

Pathologiai diagnosztika



A patológia területei

- Boncolás
- Szövettan
- Cytológia
- Molekuláris diagnosztika

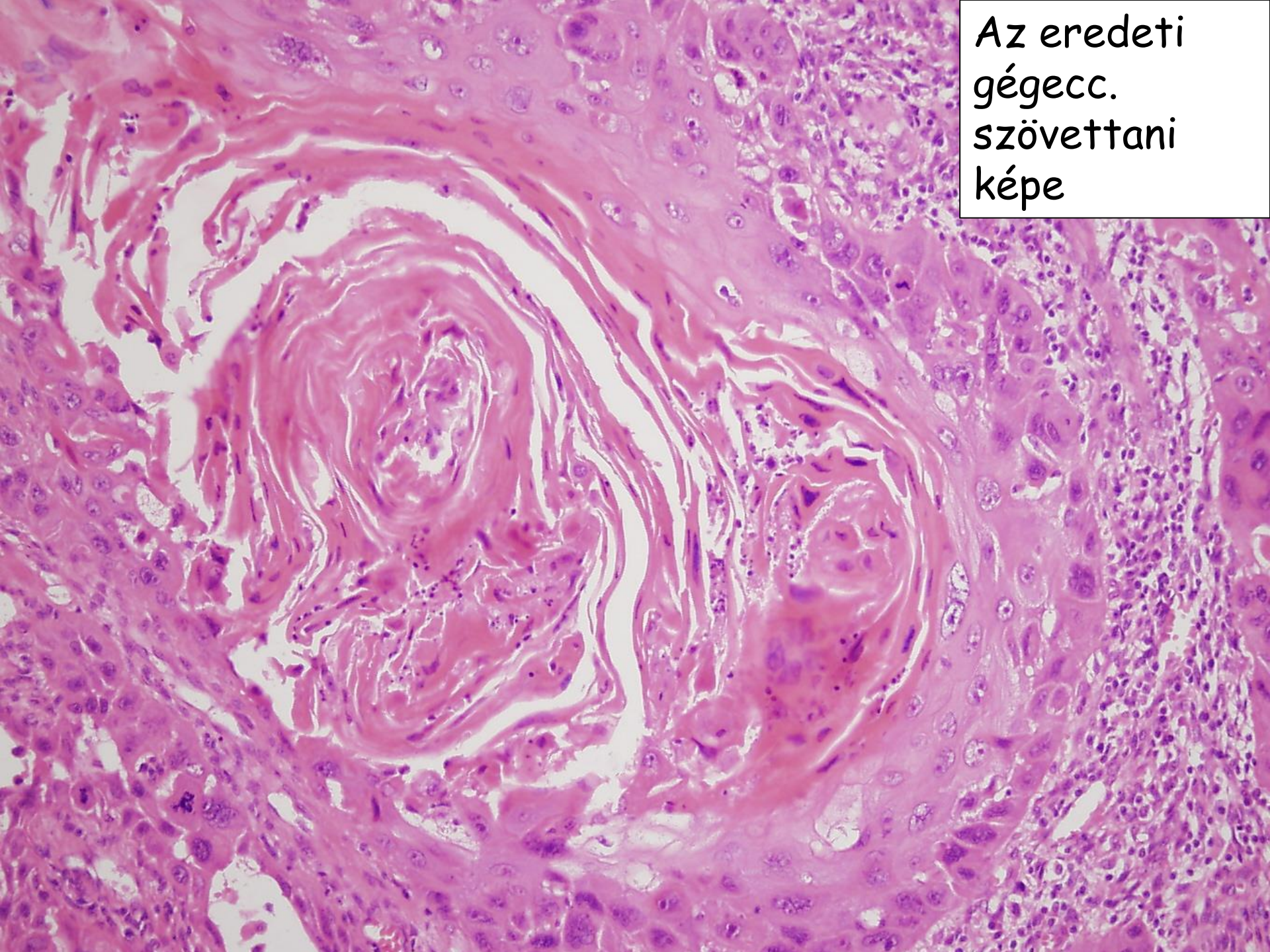
A patológia területei

- Boncolás

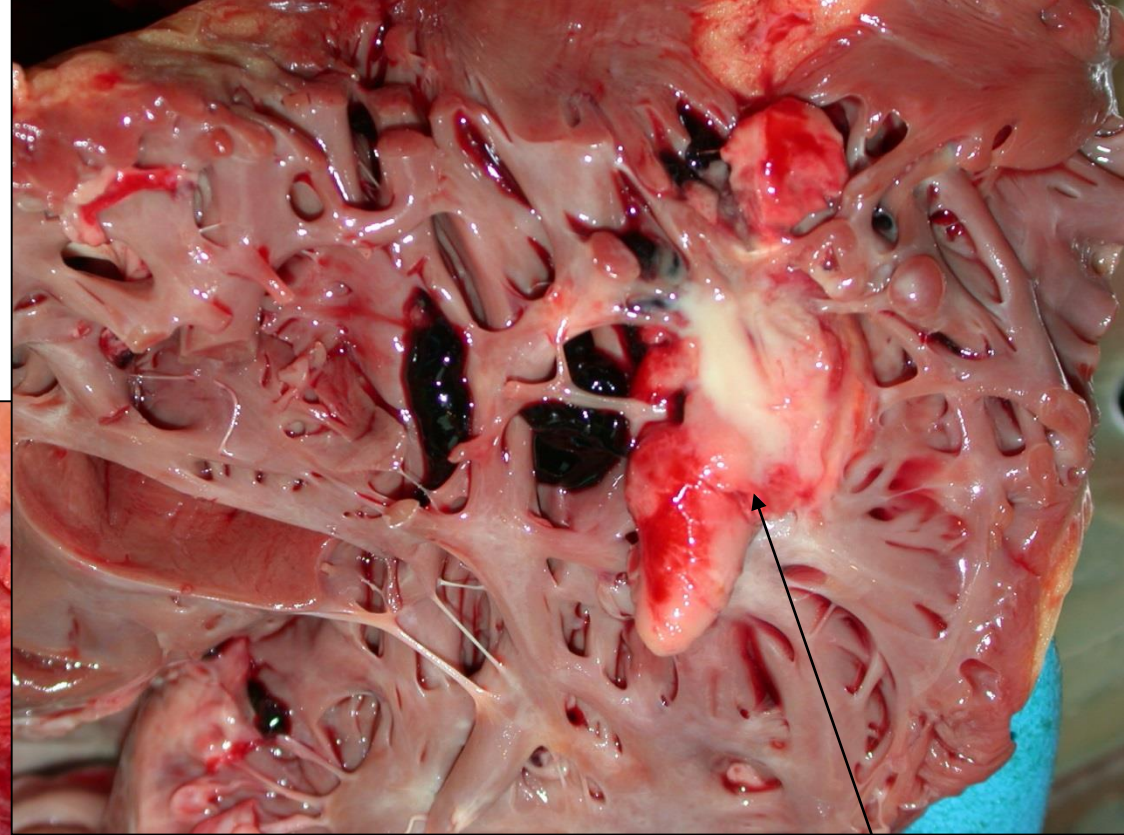
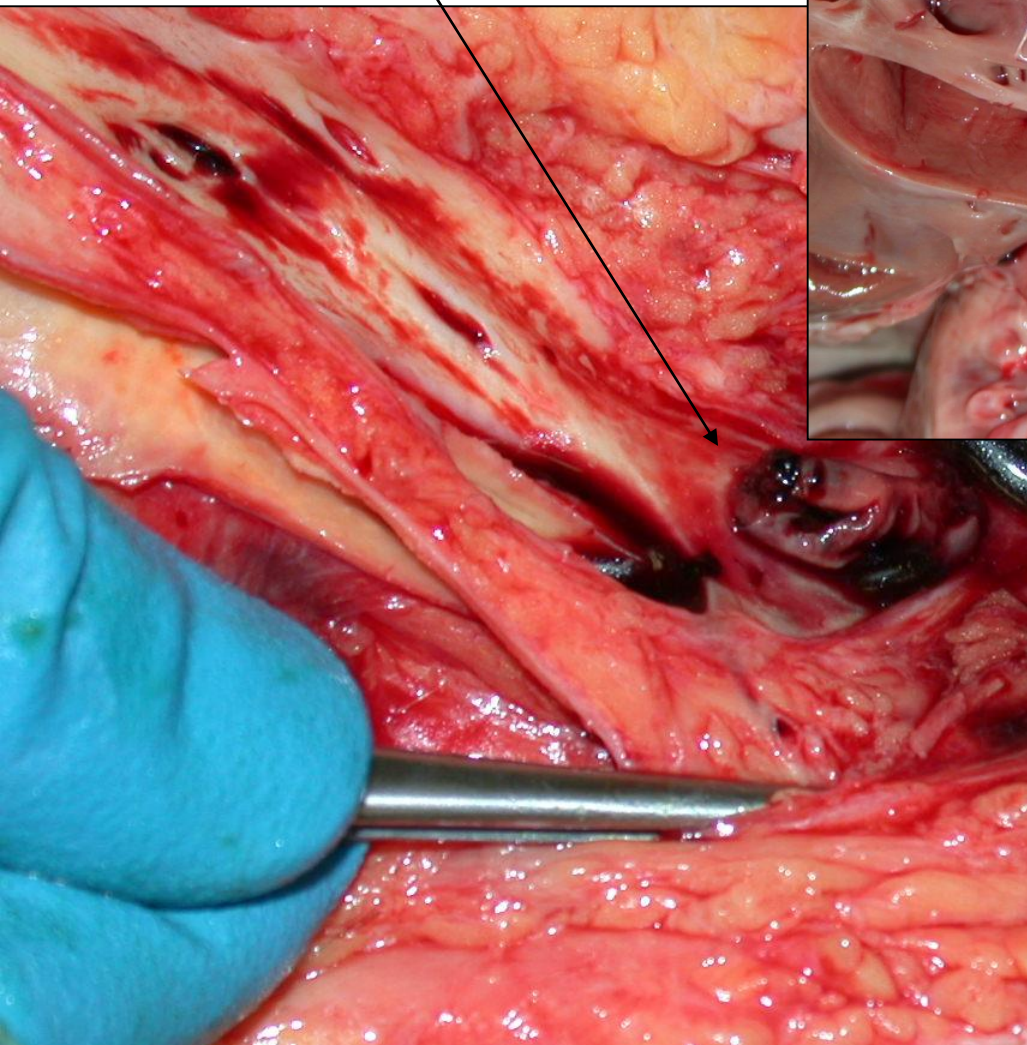
77 éves ffi

