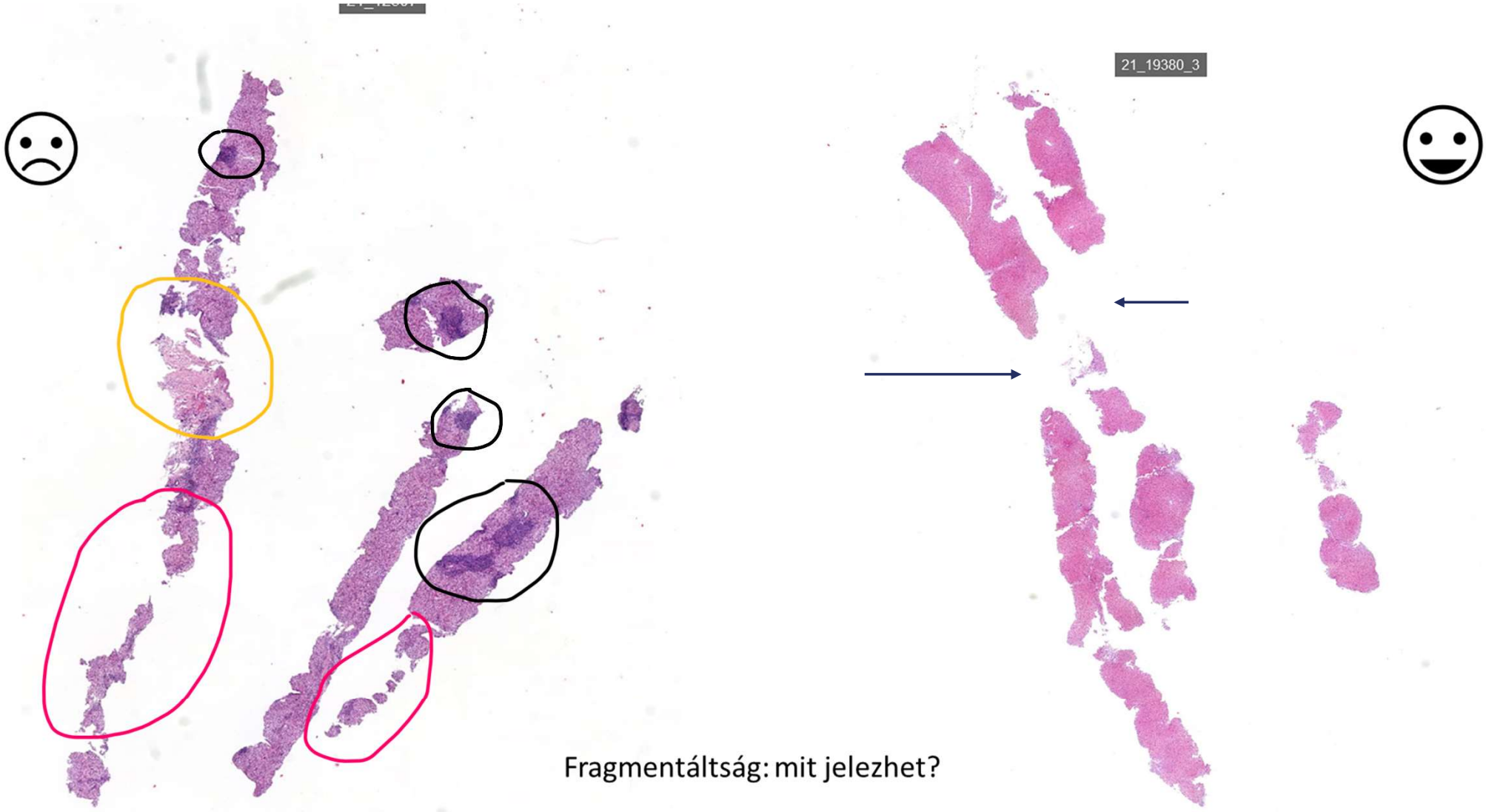
- **GYERMEKKORI**
- **FELNŐTTKORI**


1880/04 MAJ

Biopsziák típusa: core

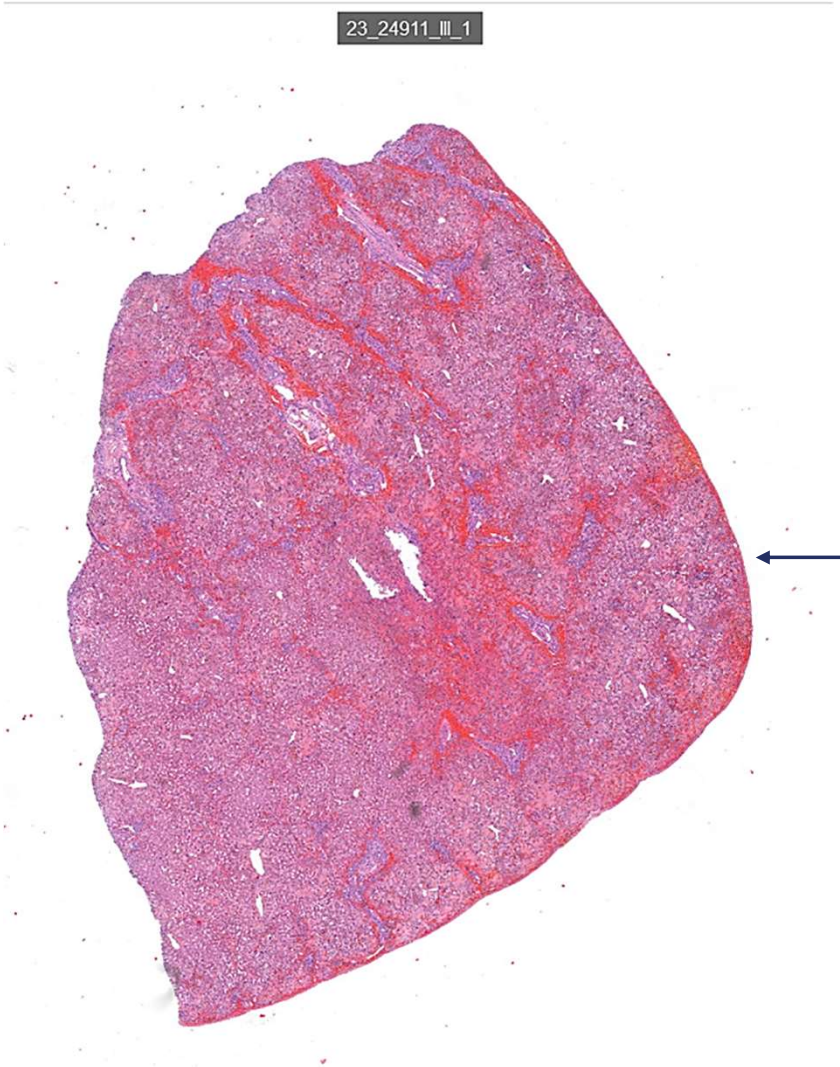


Jól be kell faragni a mintát, 8-10 porta szükséges a jó dignózishoz



Fragmentáltság: mit jelezhet?

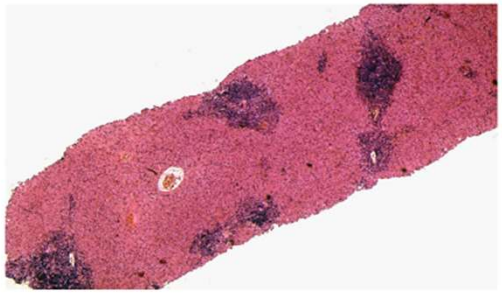
Ékbiopszia



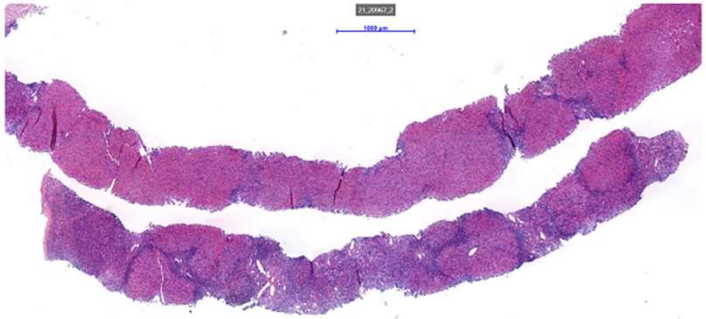
Glisson-tok

HOL ZAJLIK A BETEGSÉG?

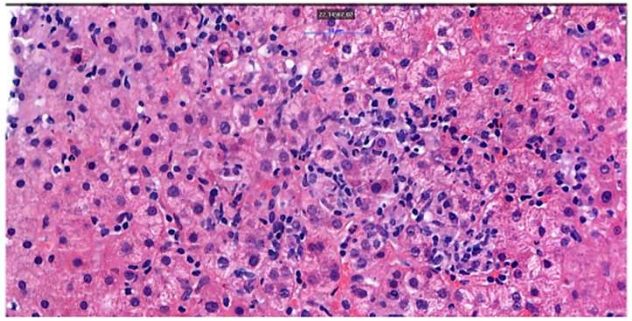
Portális tér

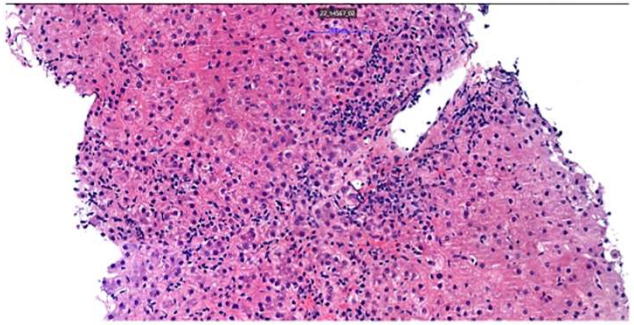


Mindkettő érintett



Lobulus



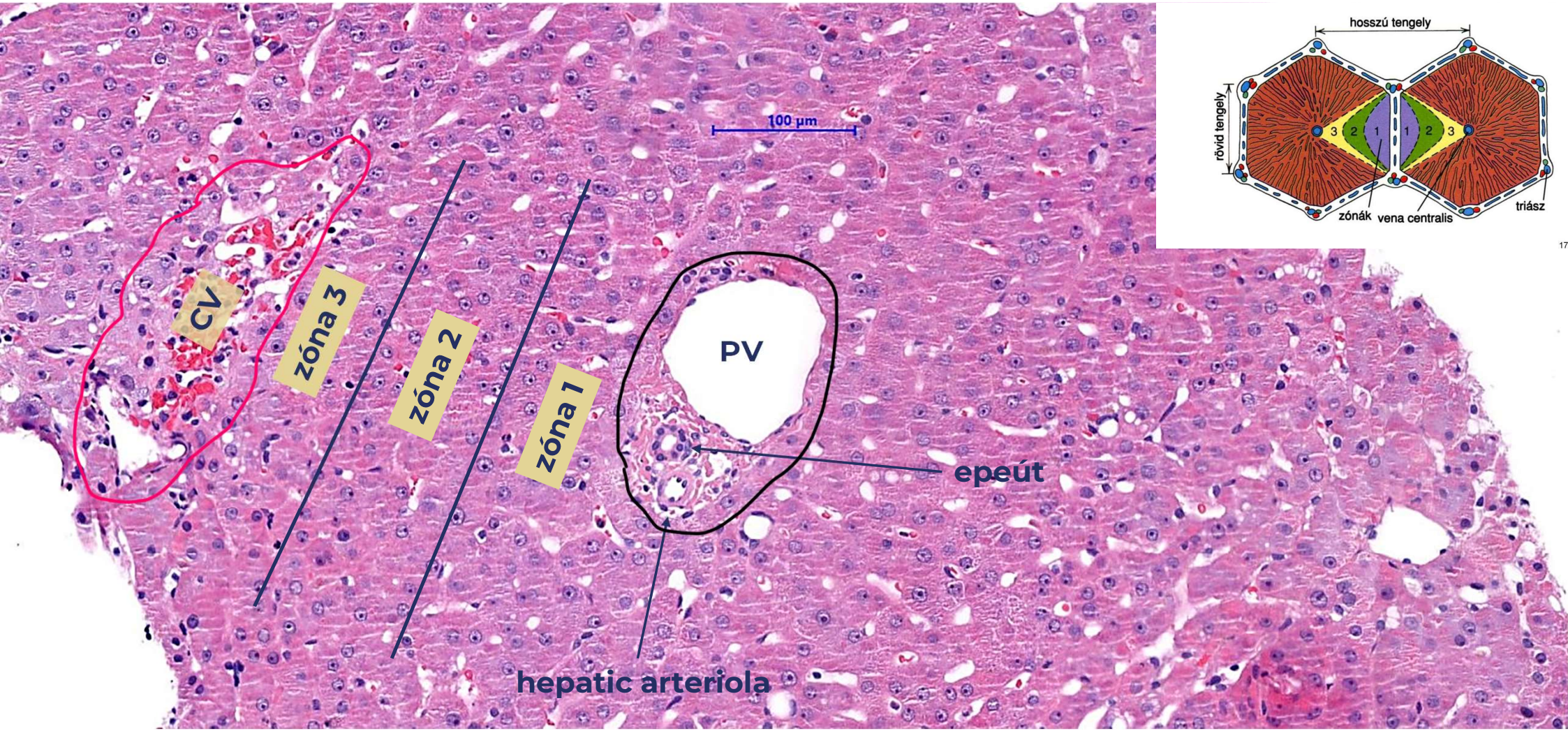


Rutin festési eljárások a májpatológiában

- **Gold standard, speciális festések használata**
- **Nem minden laborban használják őket**
- **Némelyik komoly tapasztalatot igényel (Shikata-orcein)**
- **Tudni kell értékelni őket**
- **Diffúz májbetegségeket mindig májpatológus diagnosztizáljon!**
- **Ellenkező esetben konzíliumot kell kérni!**

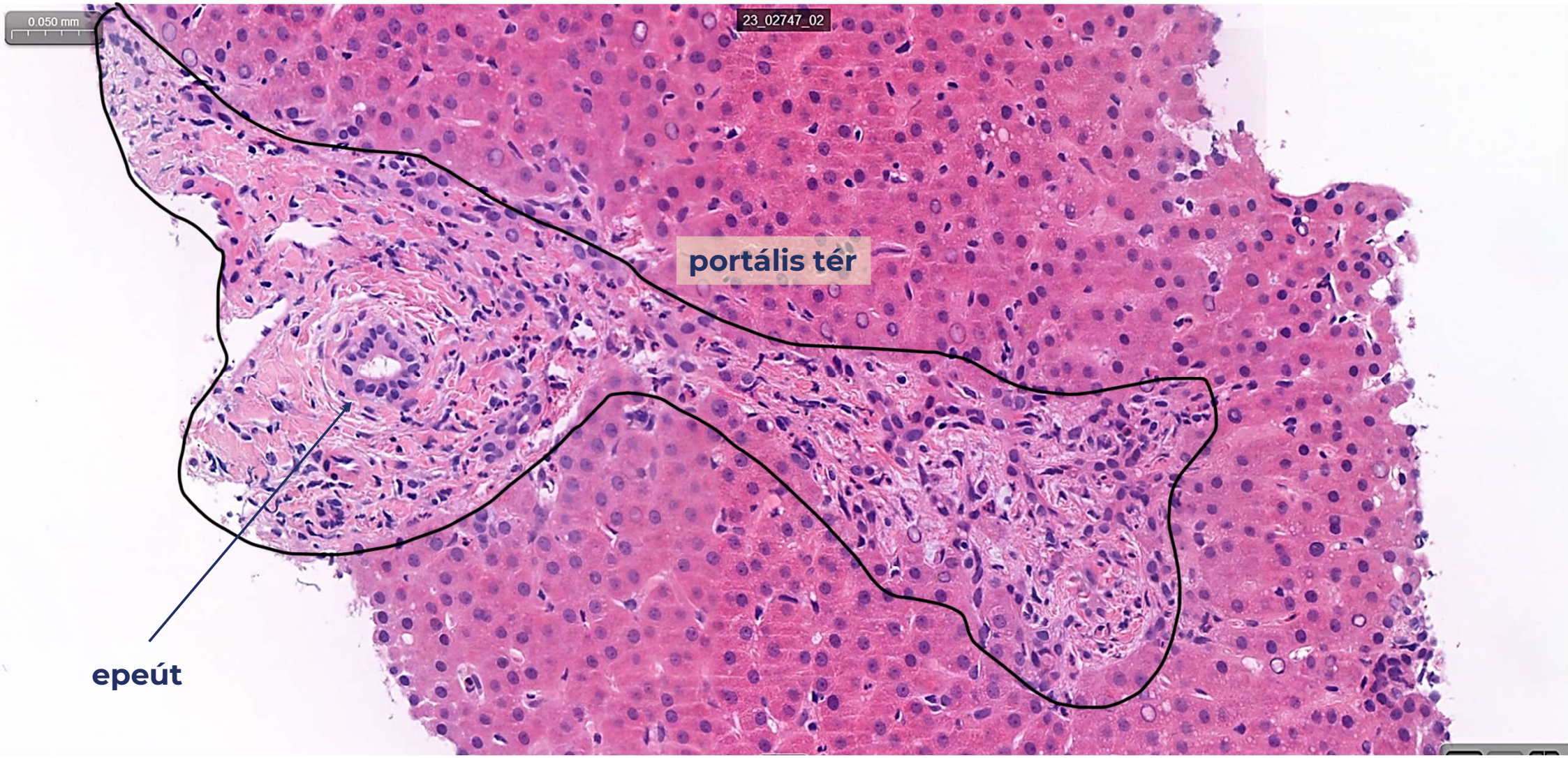
Alap festés: hematoxylin-eosin (HE)