- Néhány évvel korábban gégetumor miatti kezelés
- Halála előtt 2 évvel szívelégtelenség miatti kezelések. Ekkor tüdő és mellékvese metastasisokat észleltek, de nem történt e-miatt célzott kezelés
- Gyengeség, zavartság miatt került kórházba - agyi áttétet valószínűsítettek
- A hospitalizatio 2. napján exit

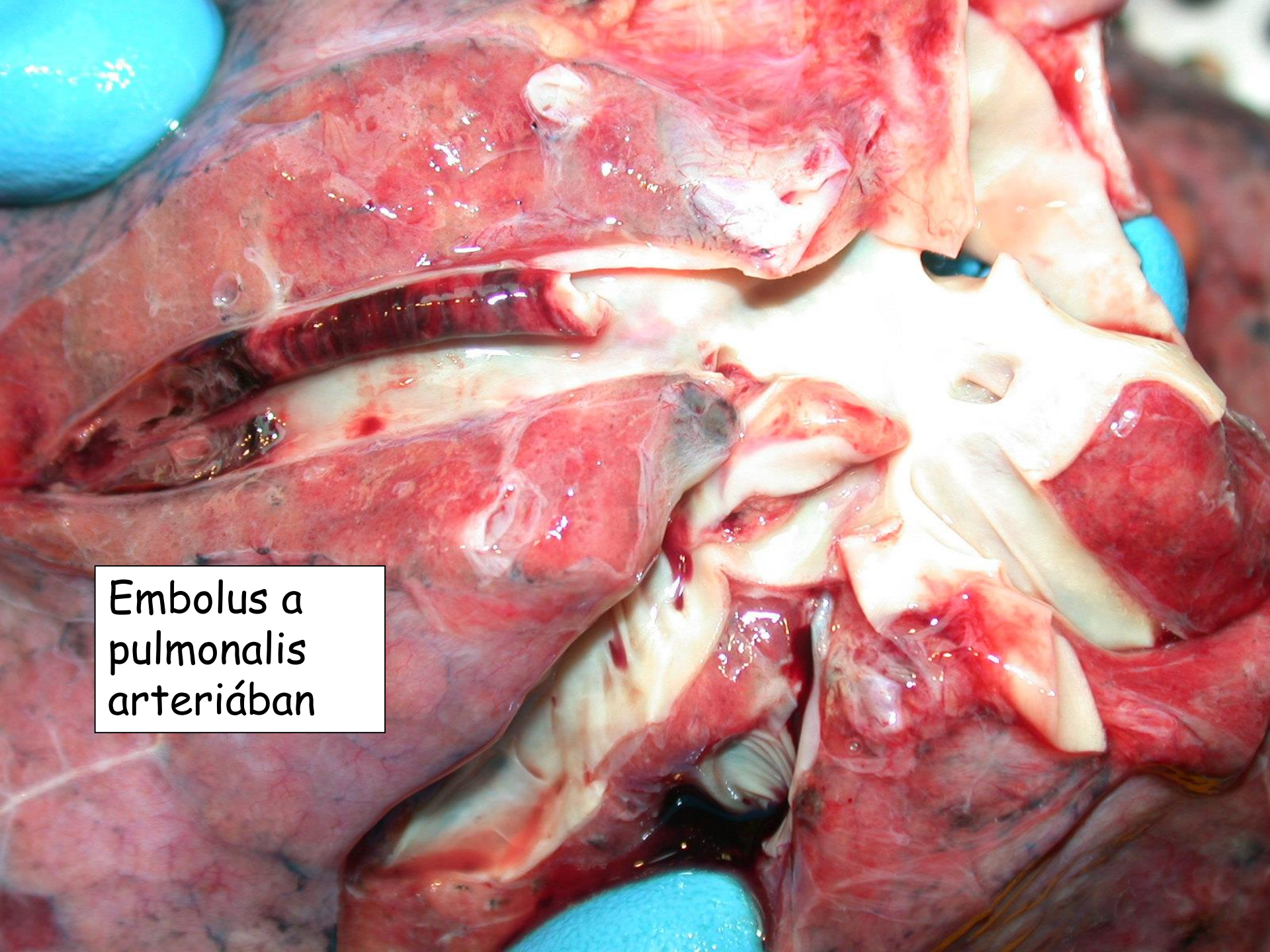
Az eredeti
gégecc.
szövetteni
képe



Vérrög a femoralisban



Embolus a jobb kamrában

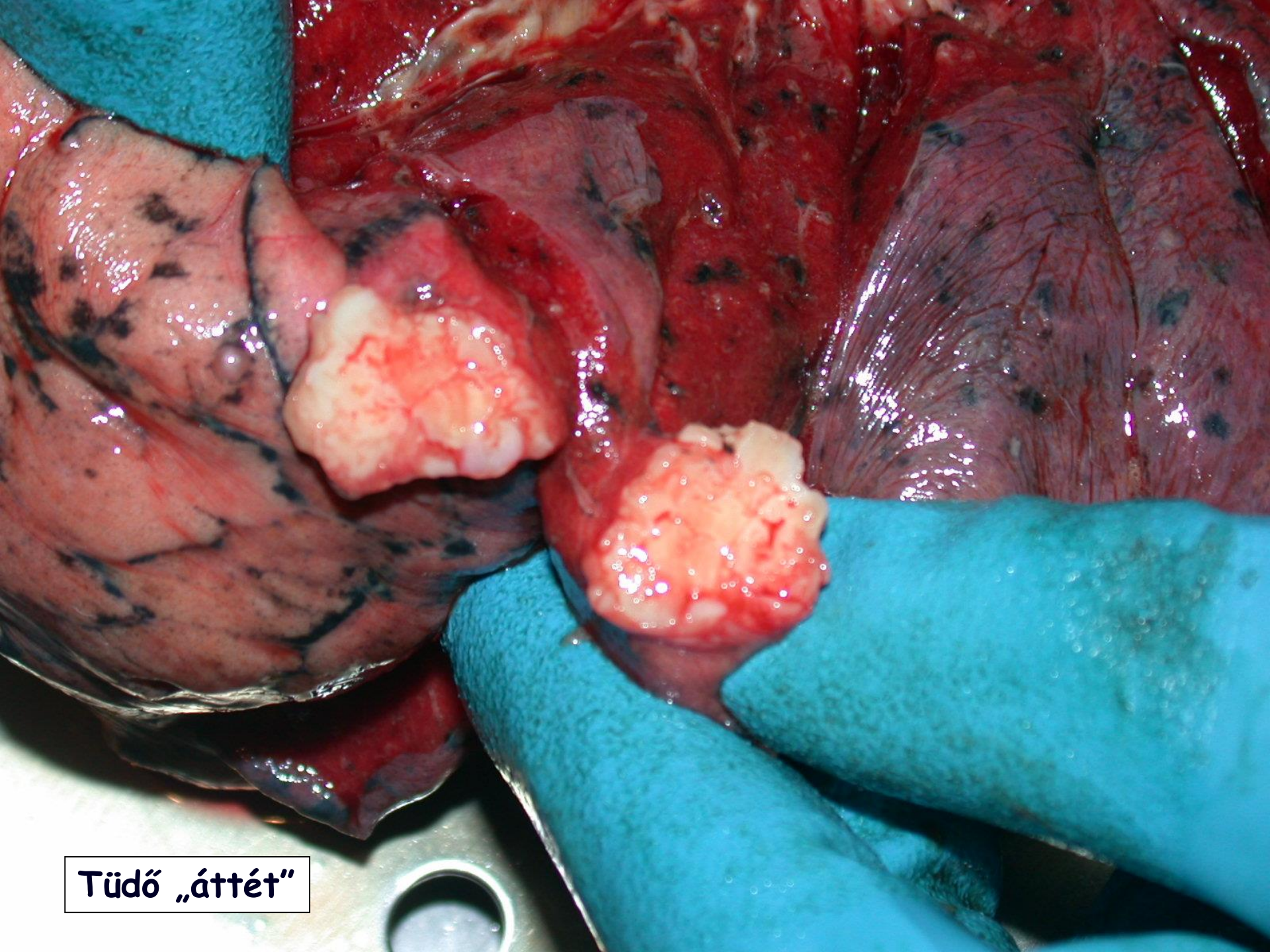
A gross pathology specimen showing a section of a pulmonary artery. The artery is cut open, revealing a large, pale, and firm thrombotic embolus that has completely occluded the lumen. The surrounding tissue is reddish-pink, and there are blue surgical sponges visible in the background.