betegség jellege, kiterjedése
portális tér
hepatocyták
lobulus

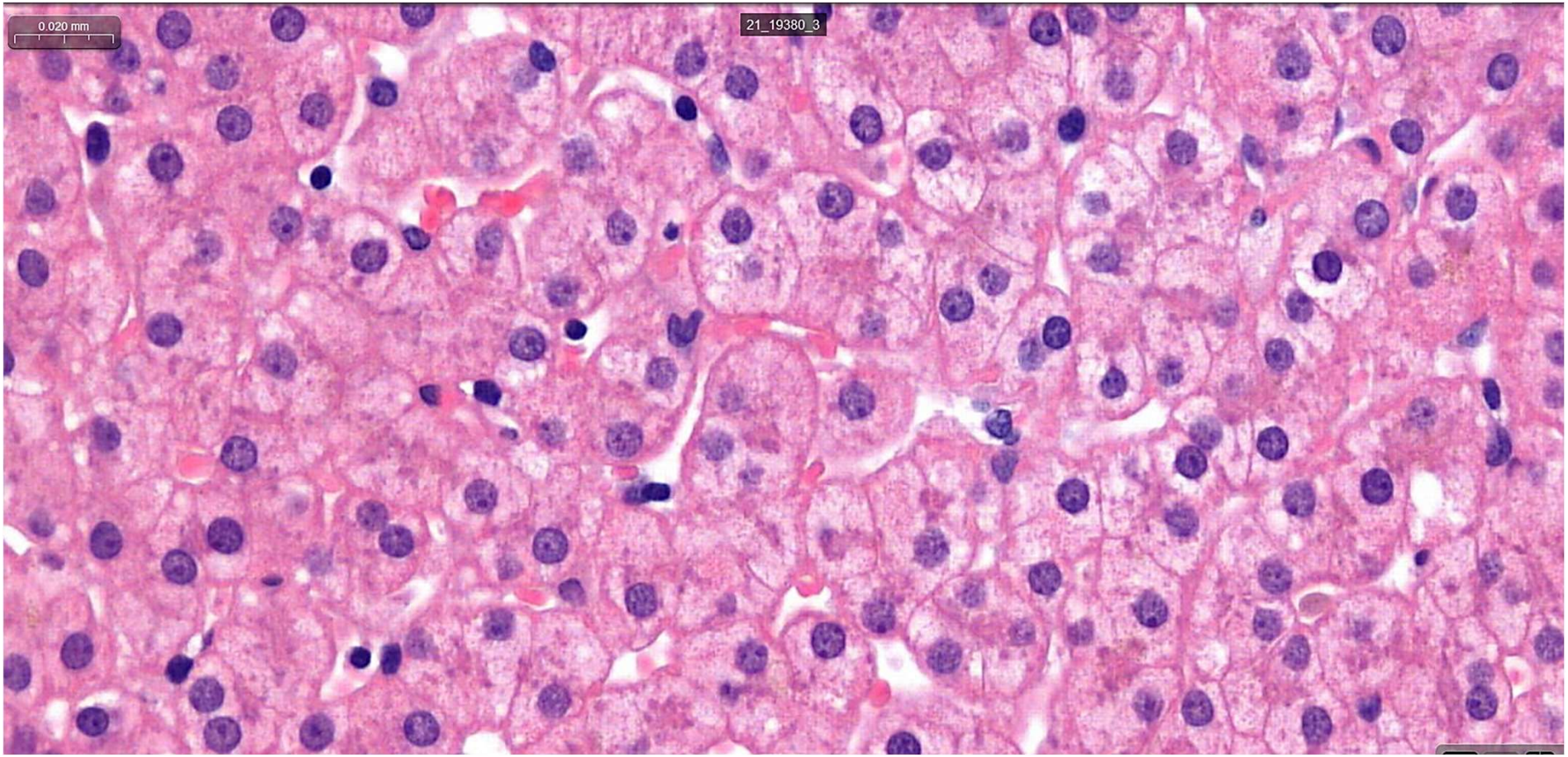

100 µm
CV
zóna 3
zóna 2
zóna 1
PV
epeút
hepatic arteriola

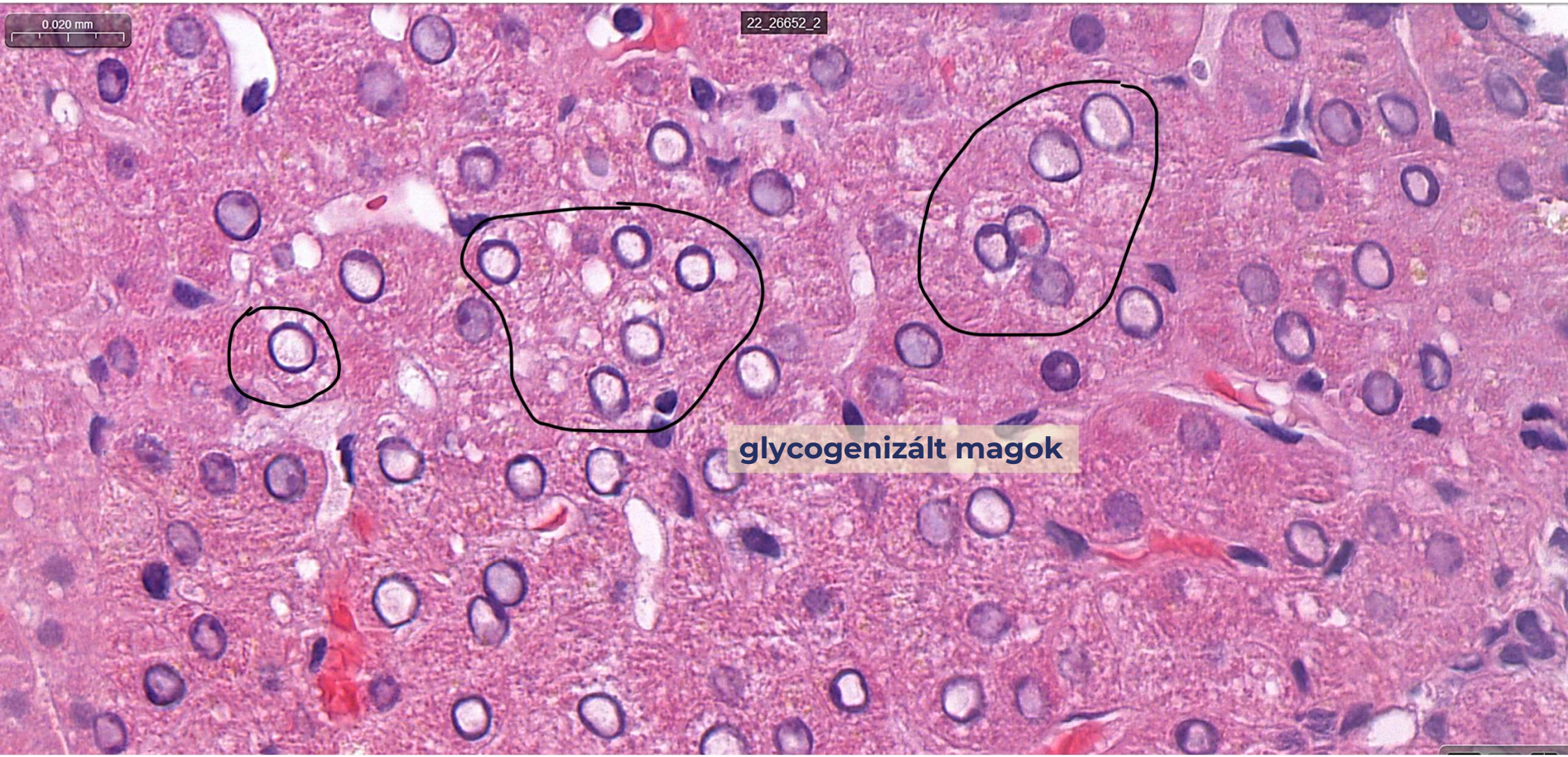
hosszú tengely
rövid tengely
3
2
1
1
2
3
zónák
vena centralis
triász

17

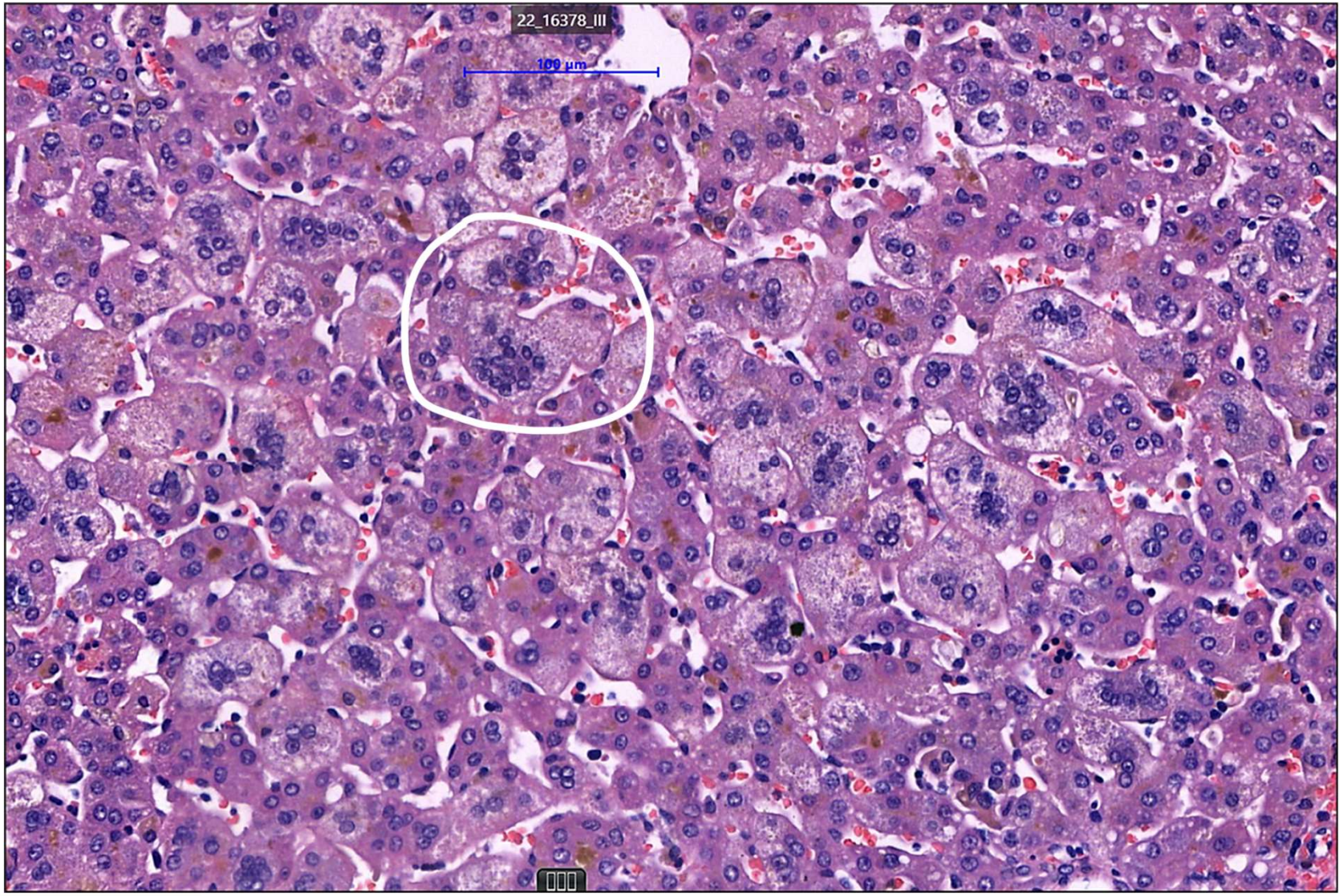

0.050 mm
23_02747_02
portális tér
epeút

Alap festés: hematoxylin/eosin (HE)