Embolus a
pulmonalis
arteriában

Mi okozhatta az agyi tüneteket?

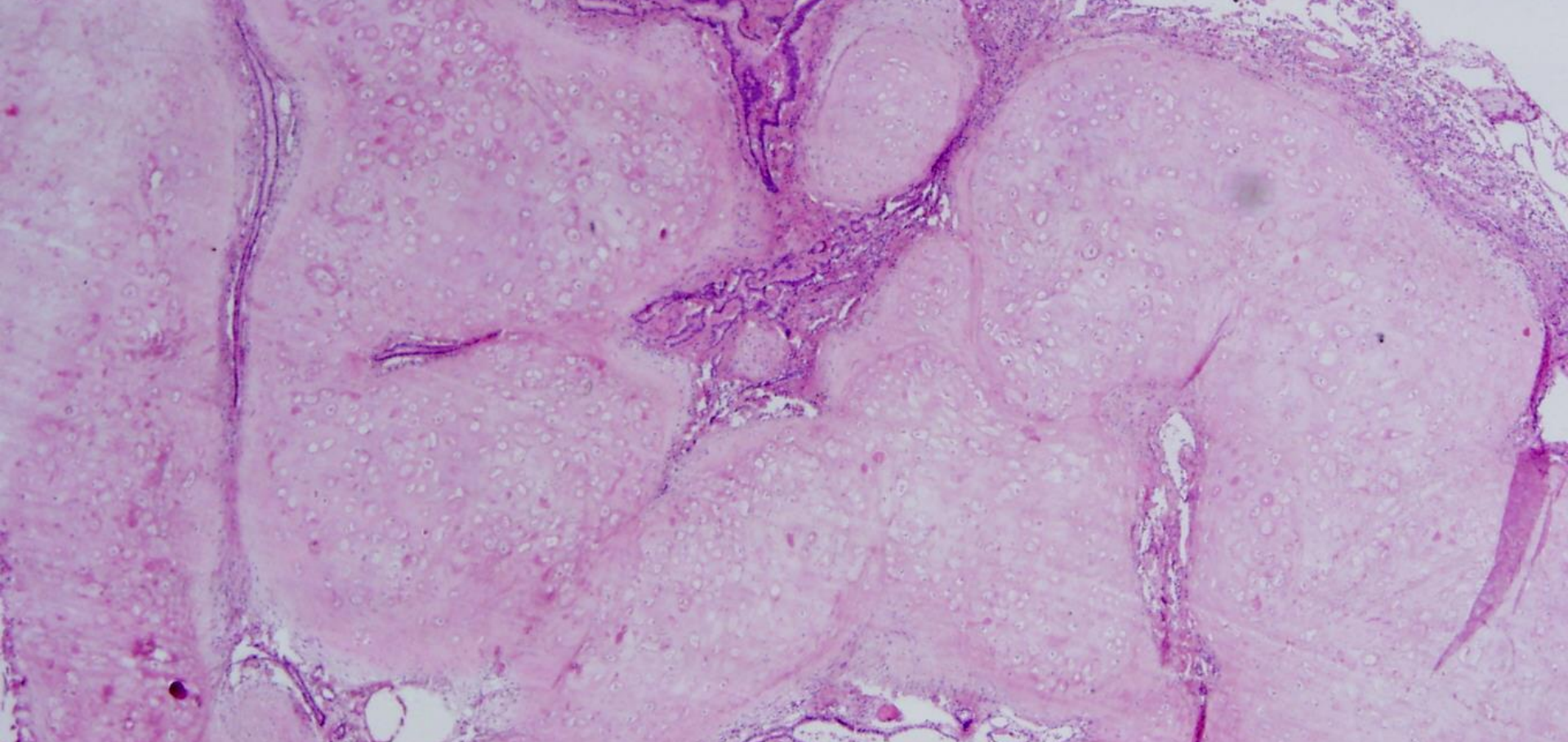
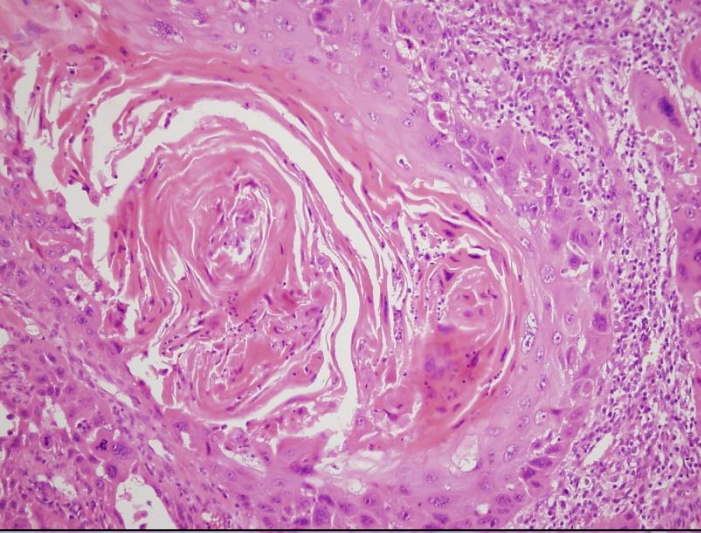
Hypoxia

Mi a helyzet a metastasisokkal?

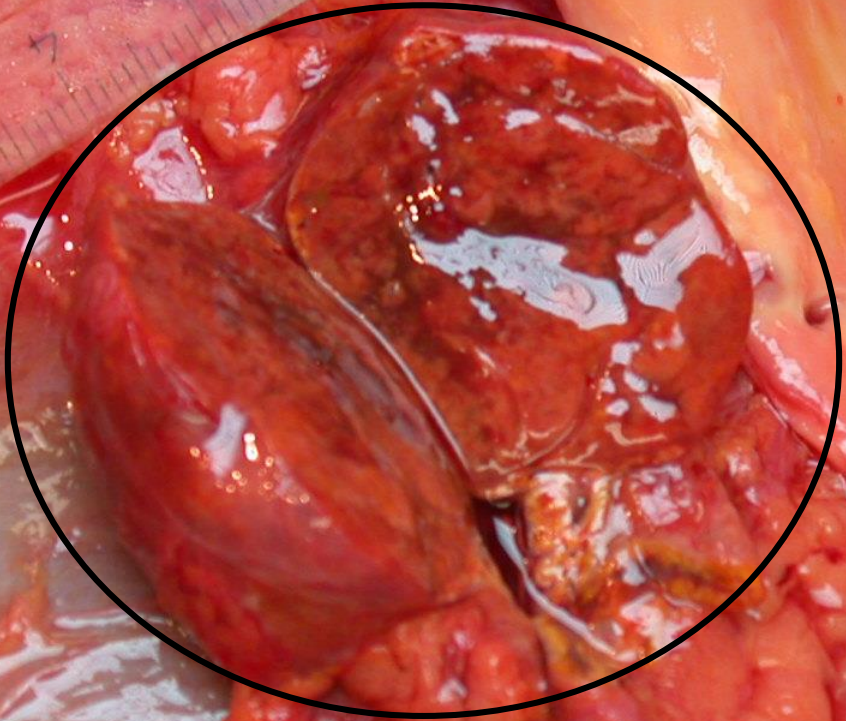


Tüdő „áttét”