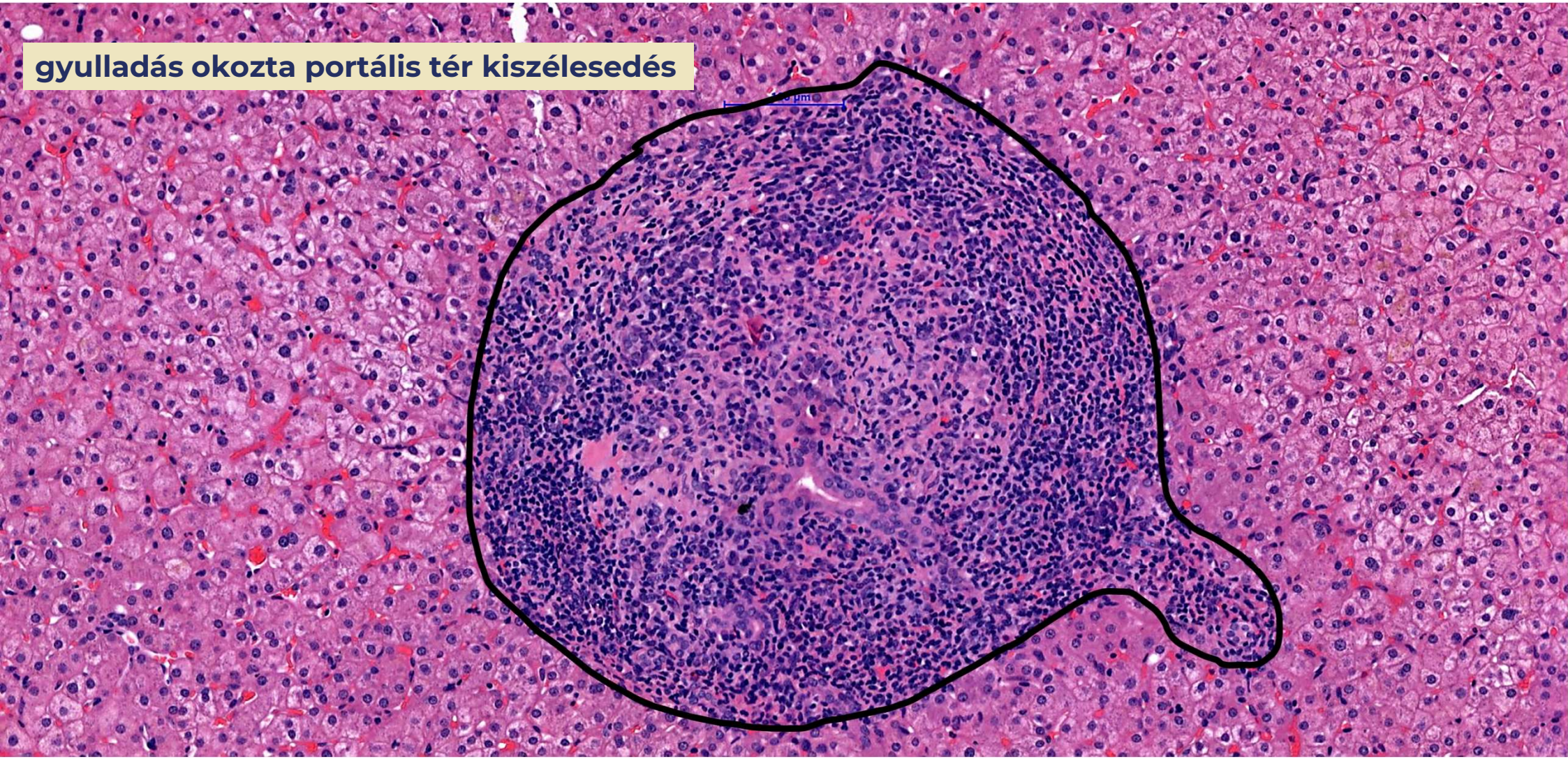

0.020 mm
22_26652_2
glycogenizált magok

óriássejtes hepatitis

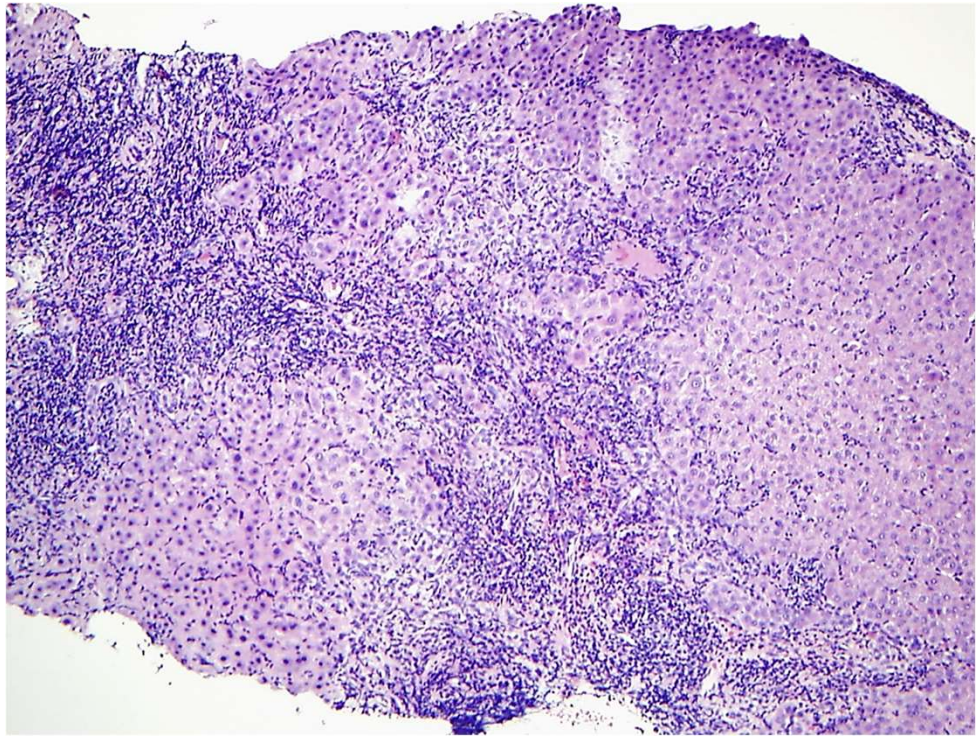


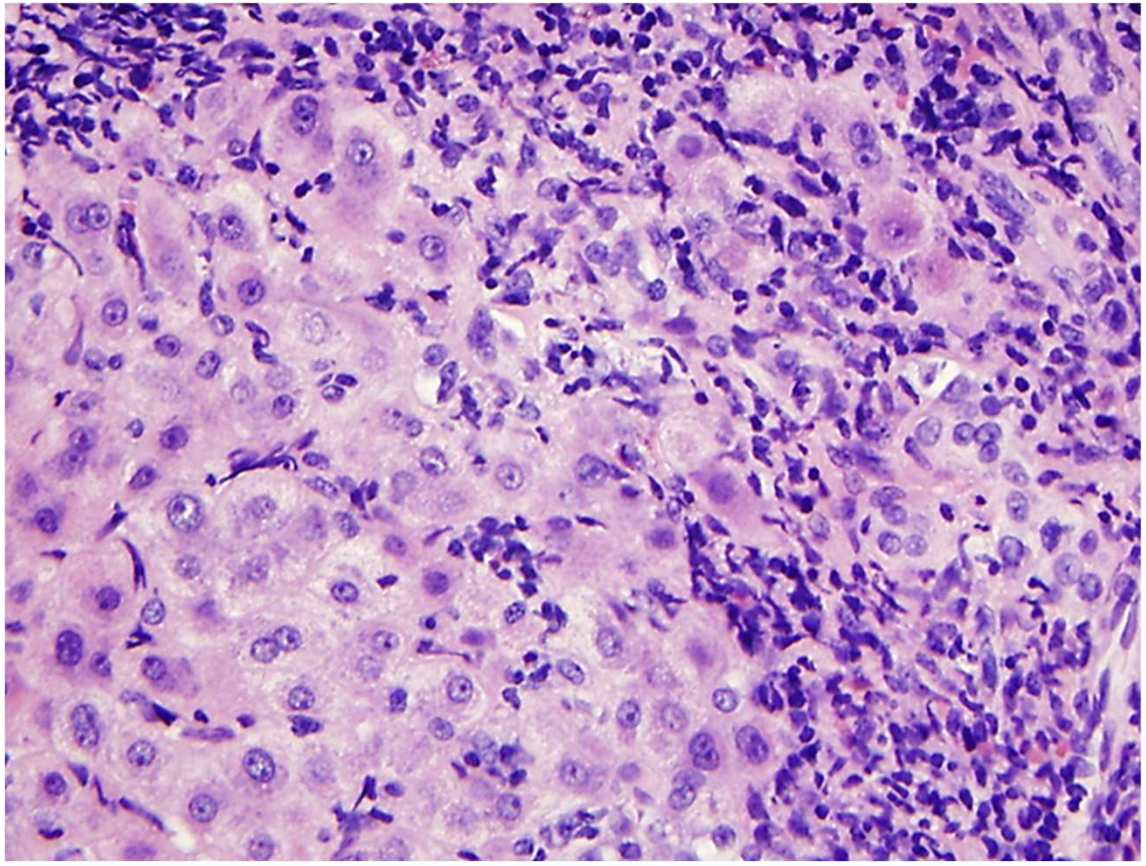
Gyulladás

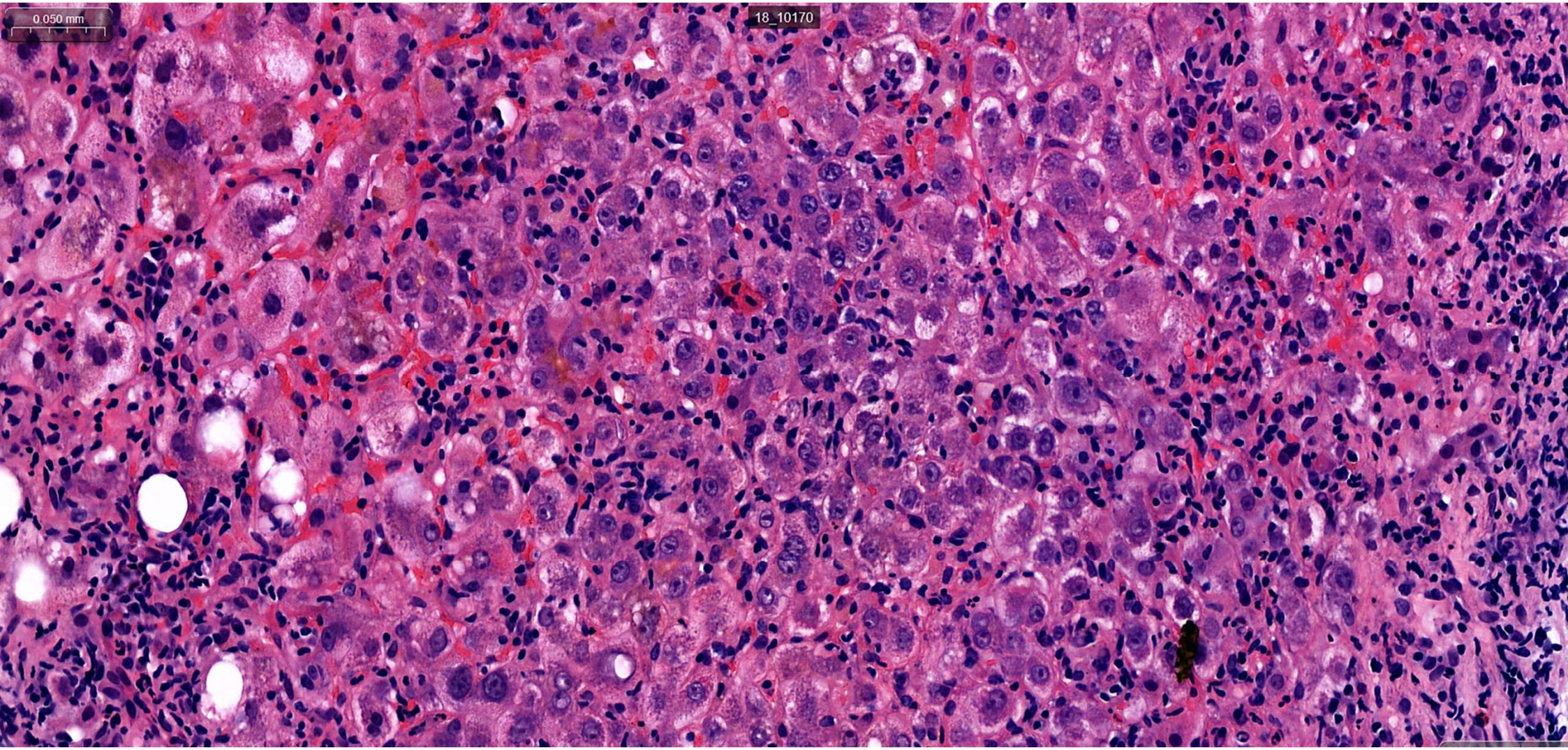
gyulladás okozta portális tér kiszélesedés

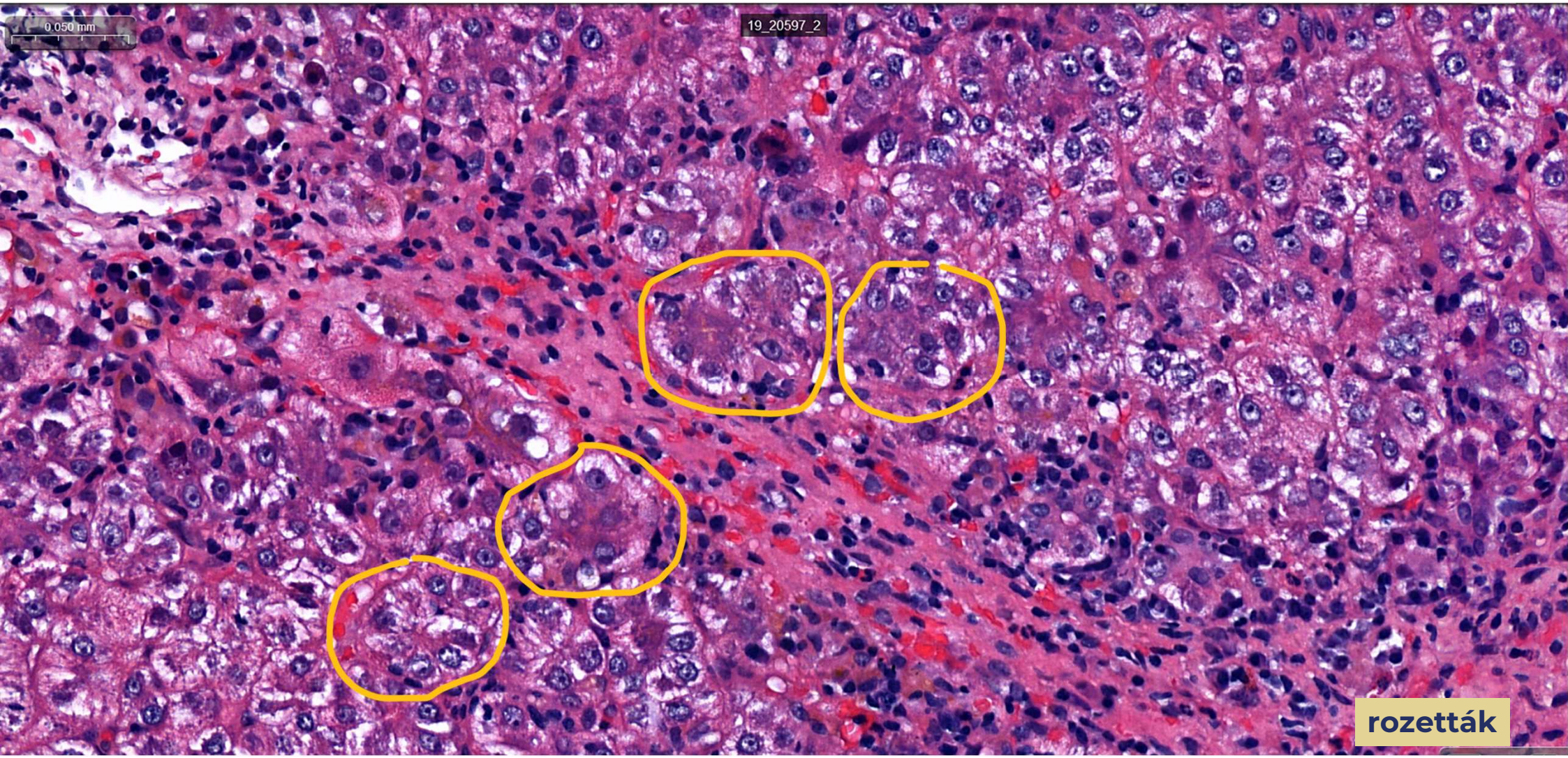


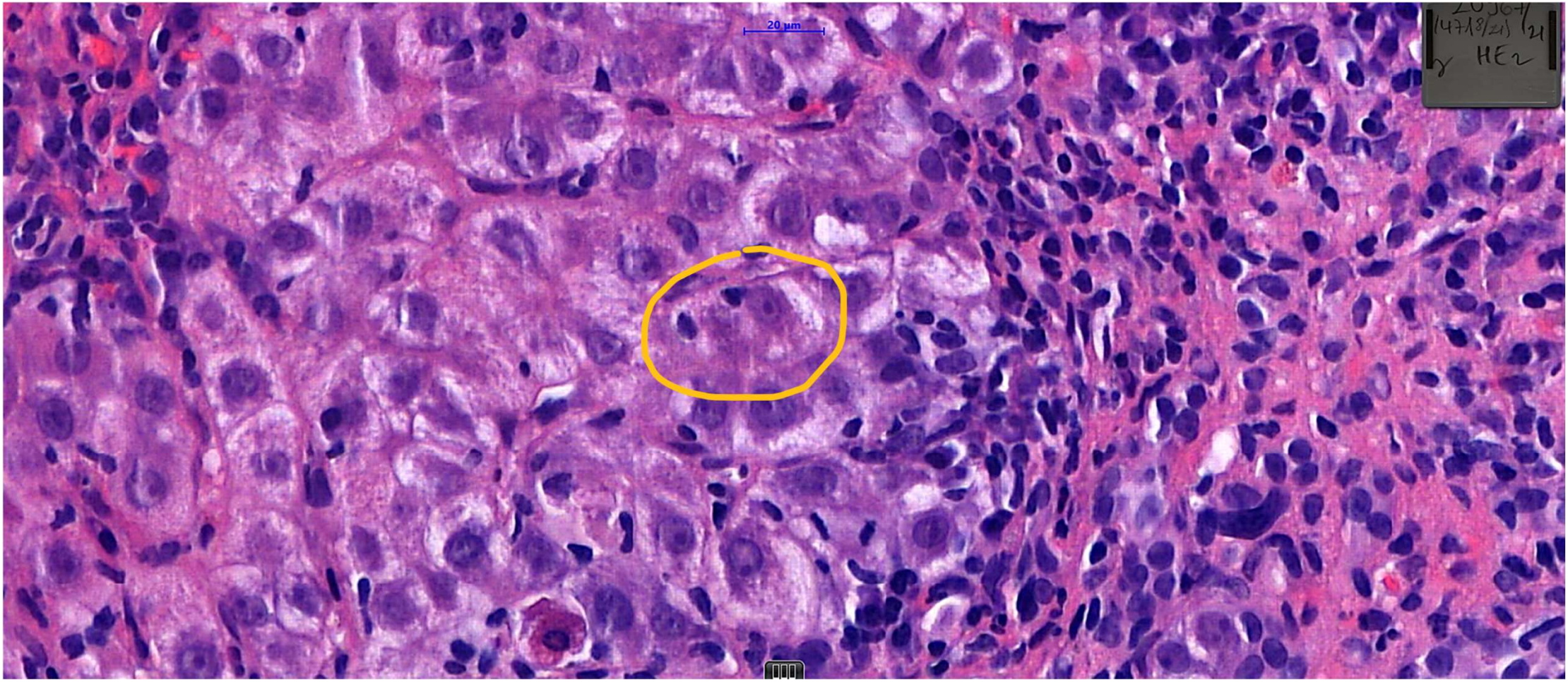
Interface hepatitis





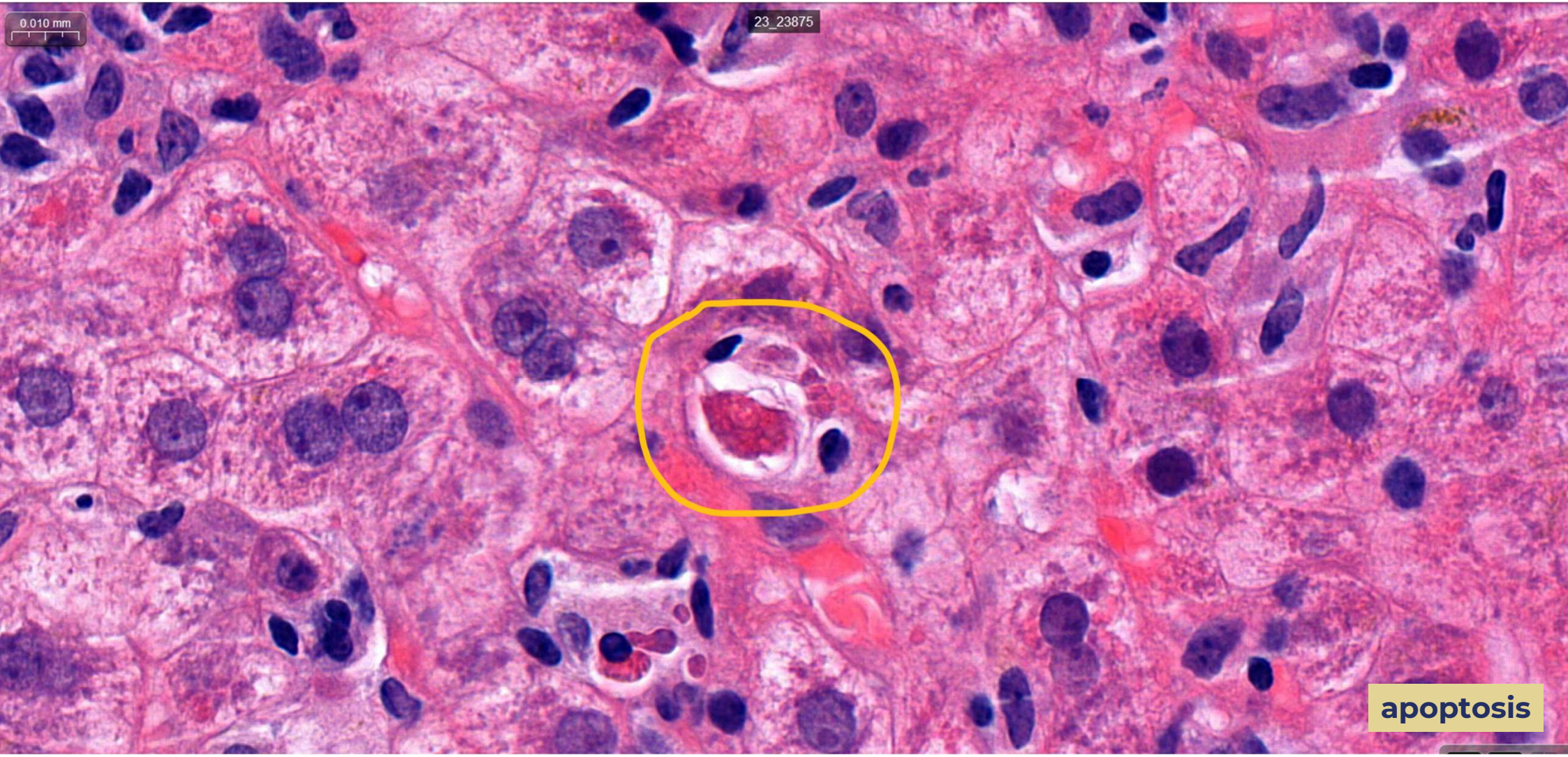

0.050 mm
18_10170

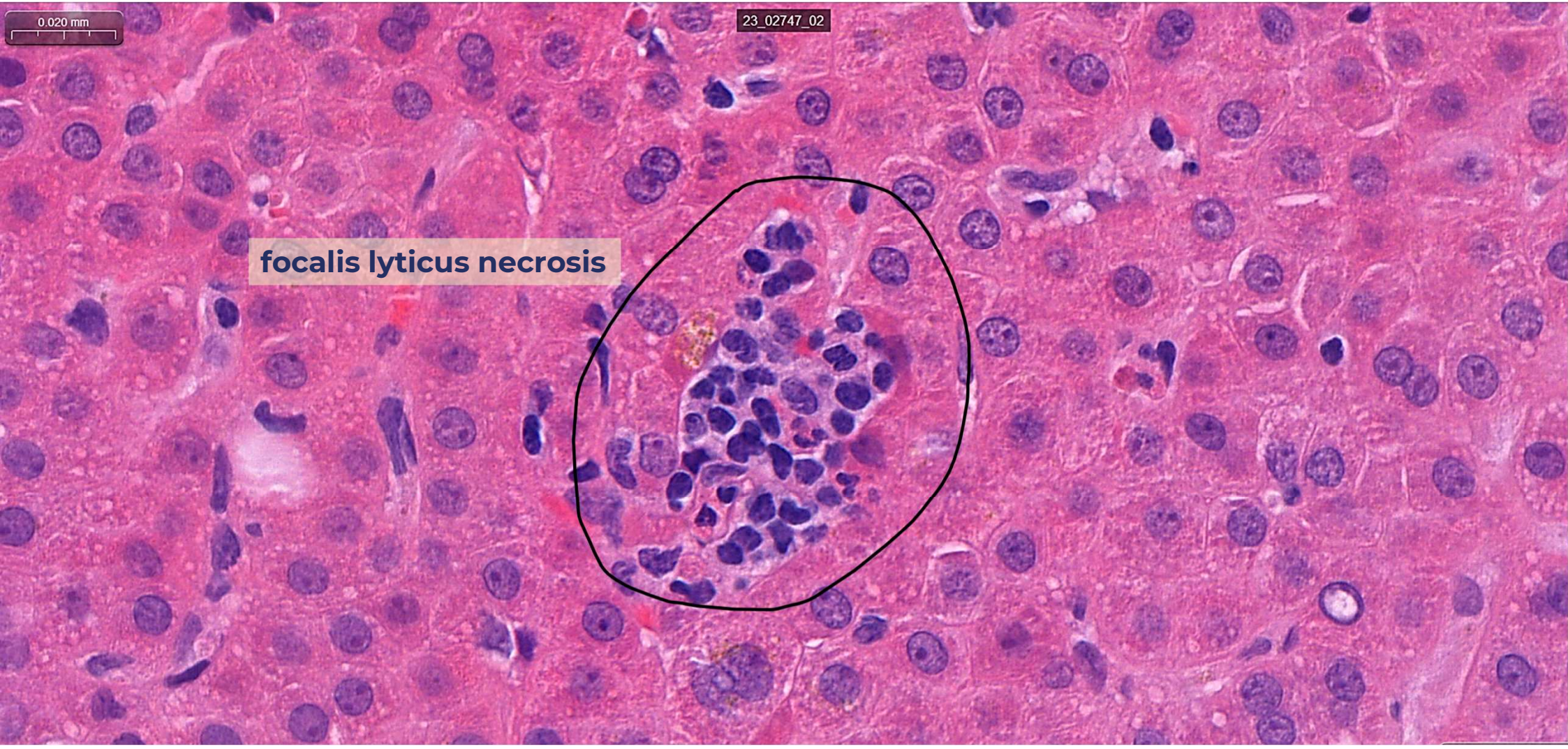

0.050 mm
19_20597_2
rozetták



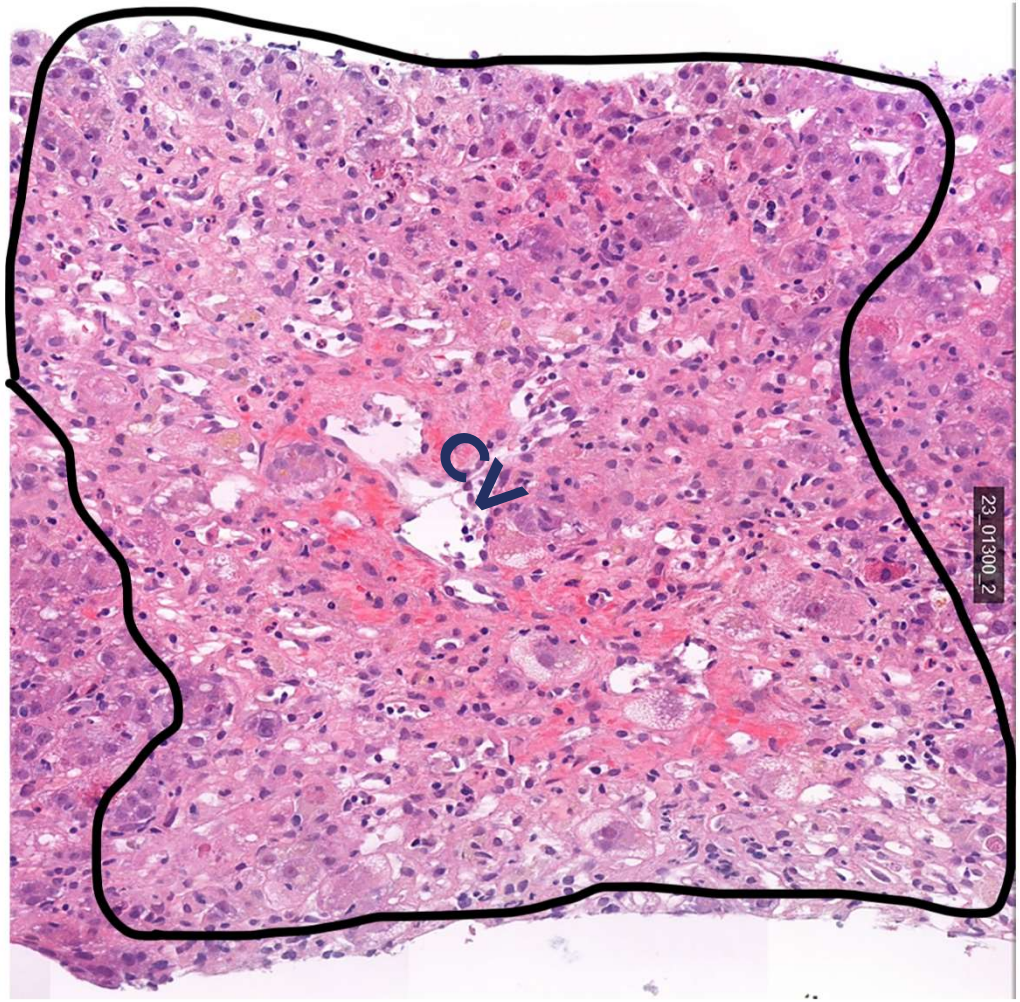
emperipolesis

Necrosisok formái