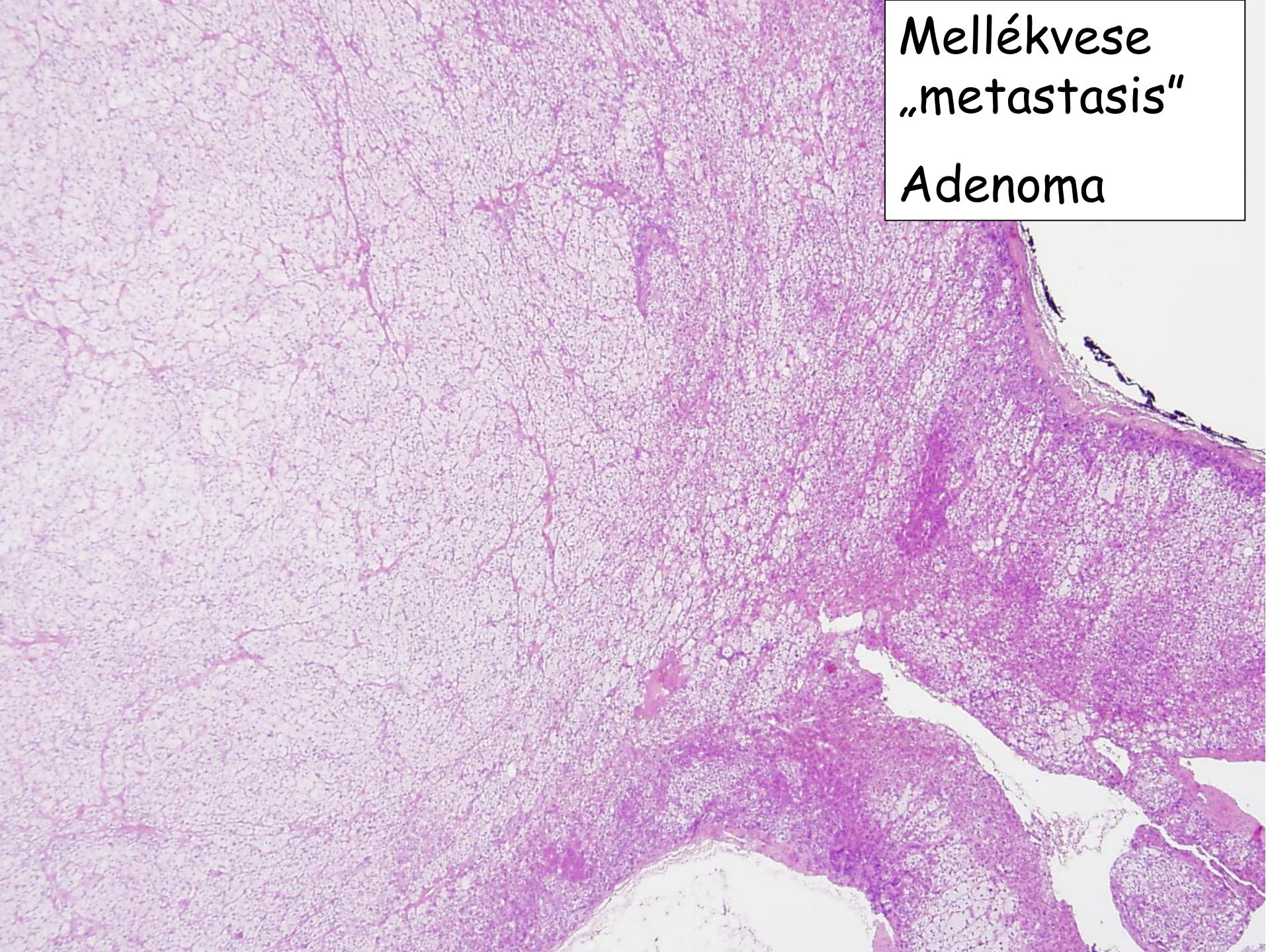
Tüdő:
chondroma,
nem
metastasis



Mellékvese
„metastasis”



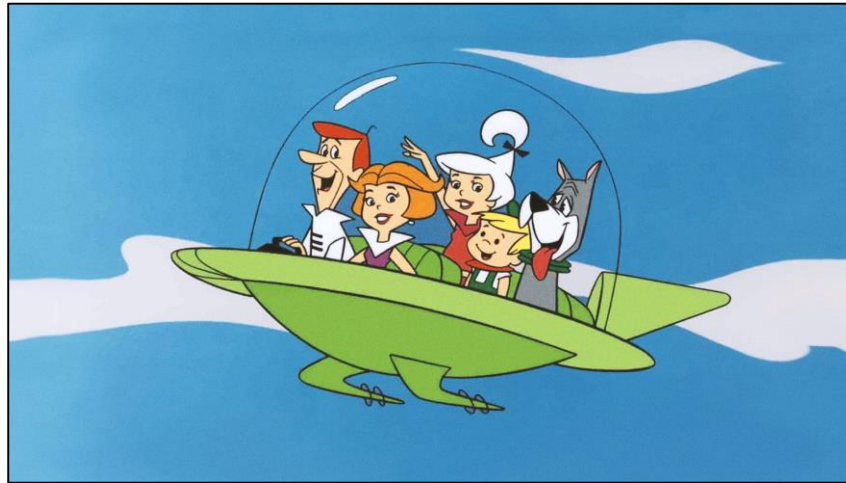
Mellékvese
„metastasis”
Adenoma



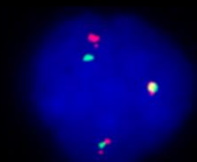
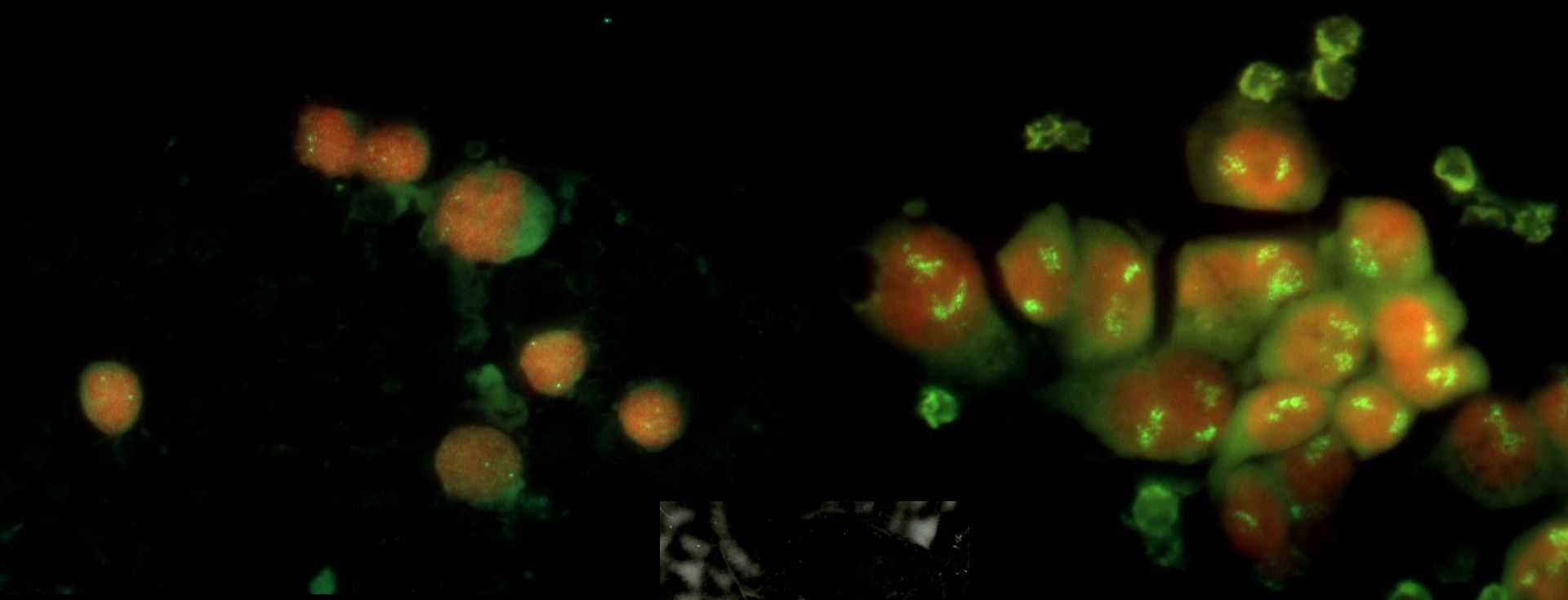
Konklúzió?



A patológia területei

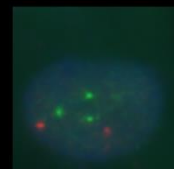


- Molekuláris diagnosztika



LSI IGH/BCL2 DC DF

Hasi nyirokcsomó lenyomat típusos t(14;18) transzlokáció



CCND1-R/IgH-G

A patológia területei

- Szövettan
- Cytológia

Diagnosztikus lehetőségek



Fizikális

Labor

Kupa-Deak Zoltan
ACCES#4506822#MR101
00001618803
2009.01.18.
005D
M

SE:601
IM:6
14:55:02

SAR



R
P
I

L
A
S

IPL

Képkalkotó

Morfológia
szövetteni

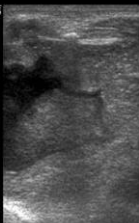
cytológiai vizsgálat

W 2254 : L 1297

STIR_TSE_Cor
Koponya

Kupa-Deak Zoltan
ACCES#4542814A03
00001618803
2009.01.18.
011D
M

SE:0001
IM:0017
10:09:35



A pathológus szerepe az orvosi gyakorlatban



Élő betegekből származó
szövetek/ sejtek
vizsgálata

Szövettani / cytológiai
vizsgálat

A pathológus szerepe az orvosi gyakorlatban



Szövetteni / cytológiai
vizsgálat

A patológus feladata megállapítani, hogy az élő
betegben talált,

klinikailag daganatnak gondolt elváltozás

- daganat

- nem daganat
akkor mi?