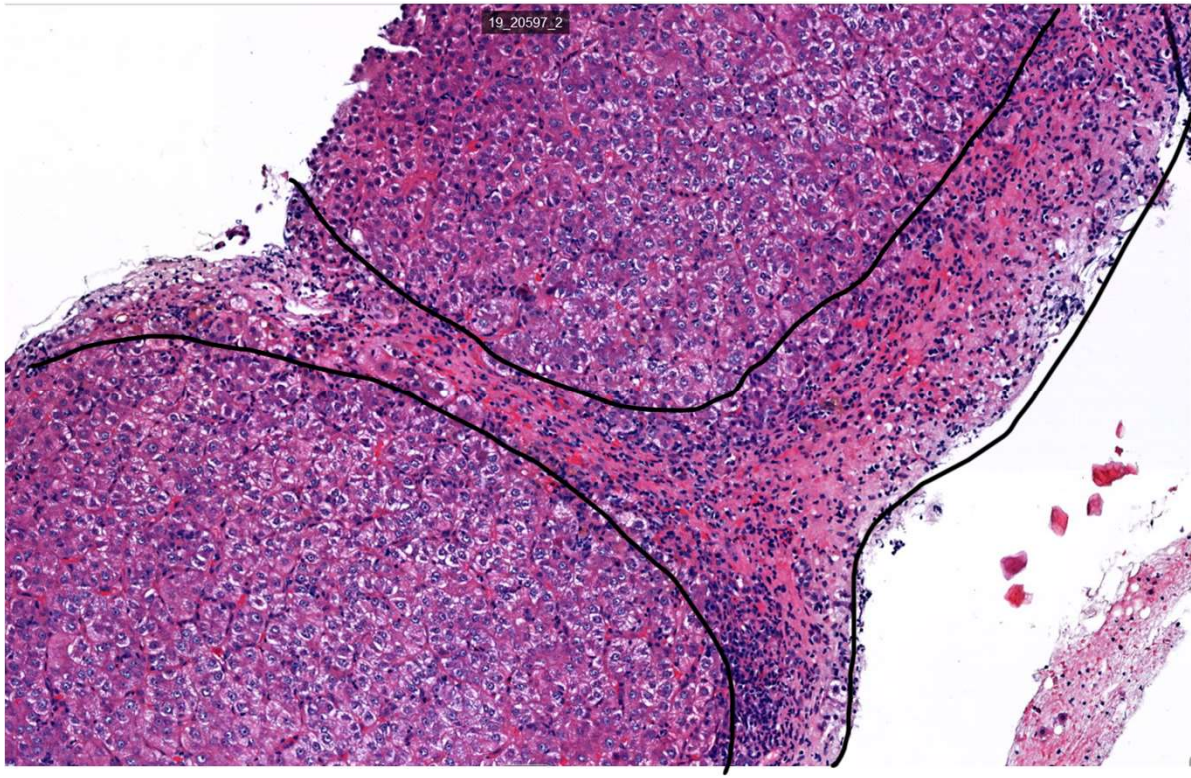

0.010 mm
23_23875
apoptosis


0.020 mm
23_02747_02
focalis lyticus necrosis

pericentrális (zóna 3) necrosis



bridging necrosis

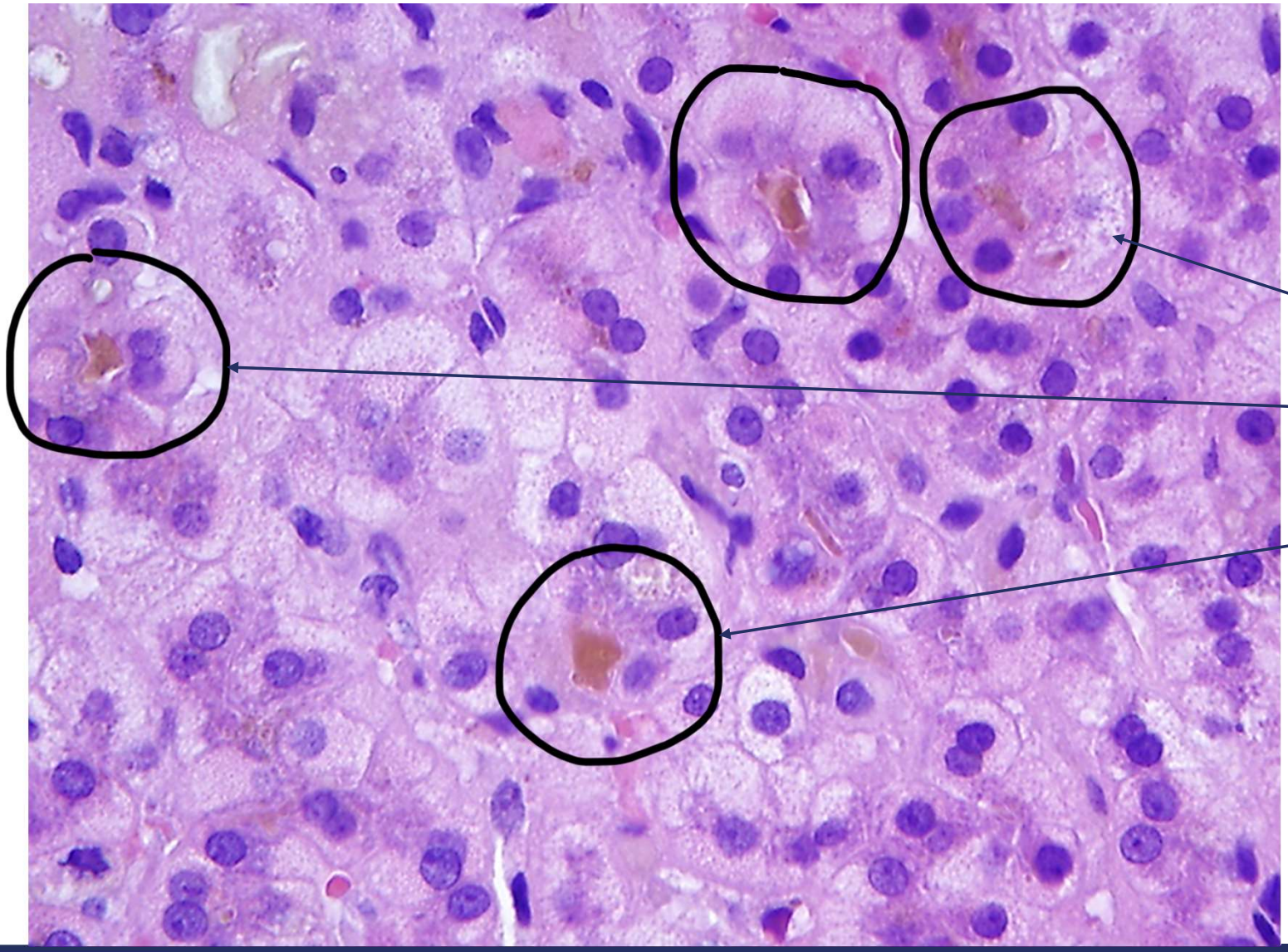


Konfluáló necrosisok

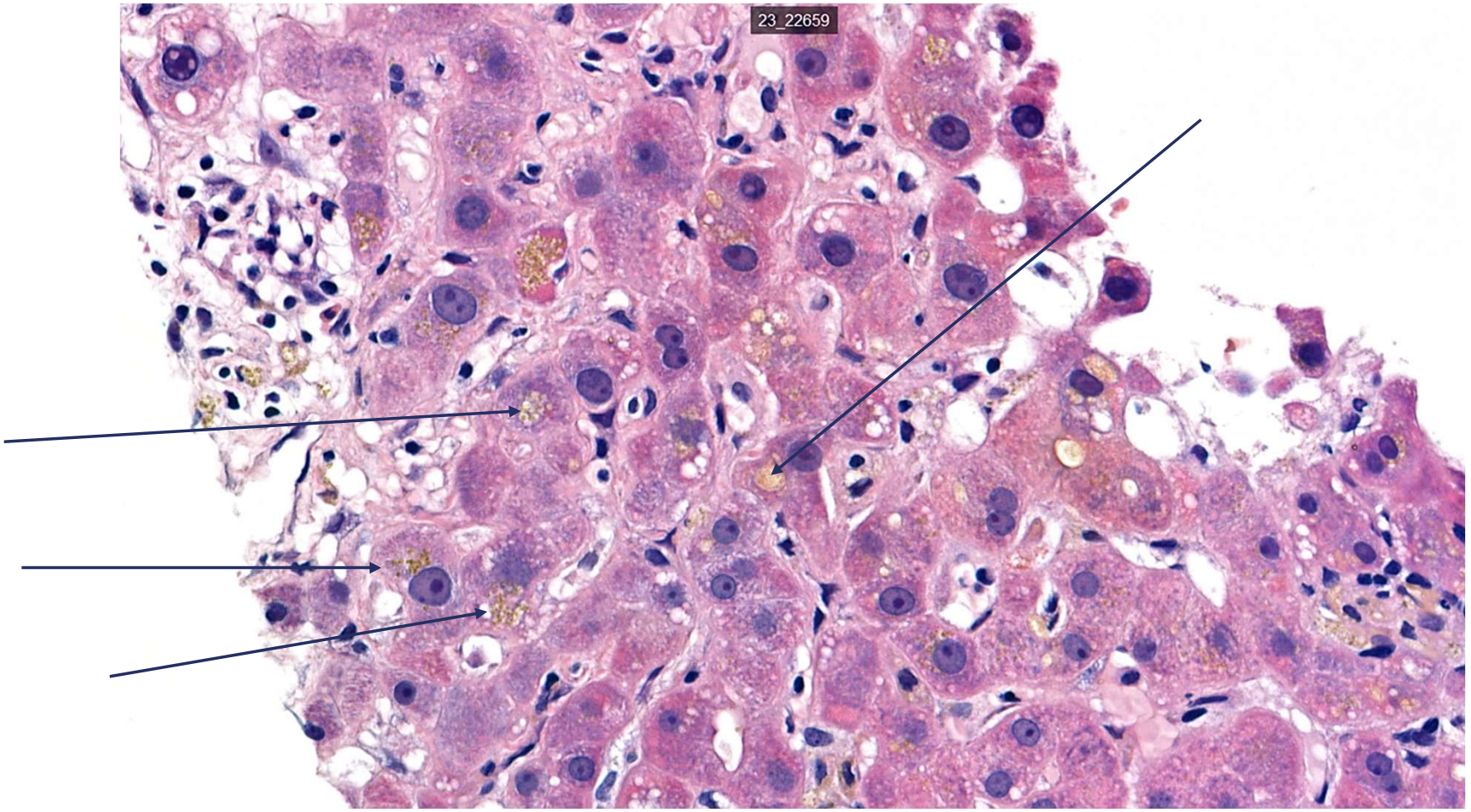
Cholestasis

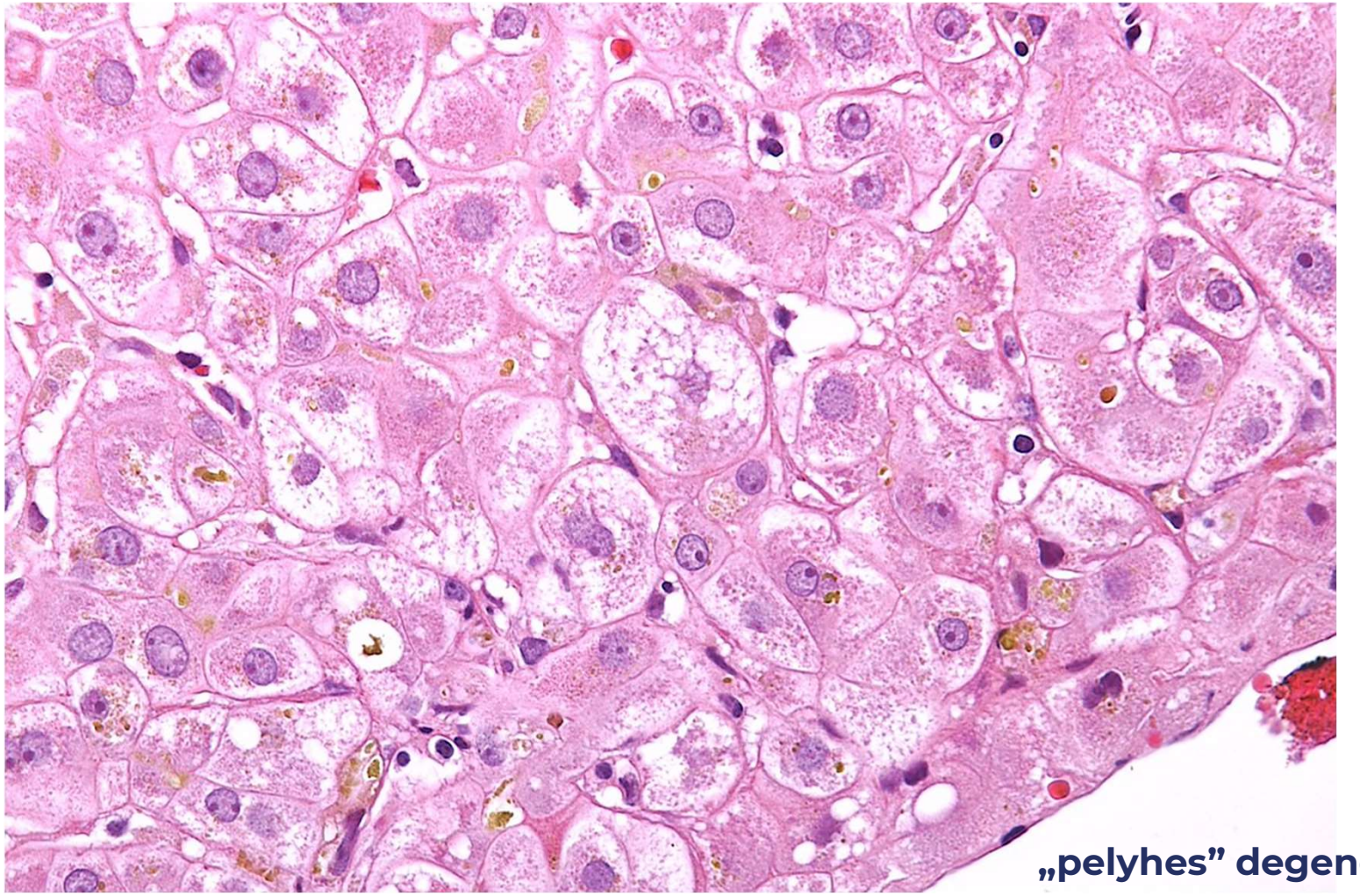
epe

Fouchet?



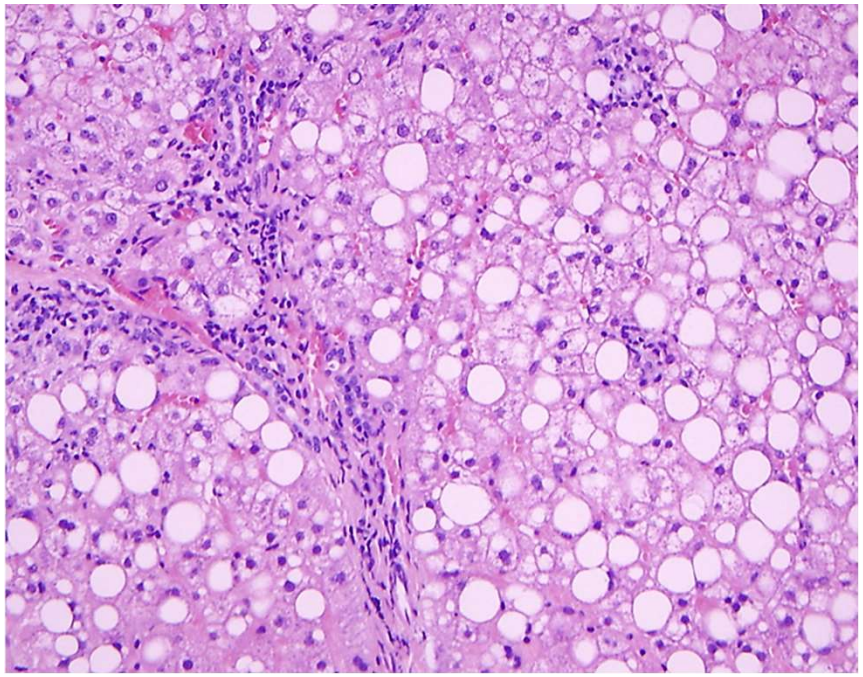
Intracellularis cholestasis

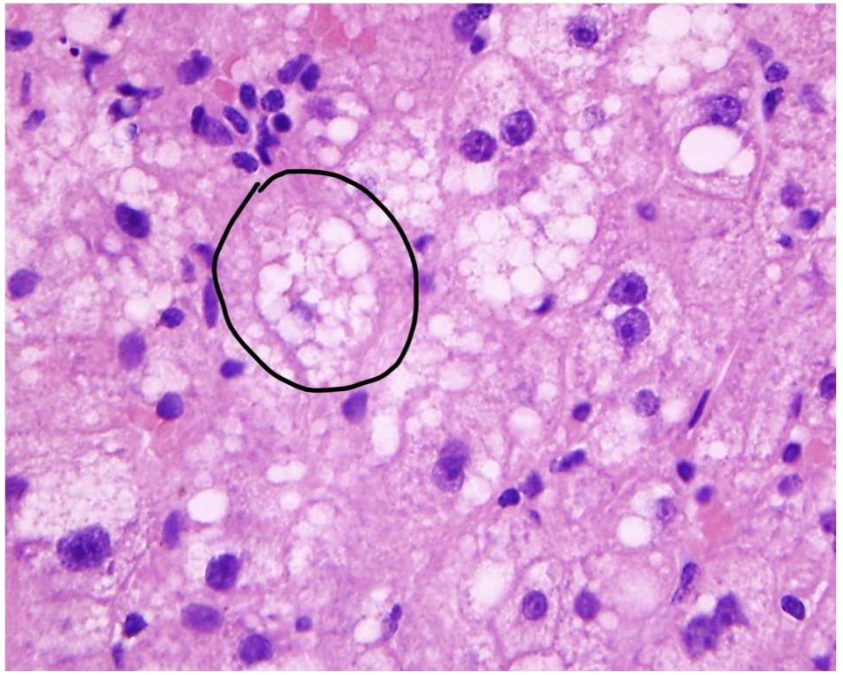


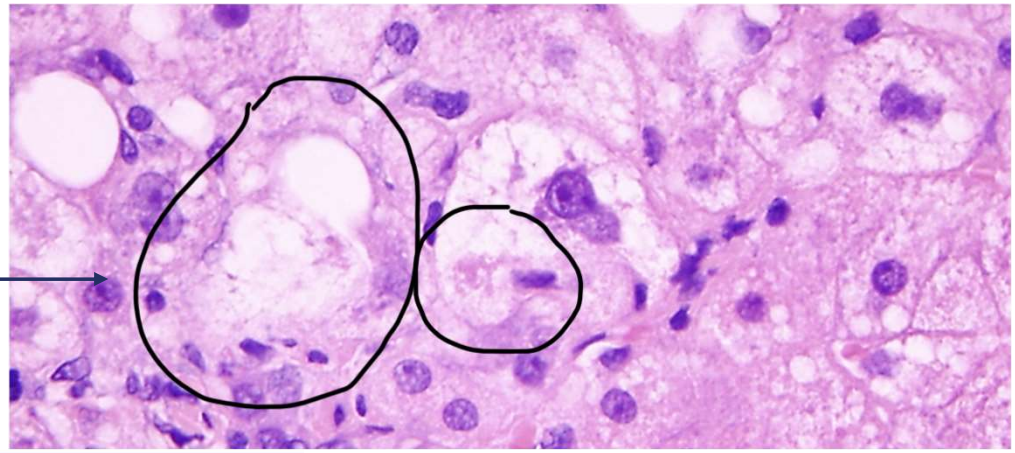


„pelyhes” degeneráció= cholate stasis

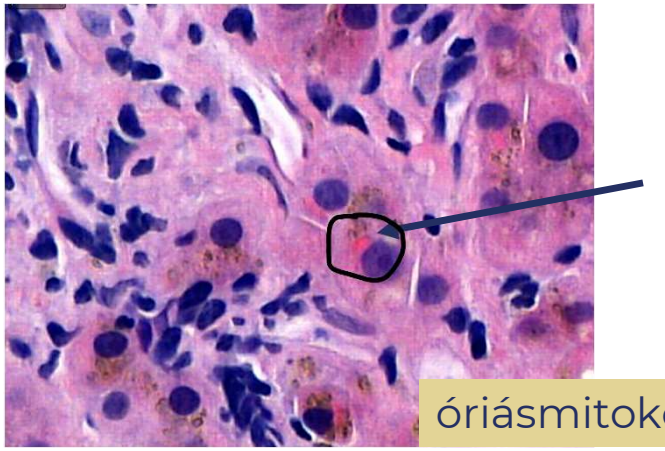
Steatosis hepatis





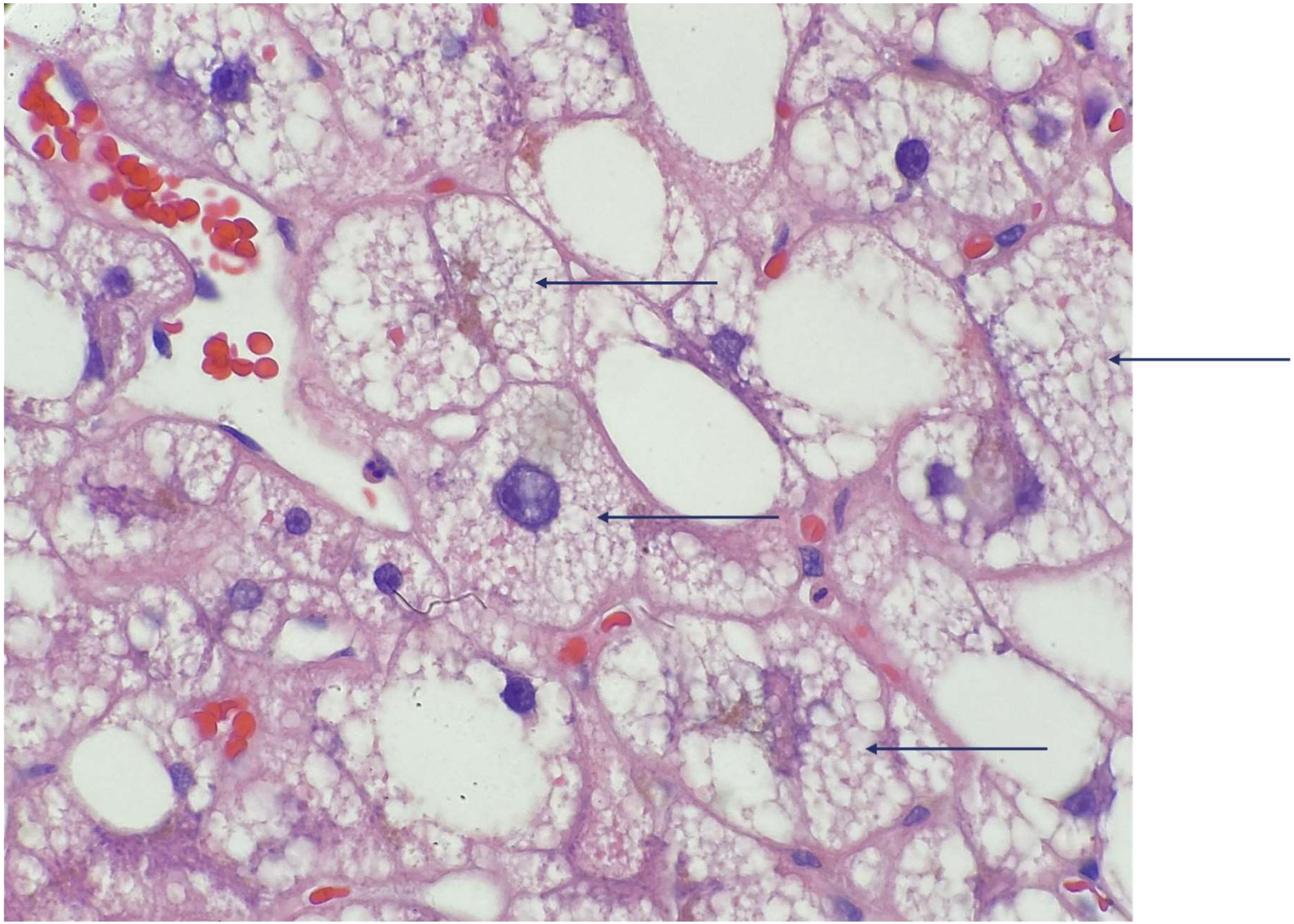


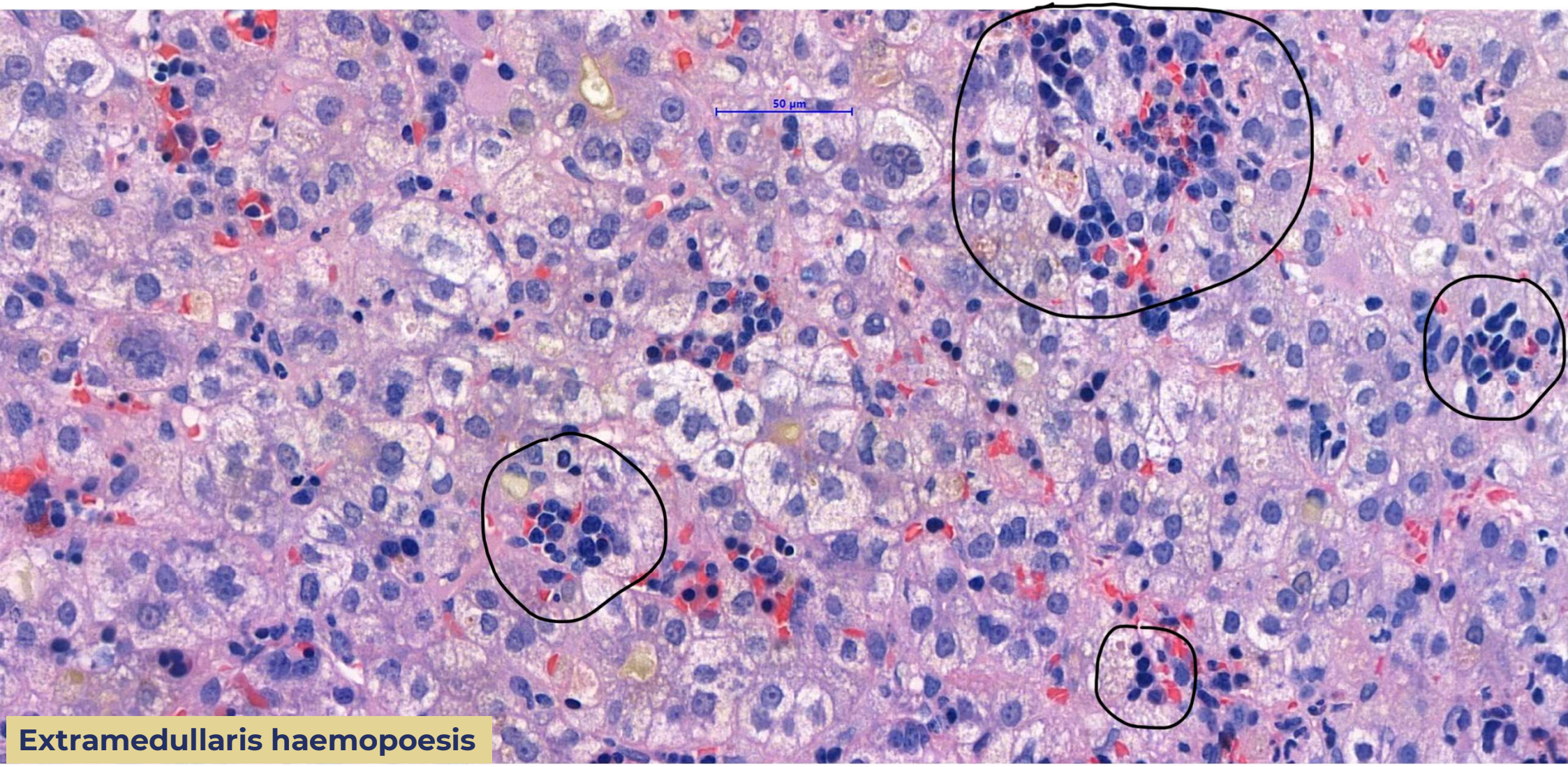
Balloon sejt
MD test



óriásmitokondrium

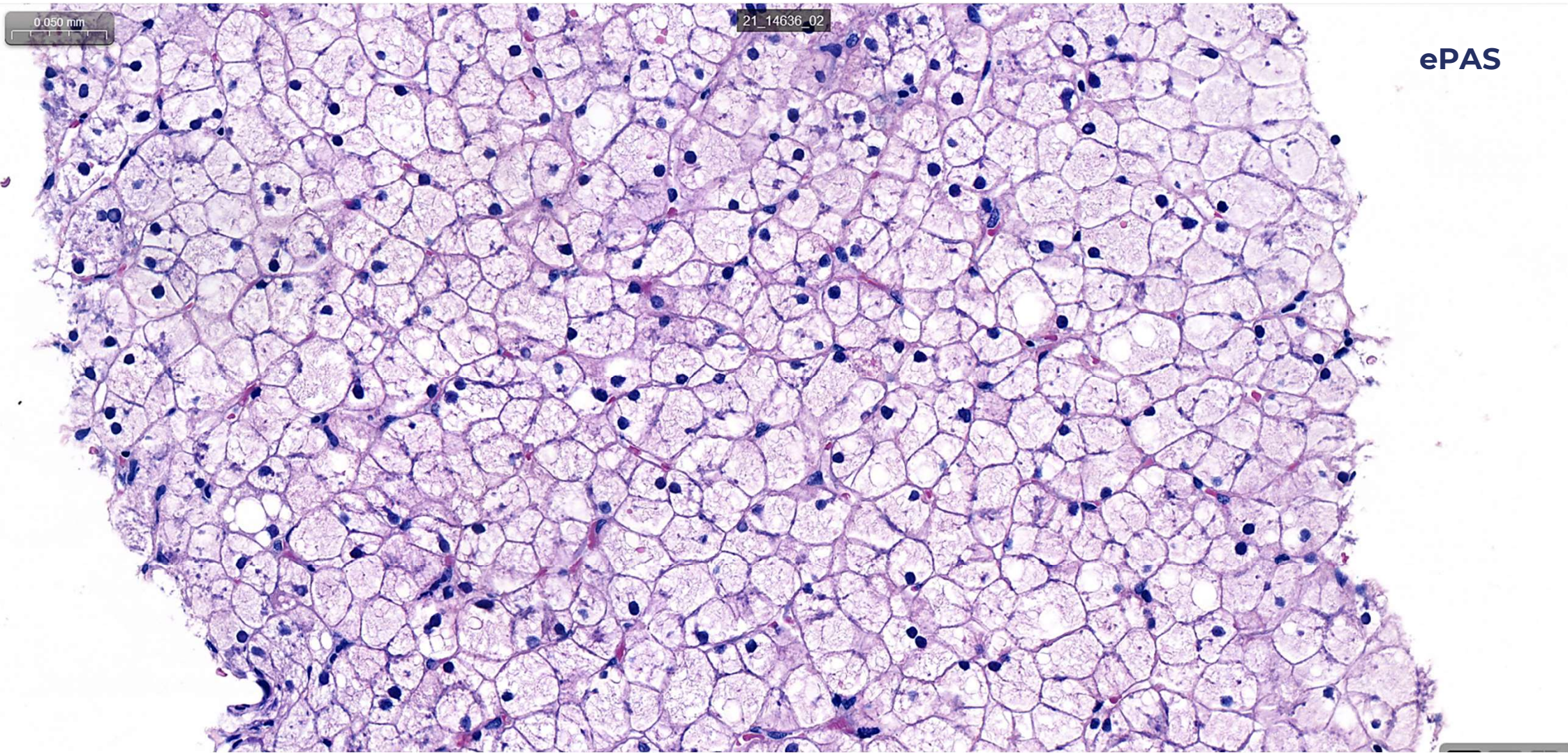
Microvesicularis steatosis



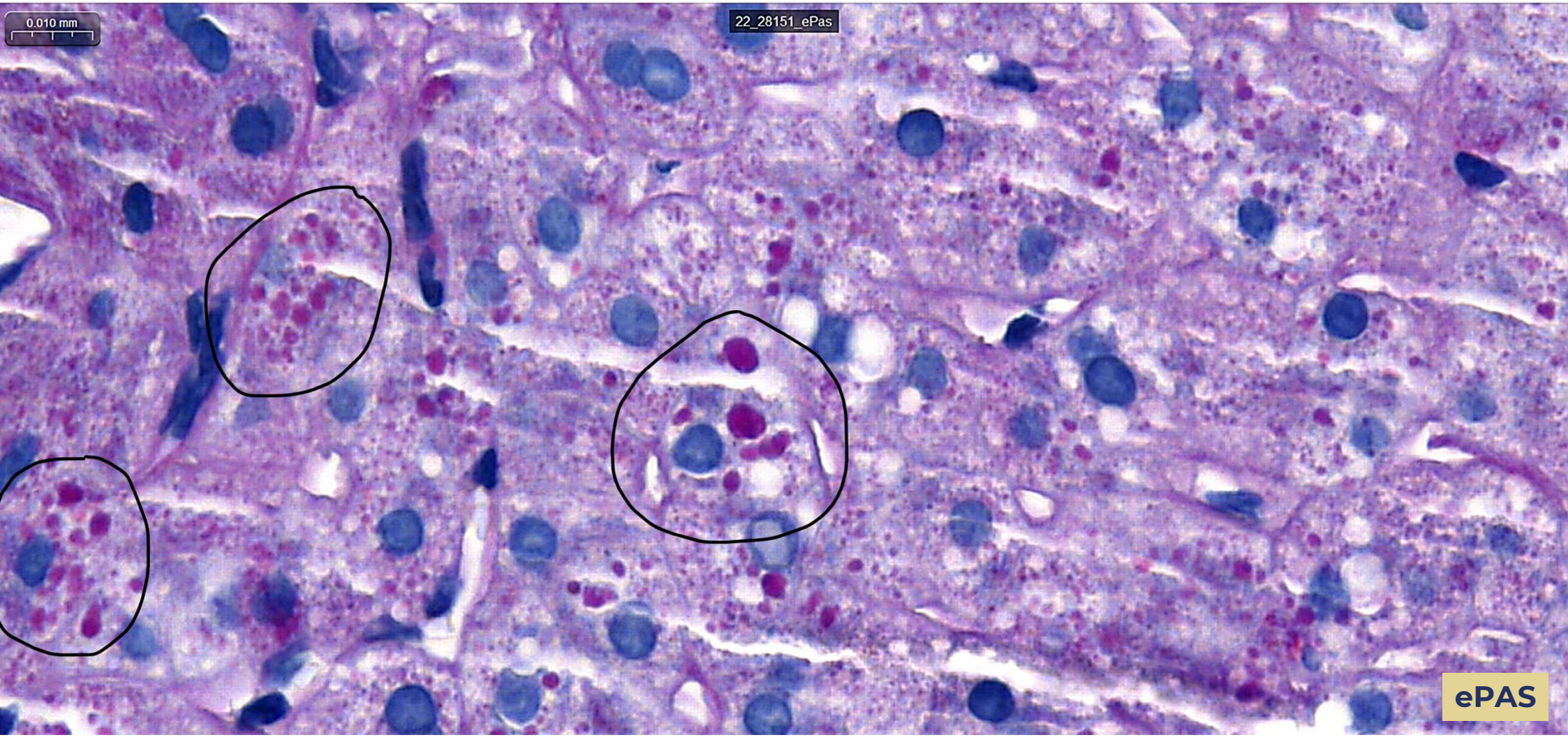


Extramedullaris haemopoesis

Glygogen: PAS
Nem-glycogen: ePAS

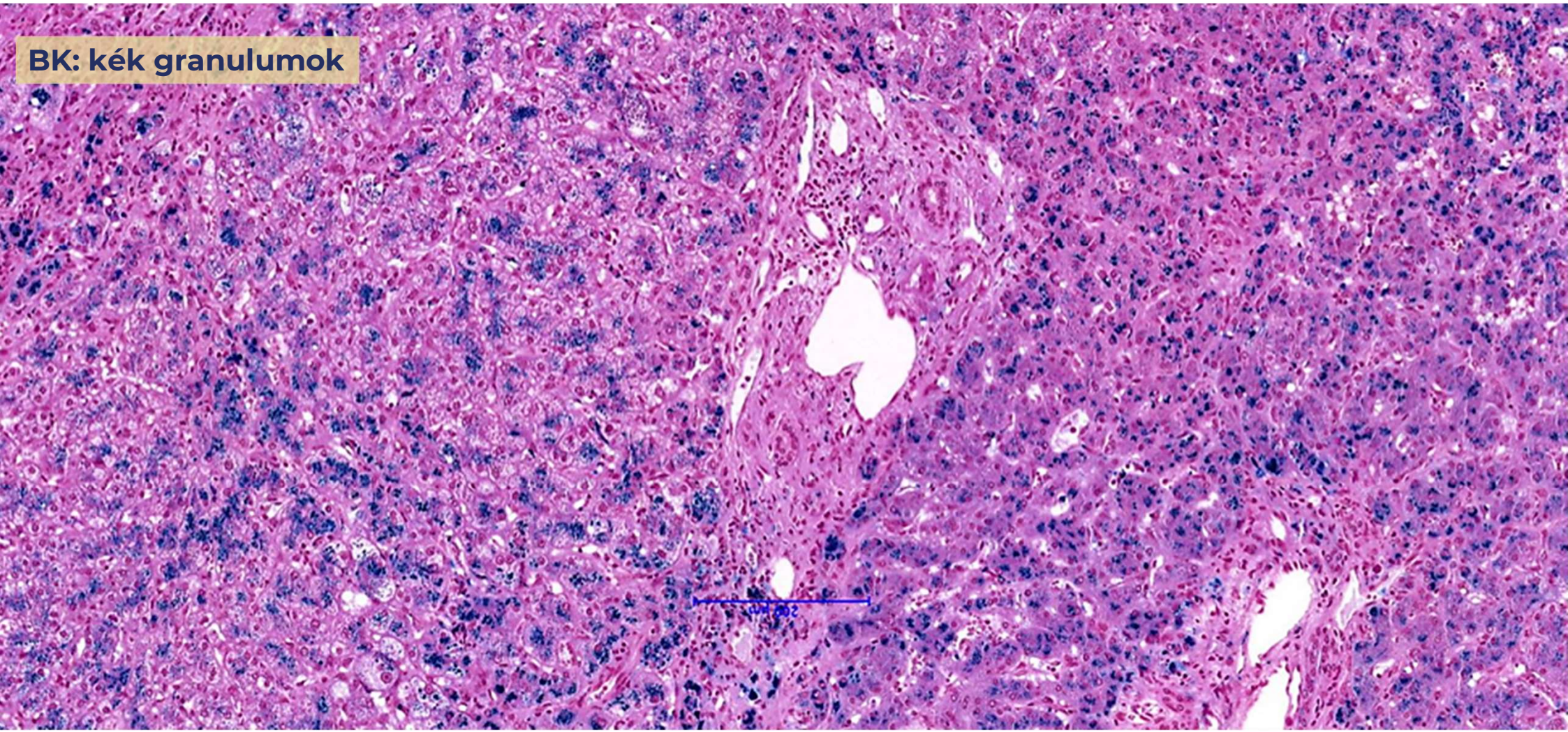


ePAS

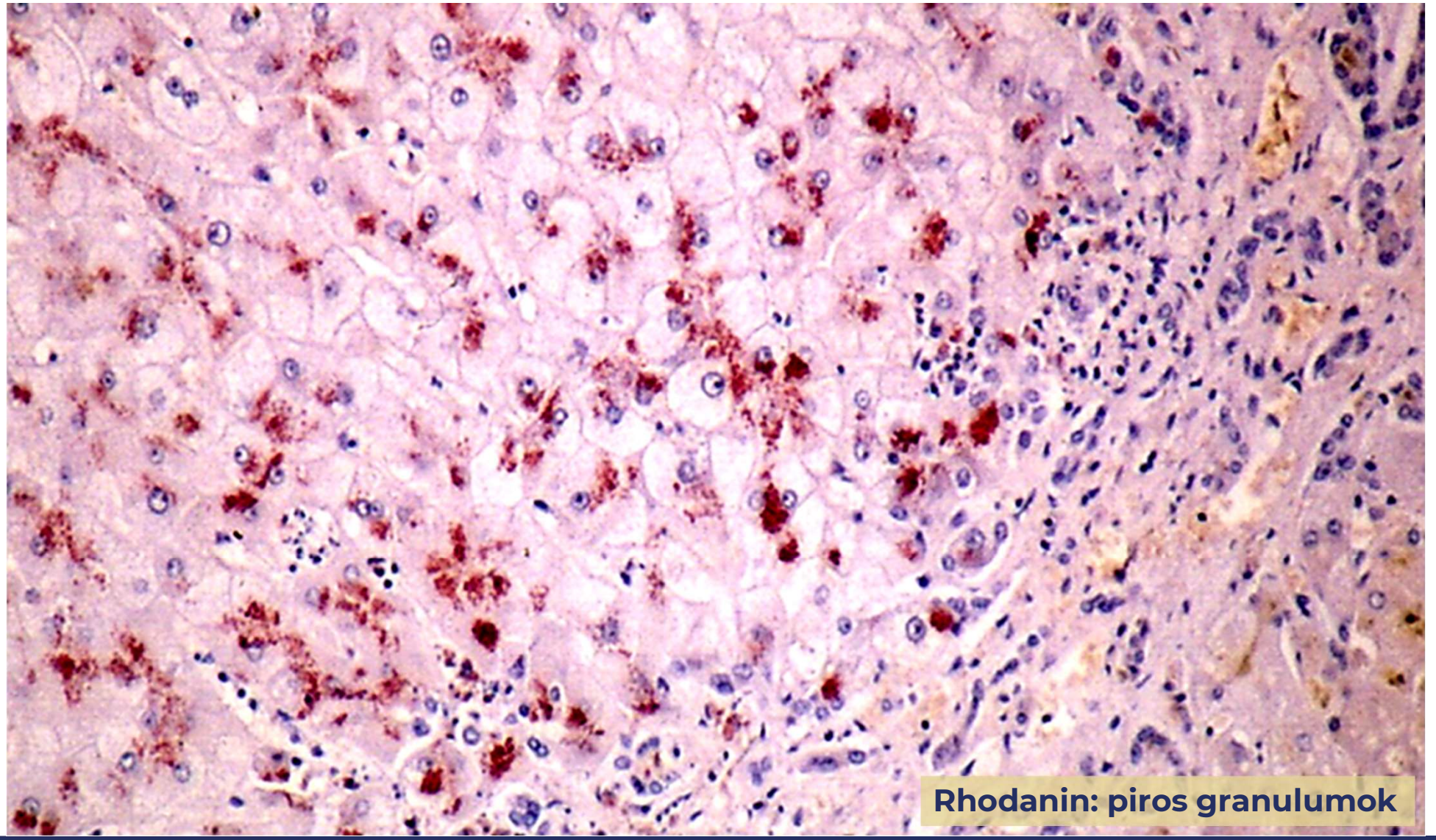

0.010 mm
22_28151_ePas
ePAS

Vas, haemosiderin, ferritin: Berlini-kék

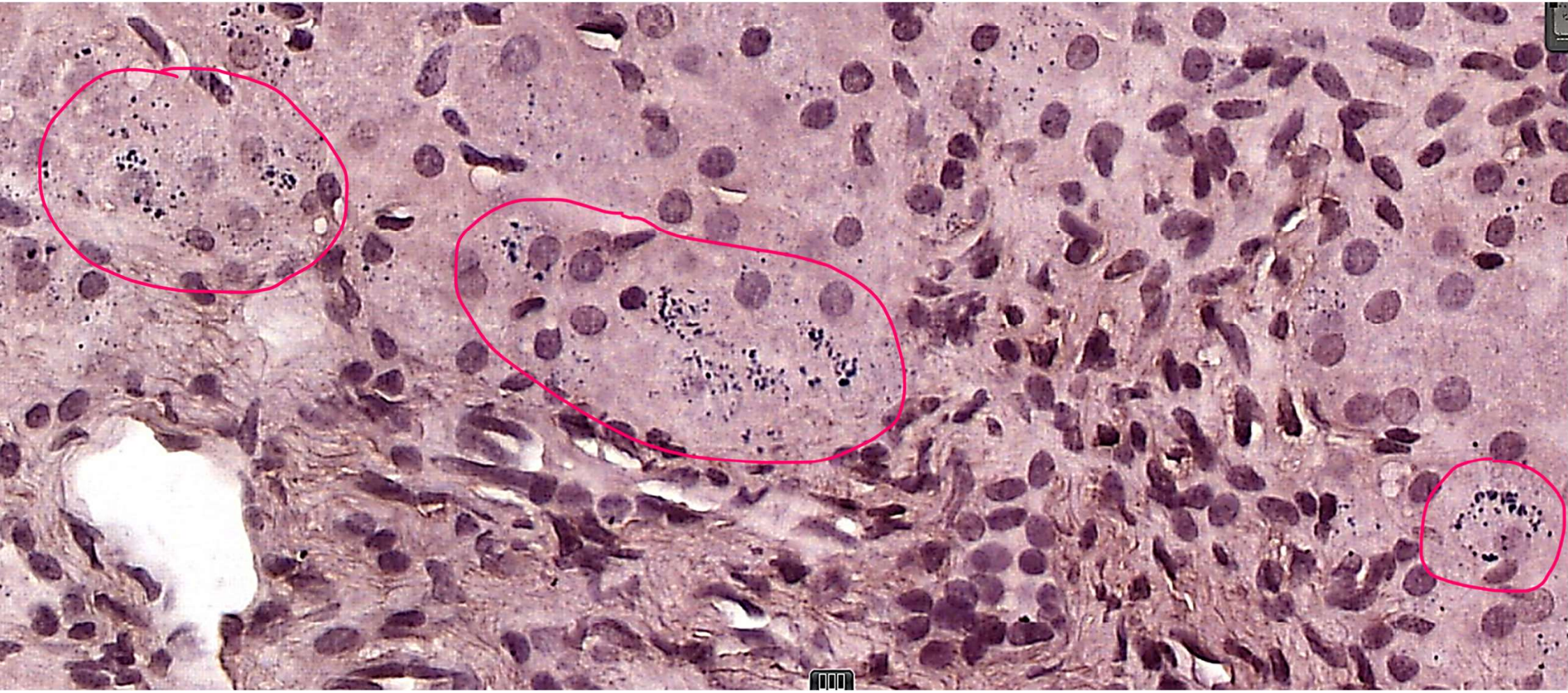
BK: kék granulumok



Réz: rhodanin, rubeánsavas festés
Réz-asszociált protein: Shikata-féle orcein

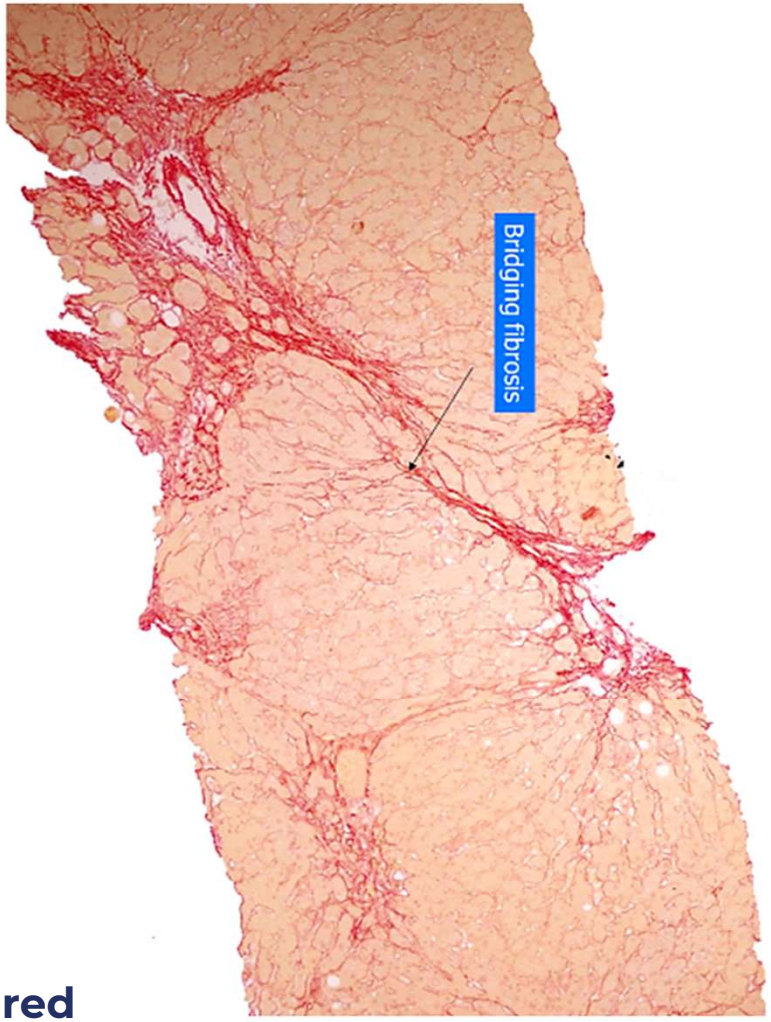


Rhodanin: piros granulumok

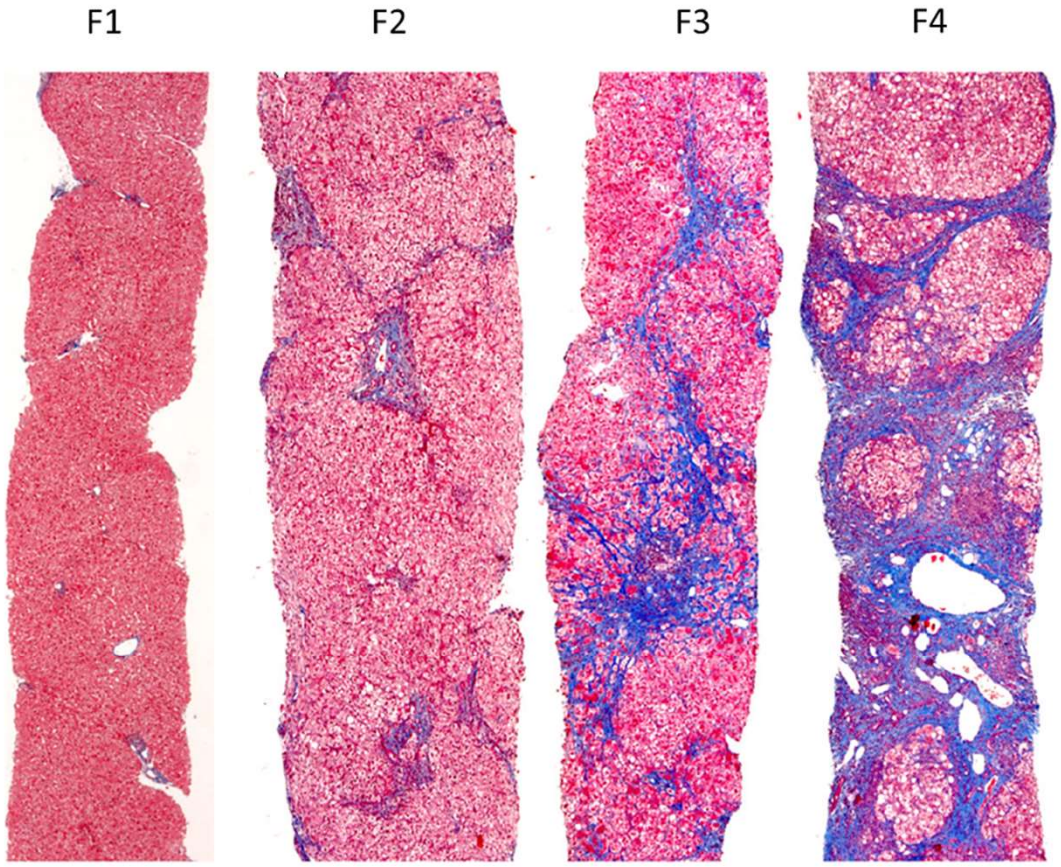


Shikata-féle orcein: feketés granulumok

Kötőszöveti rostfestés: Sirius red, trichrom, Azan

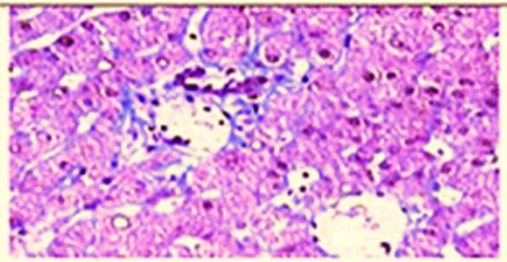
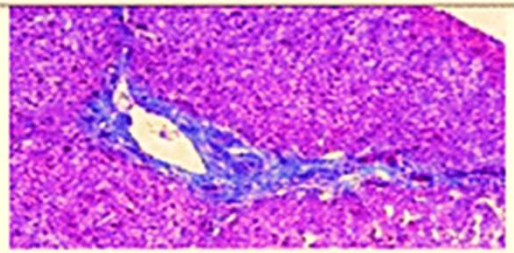
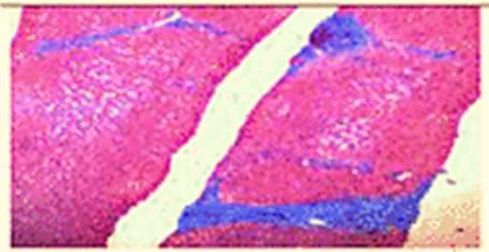
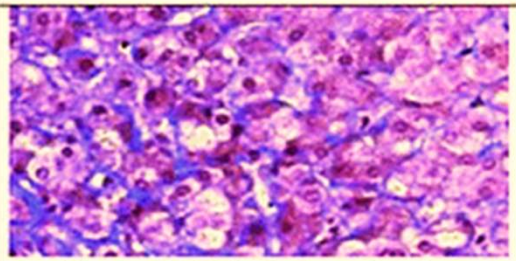
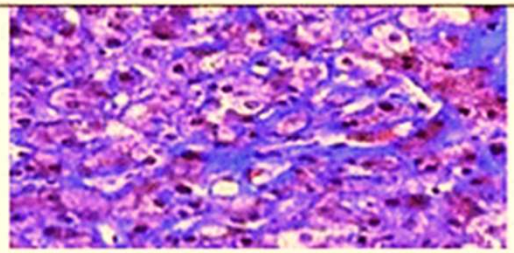
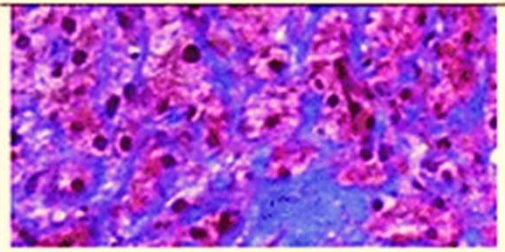