Rosszindulatú

Milyen típusú ?

Honnan indul ki?

Kell-e operálni?

Jóindulatú

Műtét után....

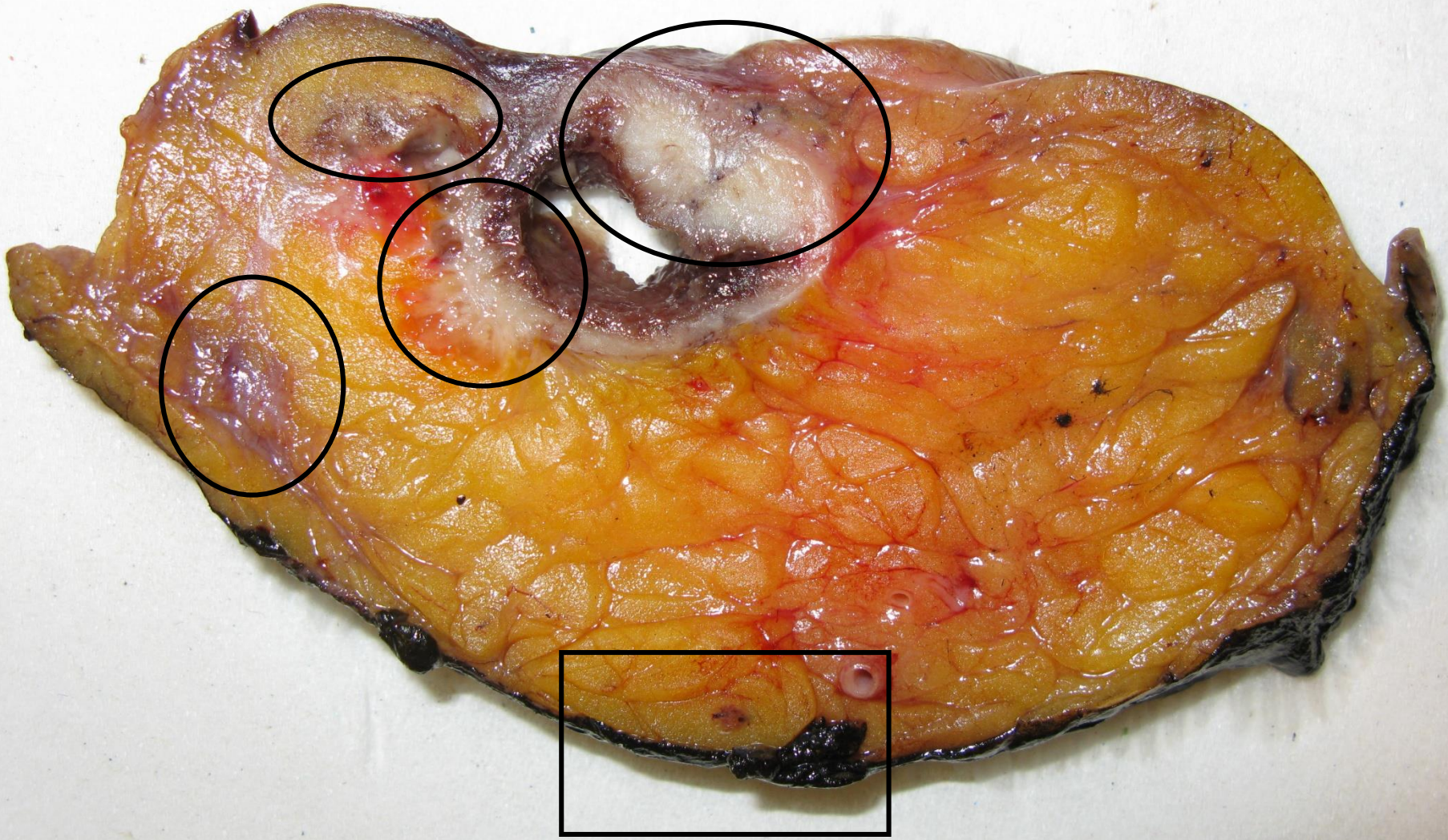
A szövettani vizsgálat.....

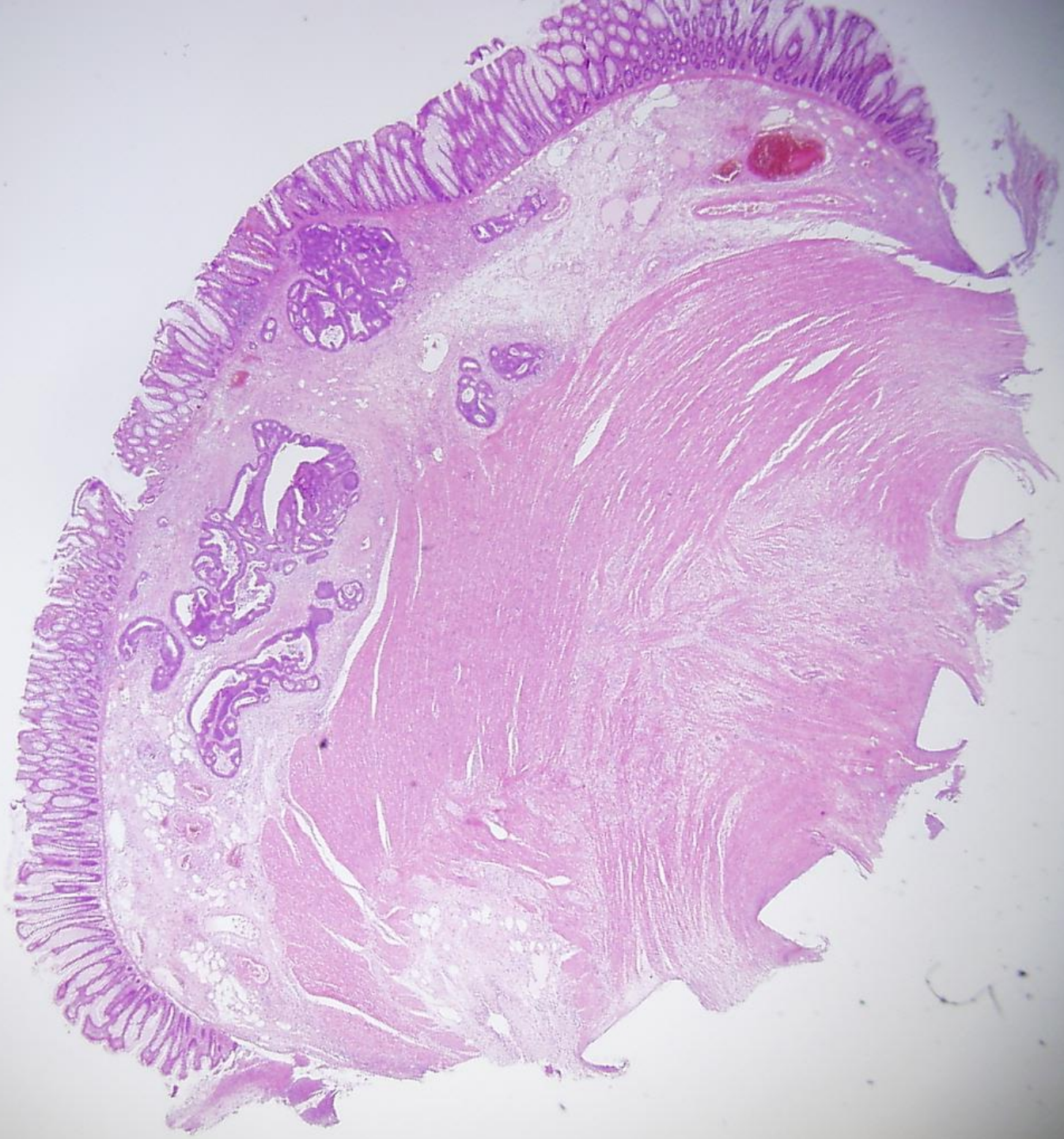
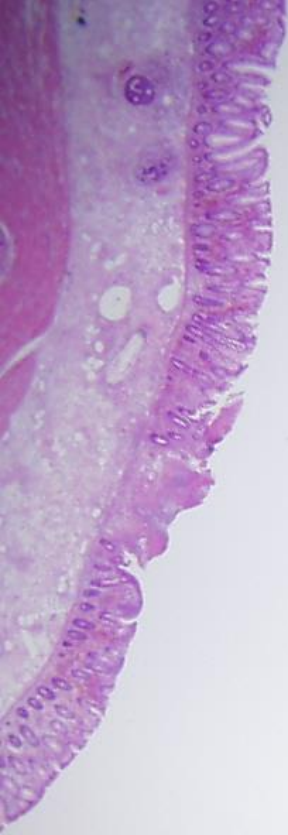


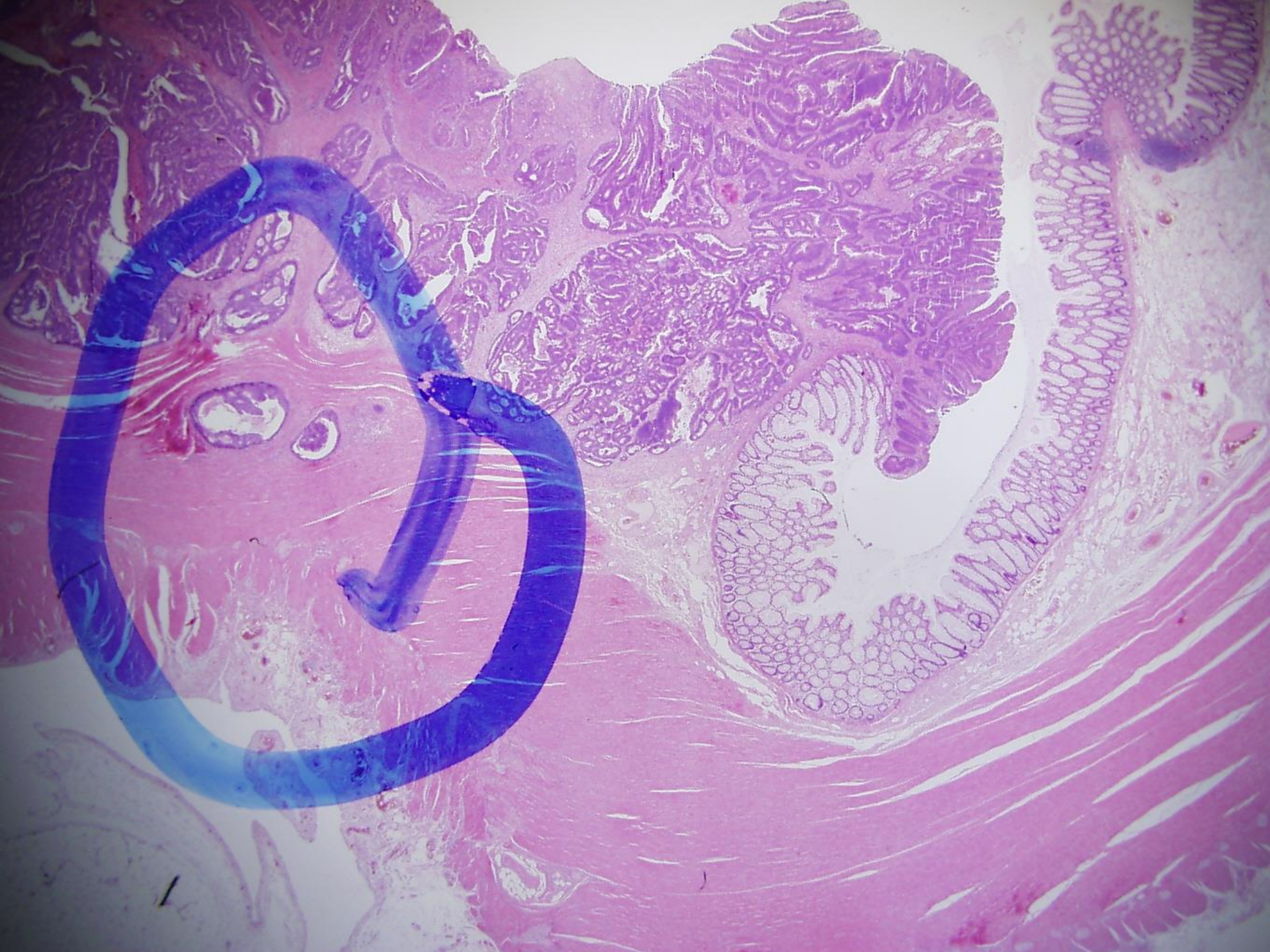


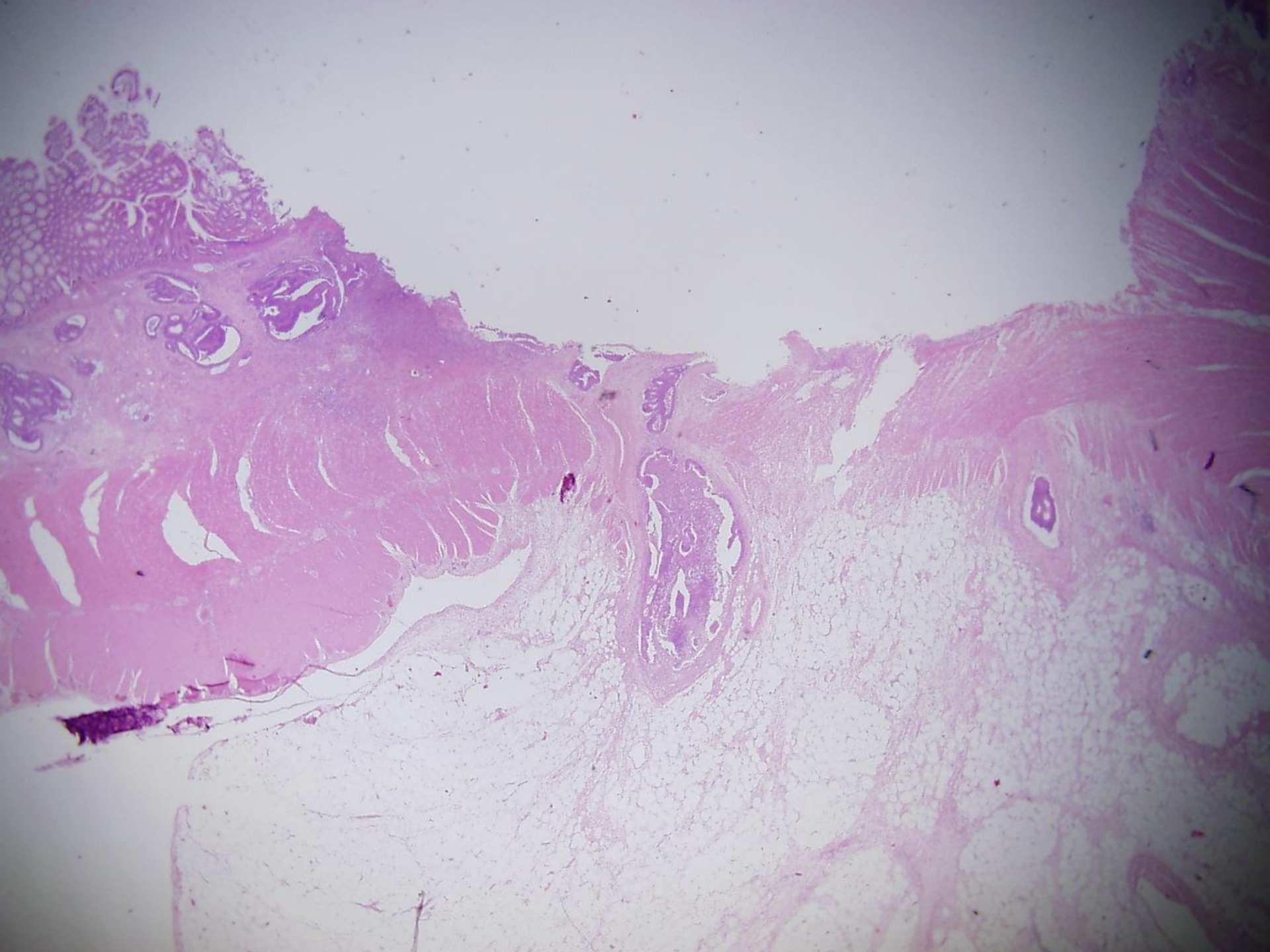
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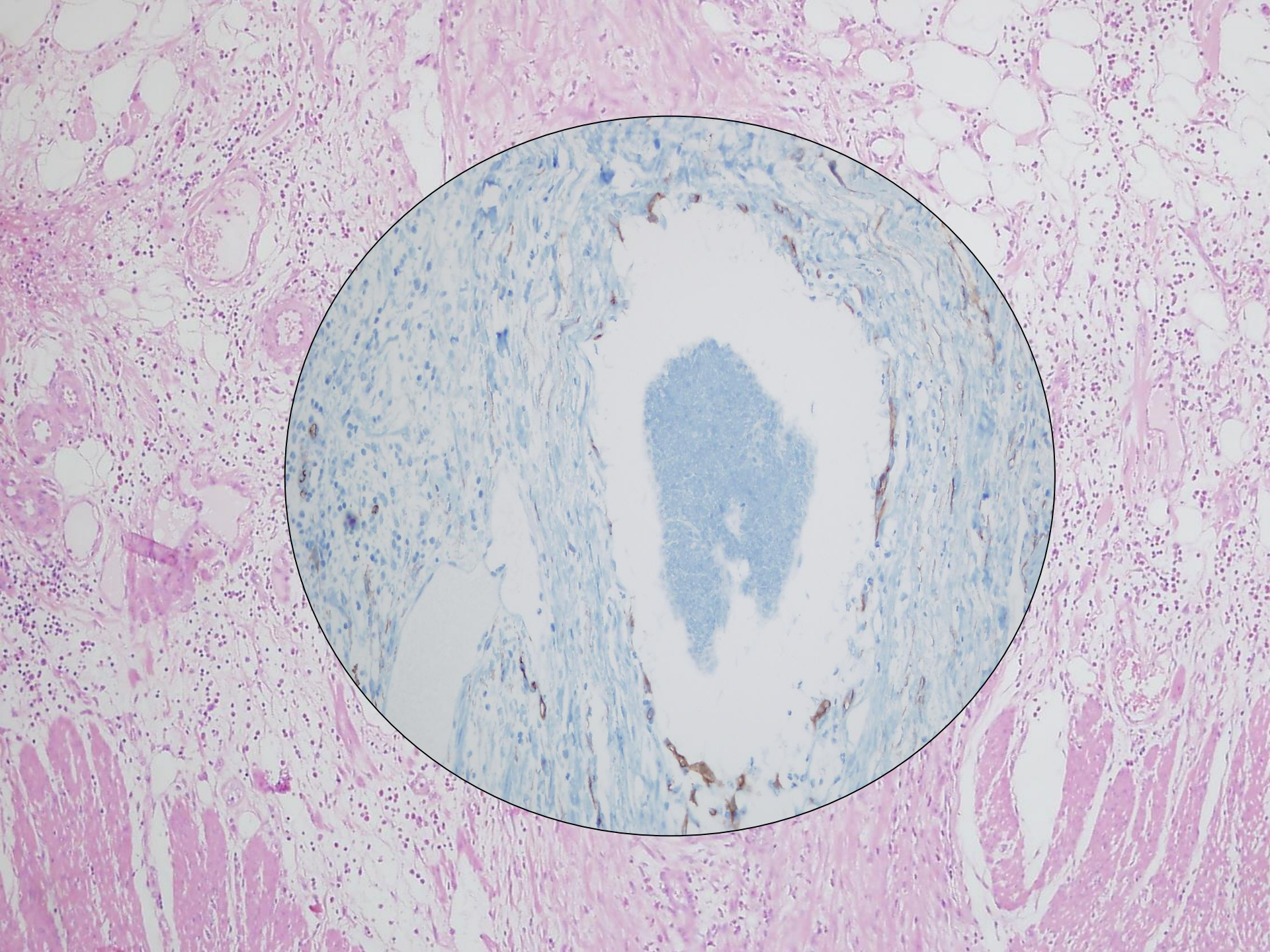
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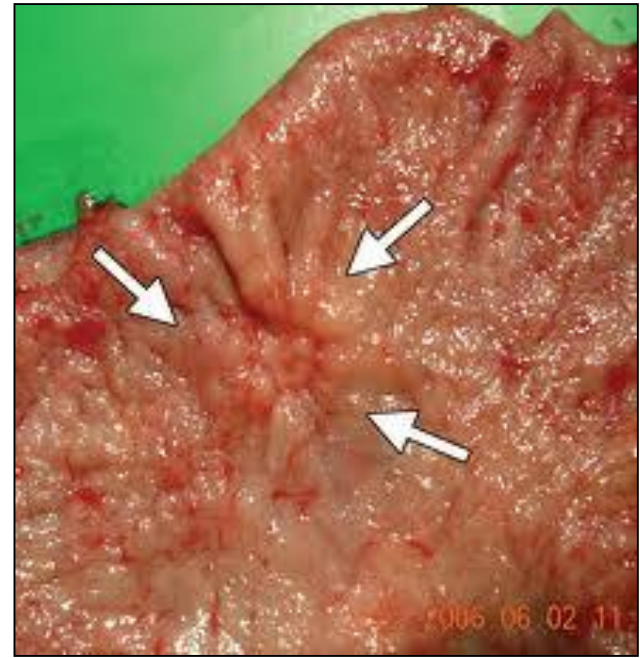
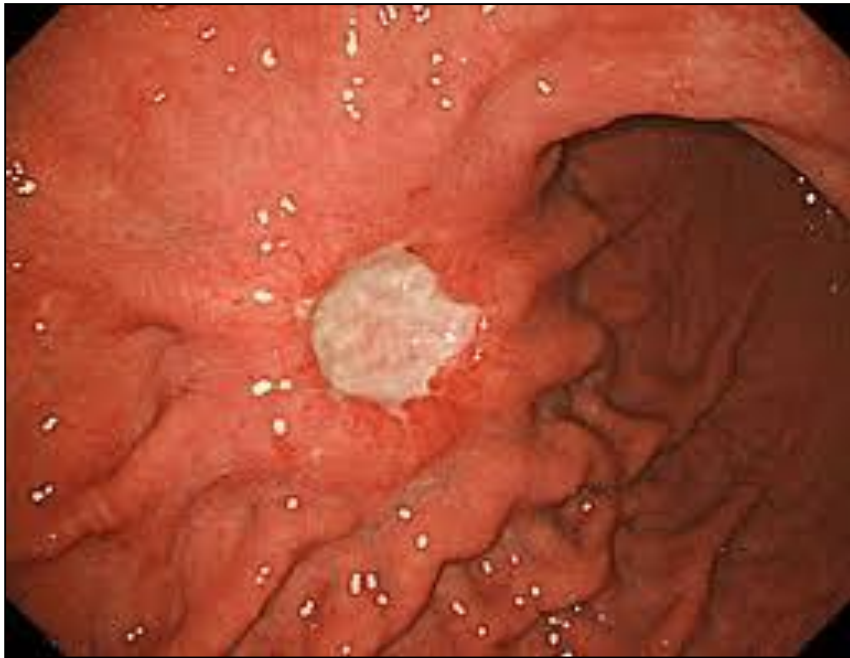