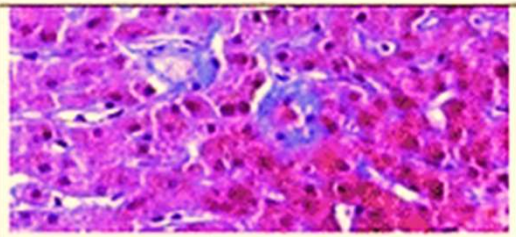
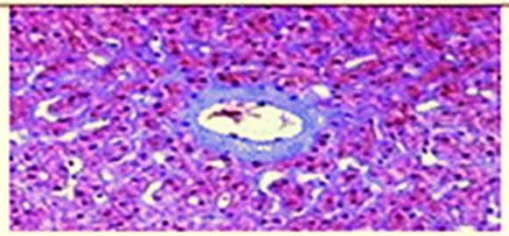
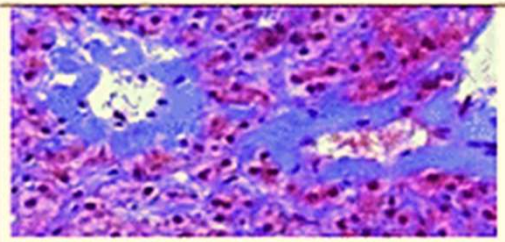


Sirius red

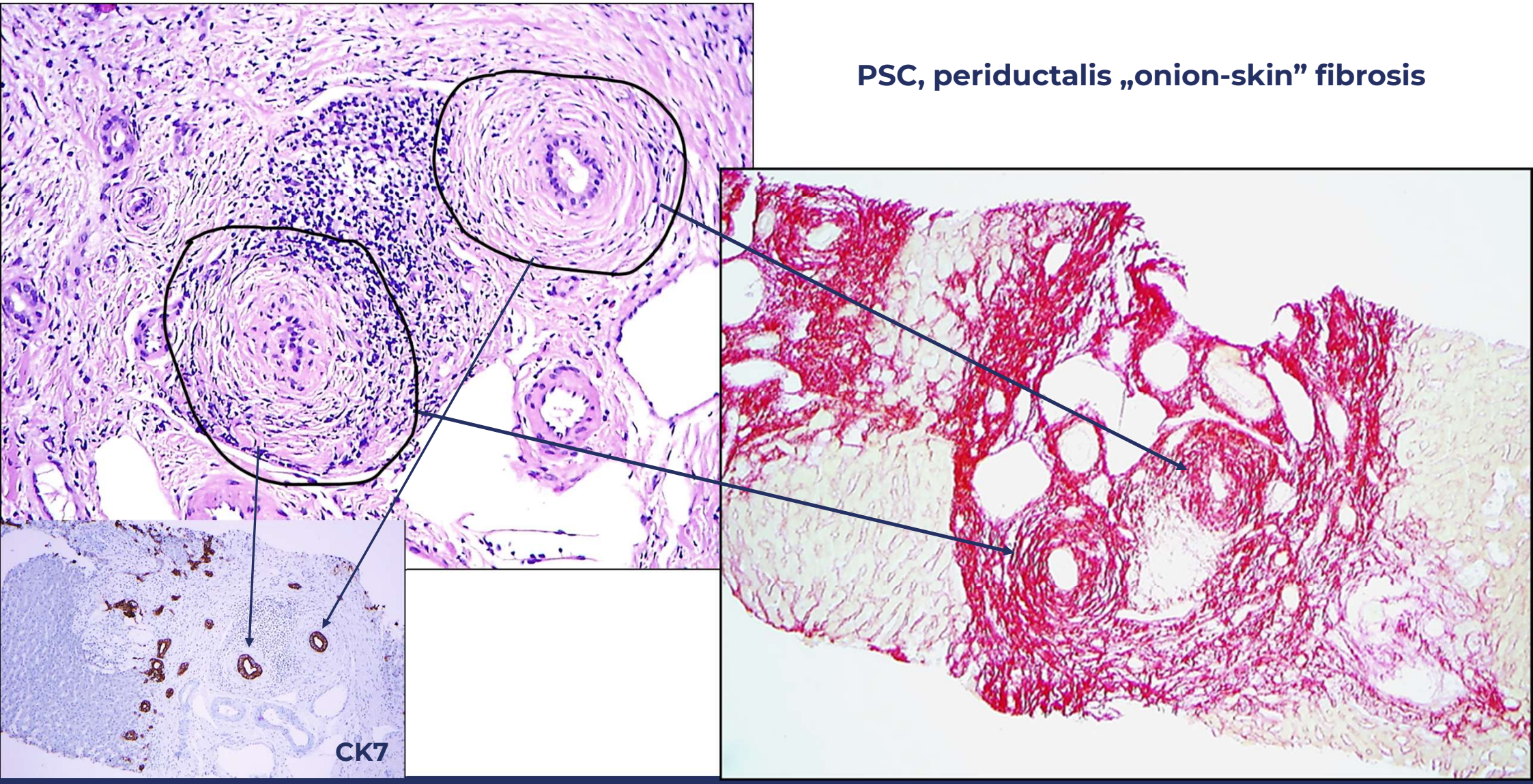


METAVIR score

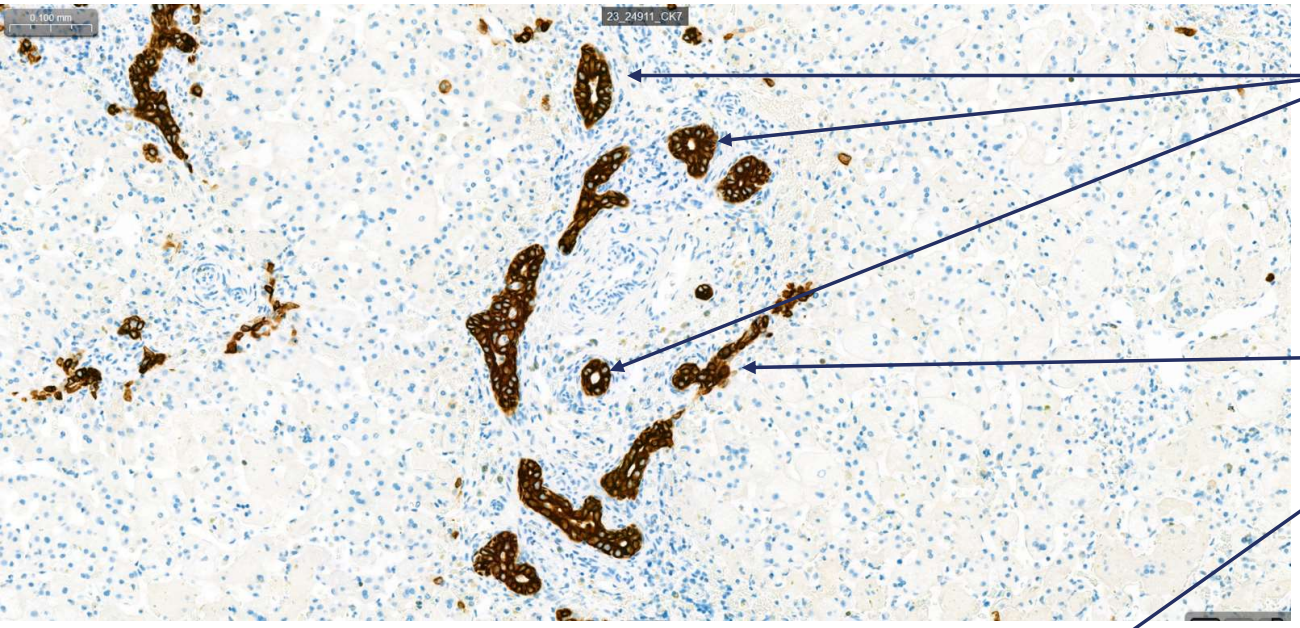
LAF score

Structure	0	I	II	III
Portal Tract	No Fibrosis	 Non-expanding fibrosis in less than 50% of portal tracts.	 Fibrosis in more than 50% of portal tracts and/or expansion into short fibrous septa into periportal parenchyma.	 Marked expansion of most or all portal tracts with bridging fibrosis expanding to other portal tracts or central areas with or without occasional nodules.
Sinusoids (zones 1, 2)	No Fibrosis	 Little fibrosis with thin focal collagen deposits involving less than 50% of sinusoids.	 Little fibrosis with thin diffuse collagen deposits involving more than 50% of sinusoids, or thicker but focal fibrosis in less than 50% of sinusoids.	 Thick, marked, diffuse sinusoidal fibrosis.
Centrolobular Vein (zone 3)	No Fibrosis	 Circular perivenular fibrosis involving less than 50% of central veins without invasion into the perivenular parenchyma.	 Circular perivenular fibrosis in more than 50% of central areas and/or expansion into short fibrous septa into perivenular parenchyma.	 Marked centrolobular fibrosis with bridging to other central areas and/or portal tracts.