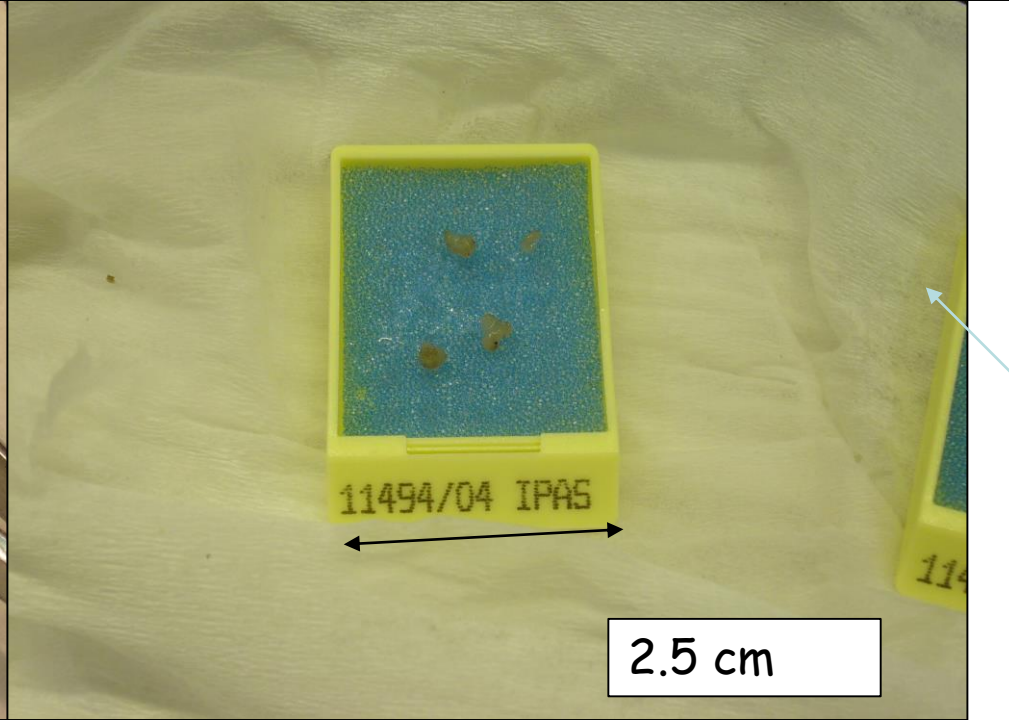
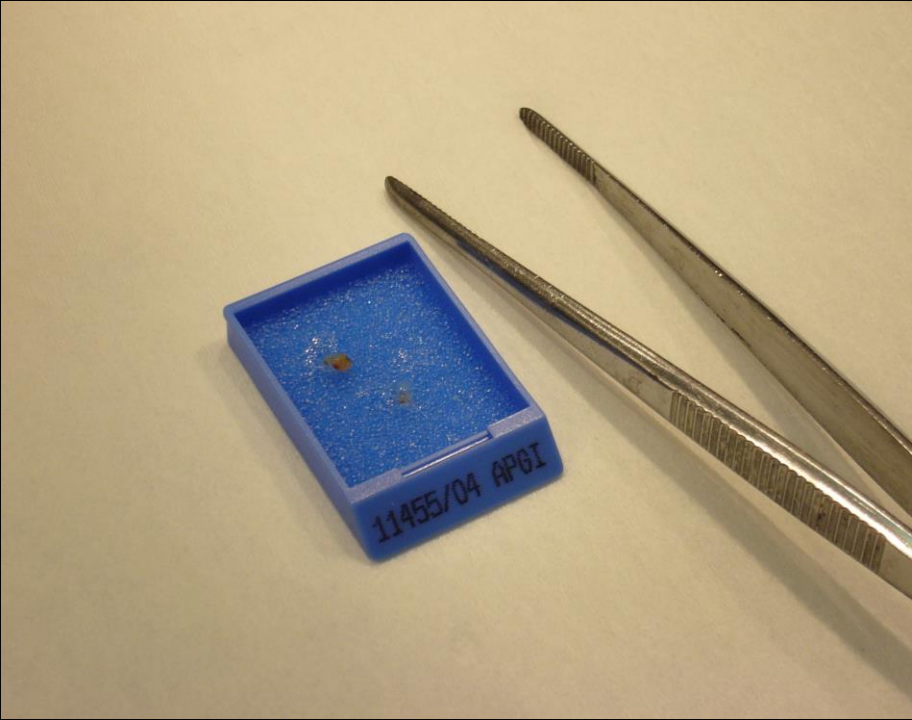
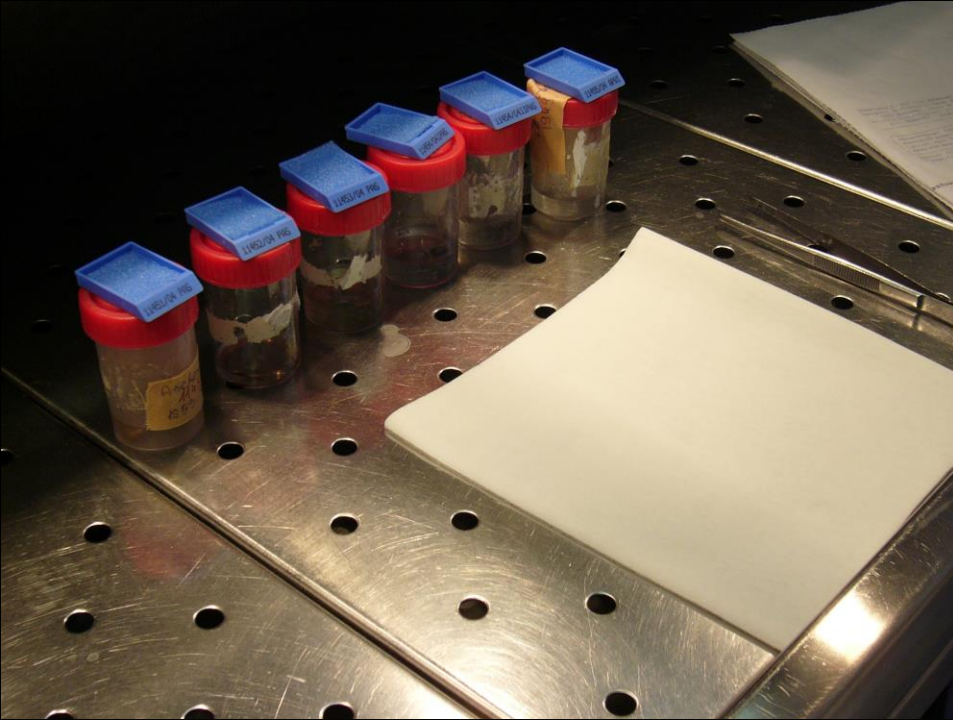