PSC, periductalis „onion-skin” fibrosis



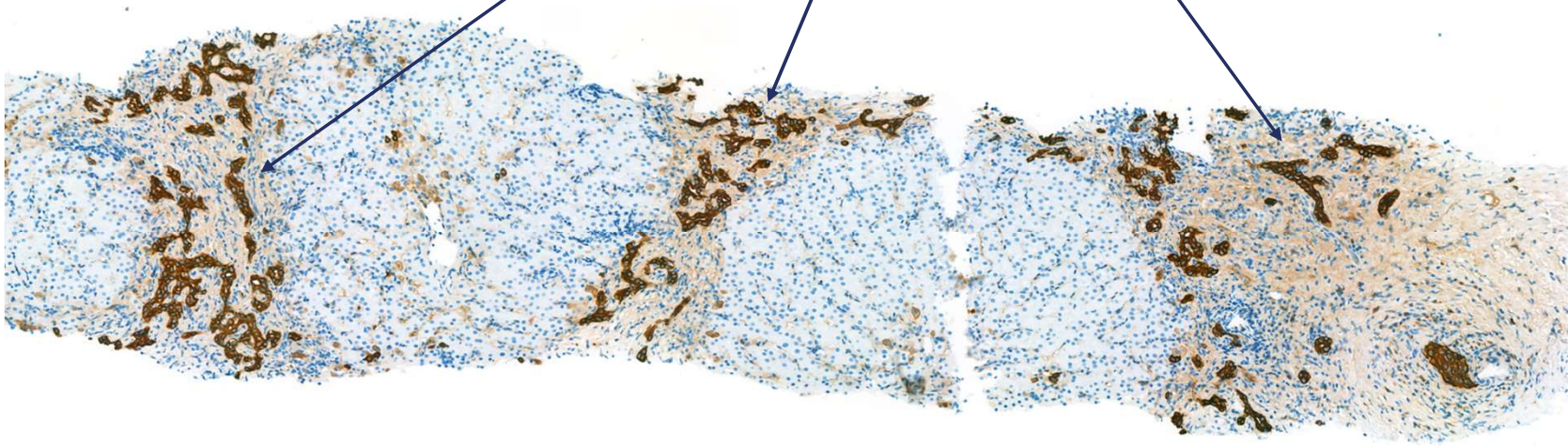
Epeutak: CK7, CK19

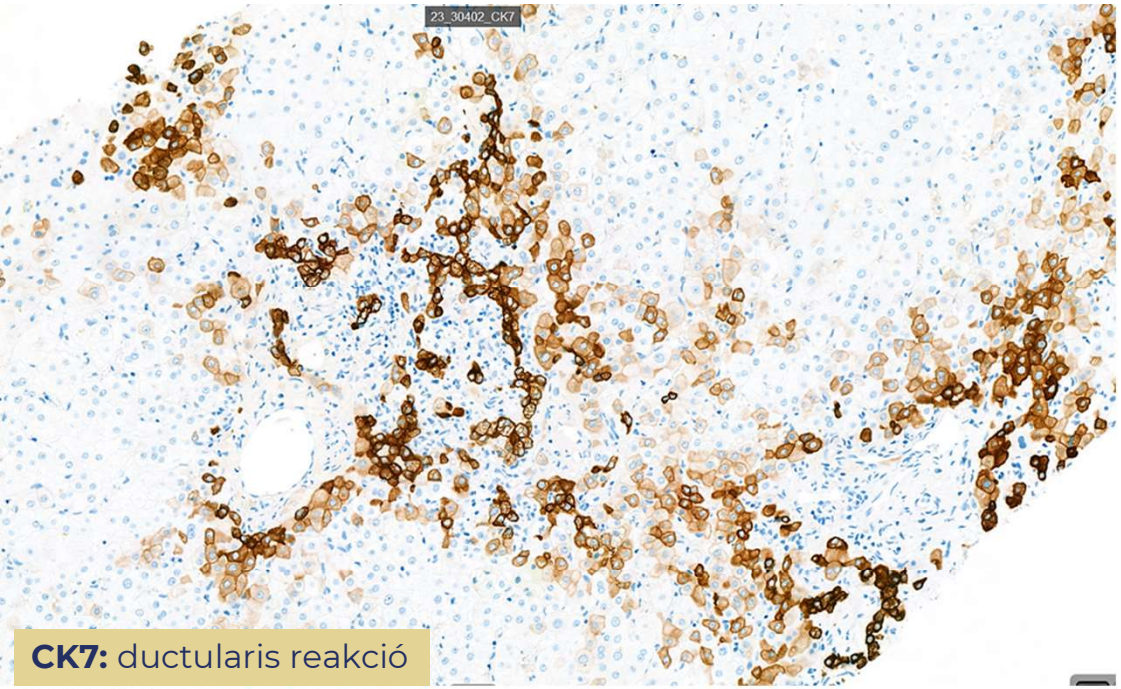


epeút

CK7

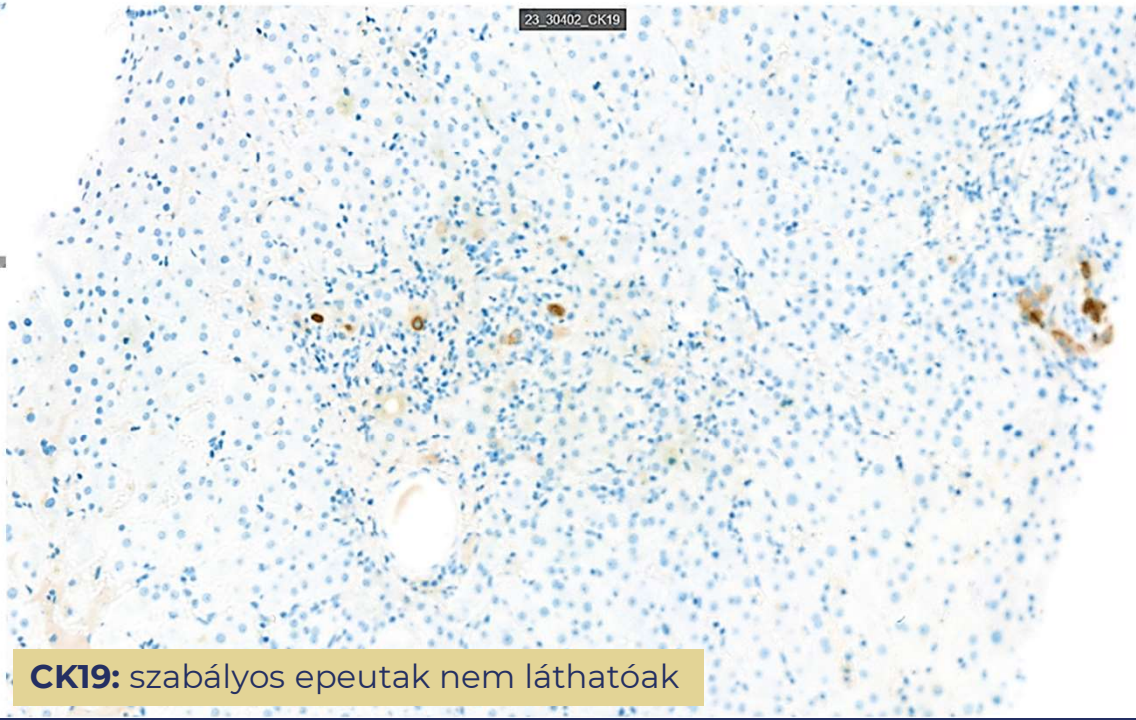
ductularis reakció





CK7: ductularis reakció

Krónikus rejectióban a CK19 hasznosabb

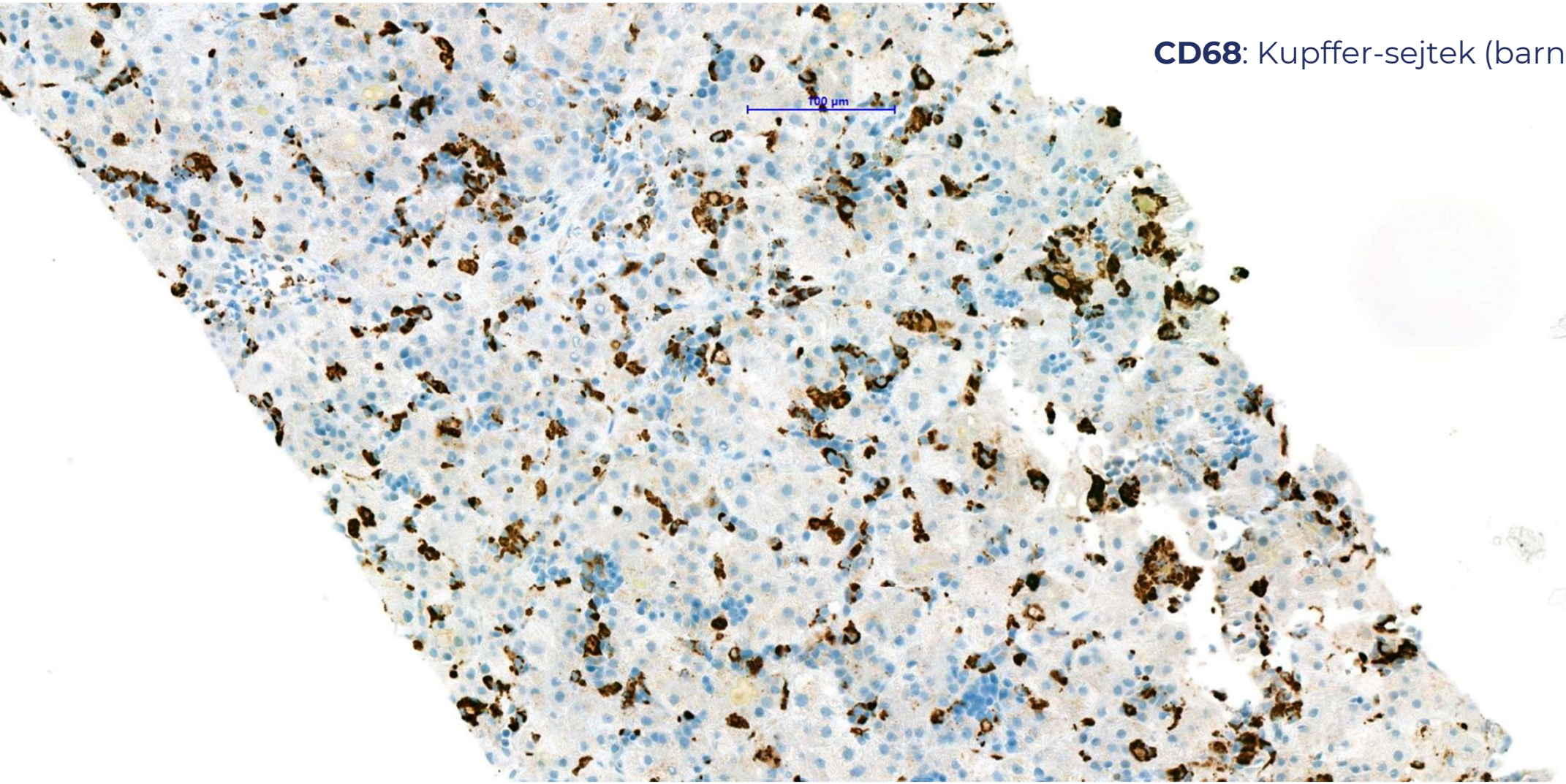


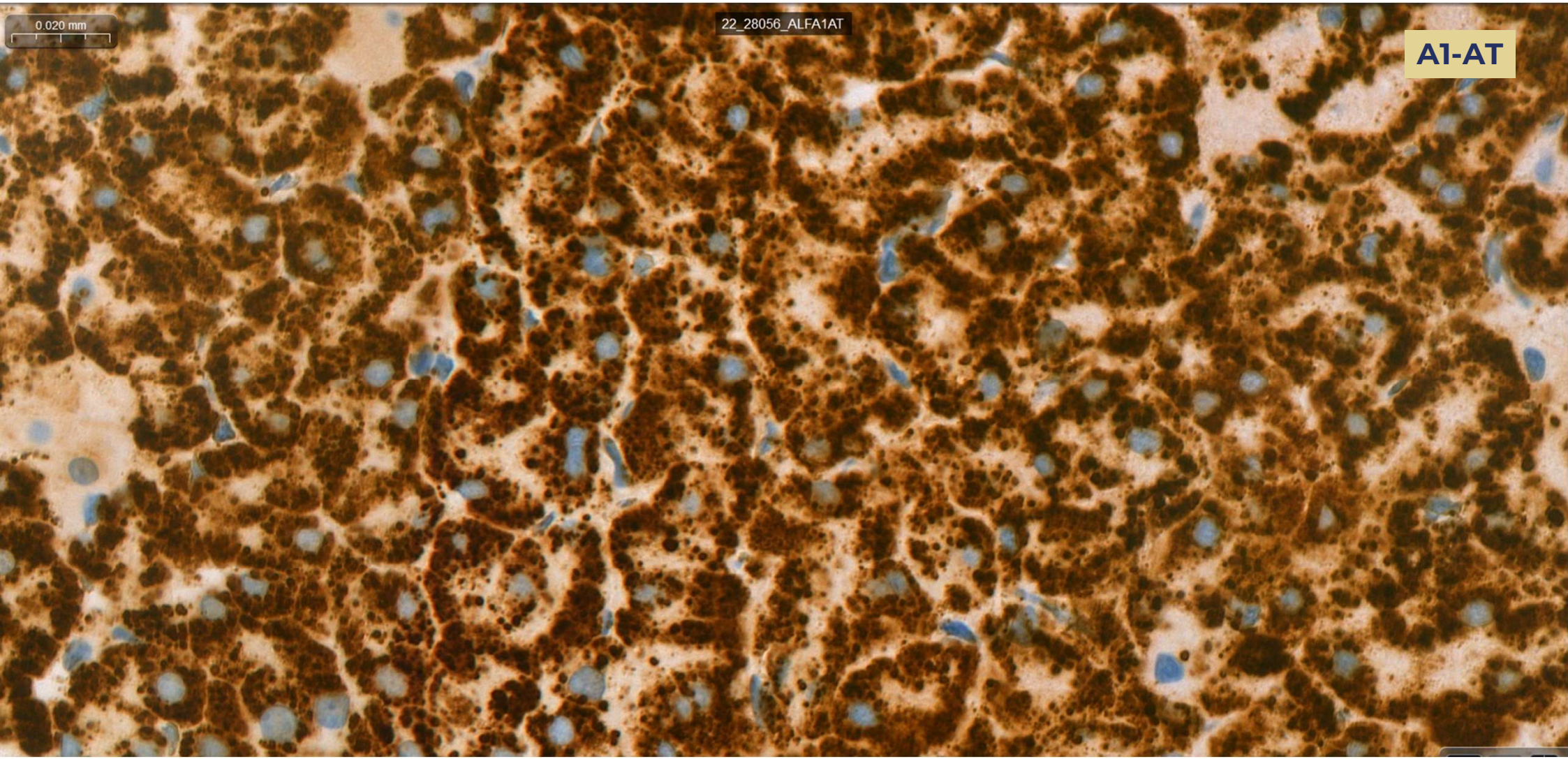
CK19: szabályos epeutak nem láthatóak

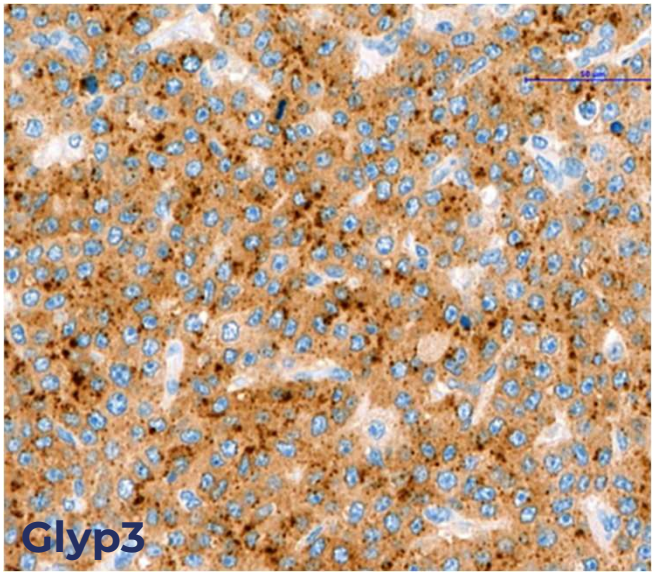
Immunhisztokémiai reakciók

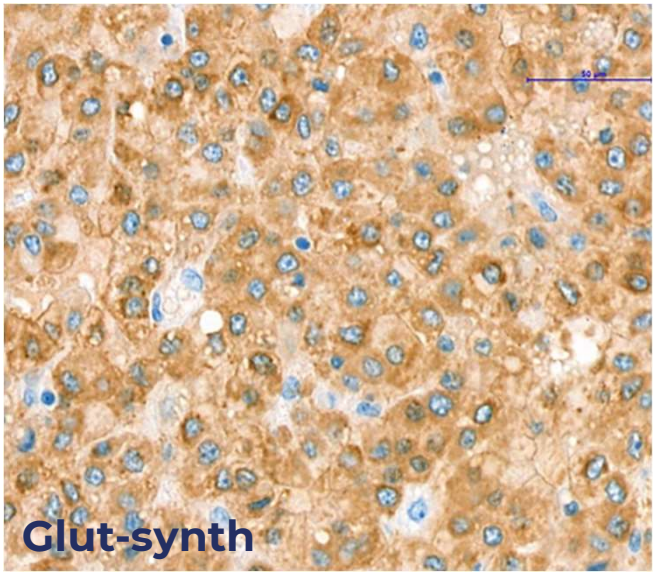
- **CD10**: epecanaliculusok
- **CD68**: Kupffer-sejtek, portális macrophagok
- **CD34**: szabályosan a periportális sinususoidok csak
- Hepatocyta eredet: **ARG-1, HSA**
- Malignitási markerek: **Glypican-3, beta-catenin, HSP70, AFP** (felnőttben)
- Proliferációs markerek: **Ki-67, EZH2**
- Egyéb specifikus immunok: **Gluthamine-synthatase, A1-AT**

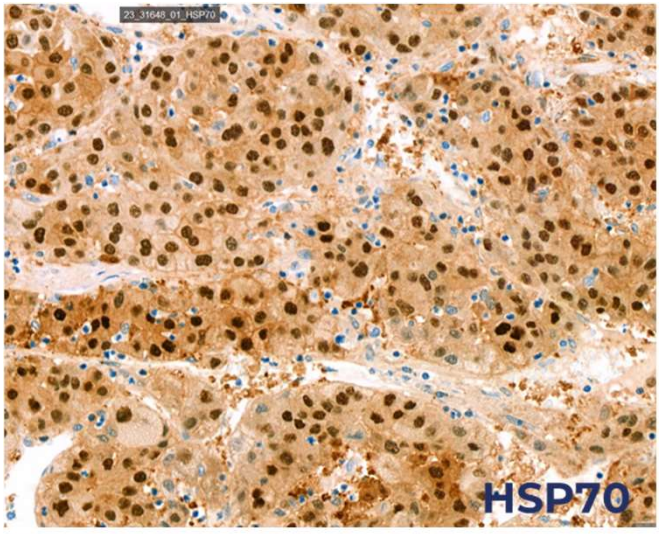
CD68: Kupffer-sejtek (barna)

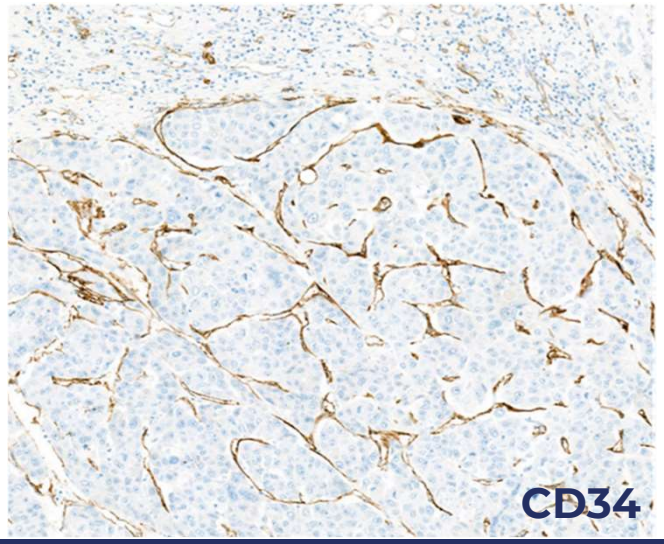



0.020 mm
22_28056_ALFA1AT
A1-AT

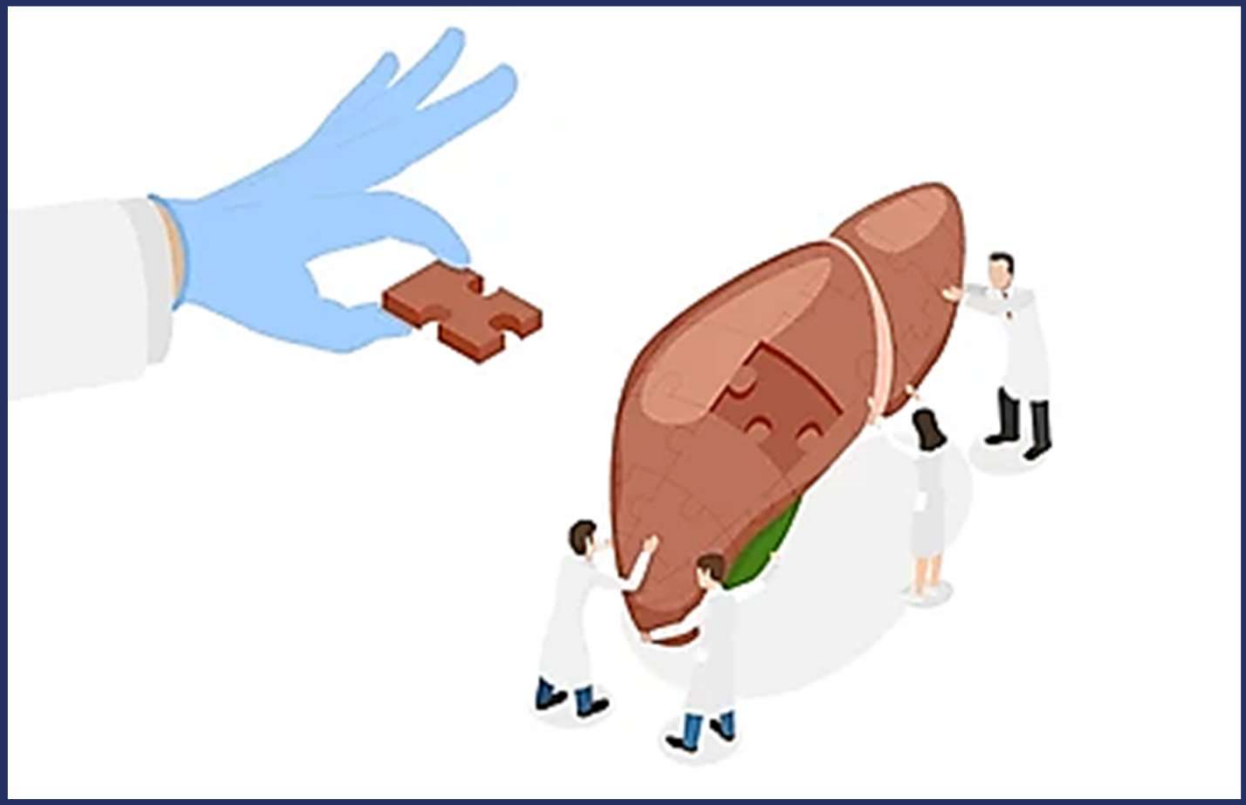

Glyp3


Glut-synth


23_31648_01_HSP70
HSP70


CD34

Köszönöm a figyelmet!



SEMMELWEIS
EGYETEM 1769