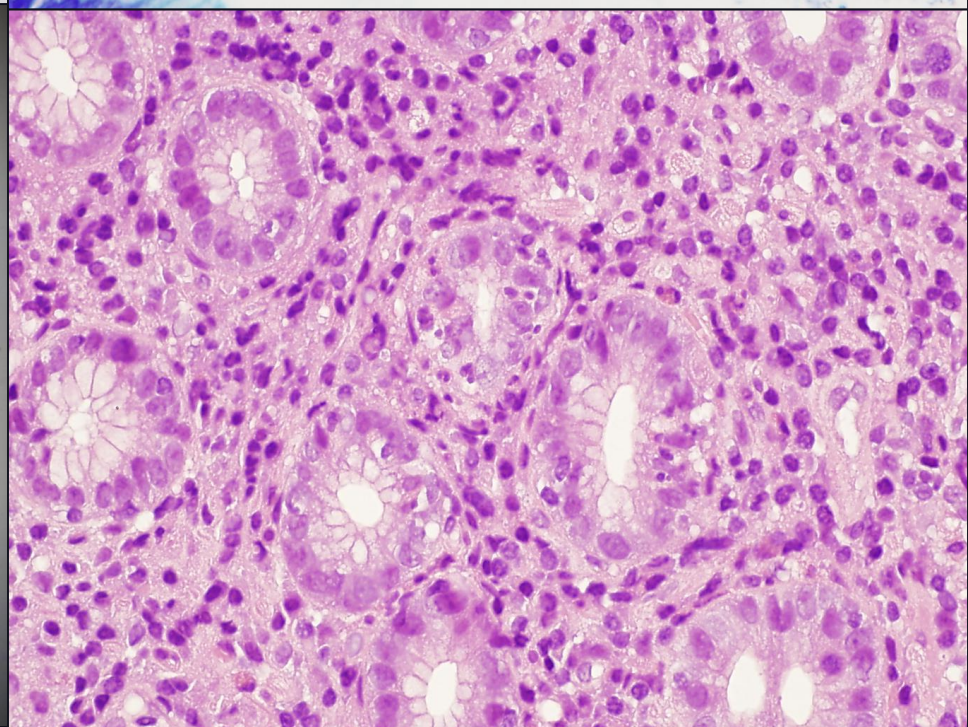
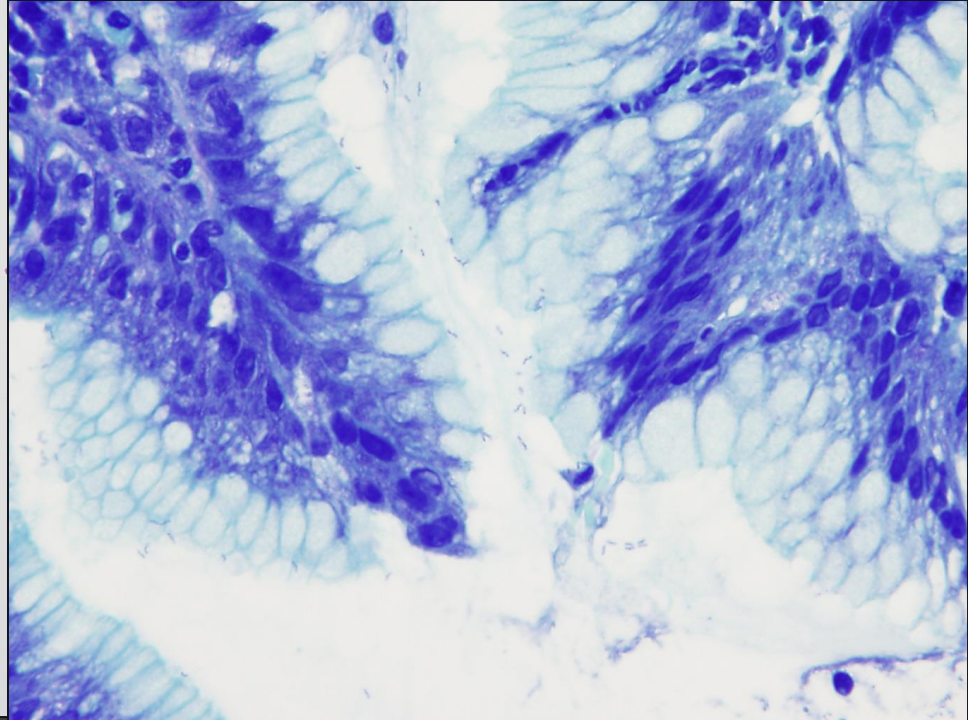
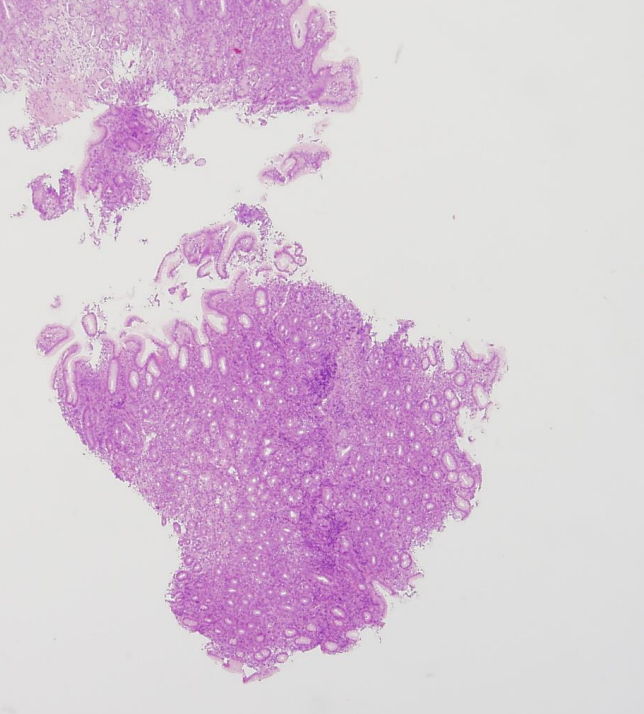
Miért is szükséges a
szövettani vizsgálat?

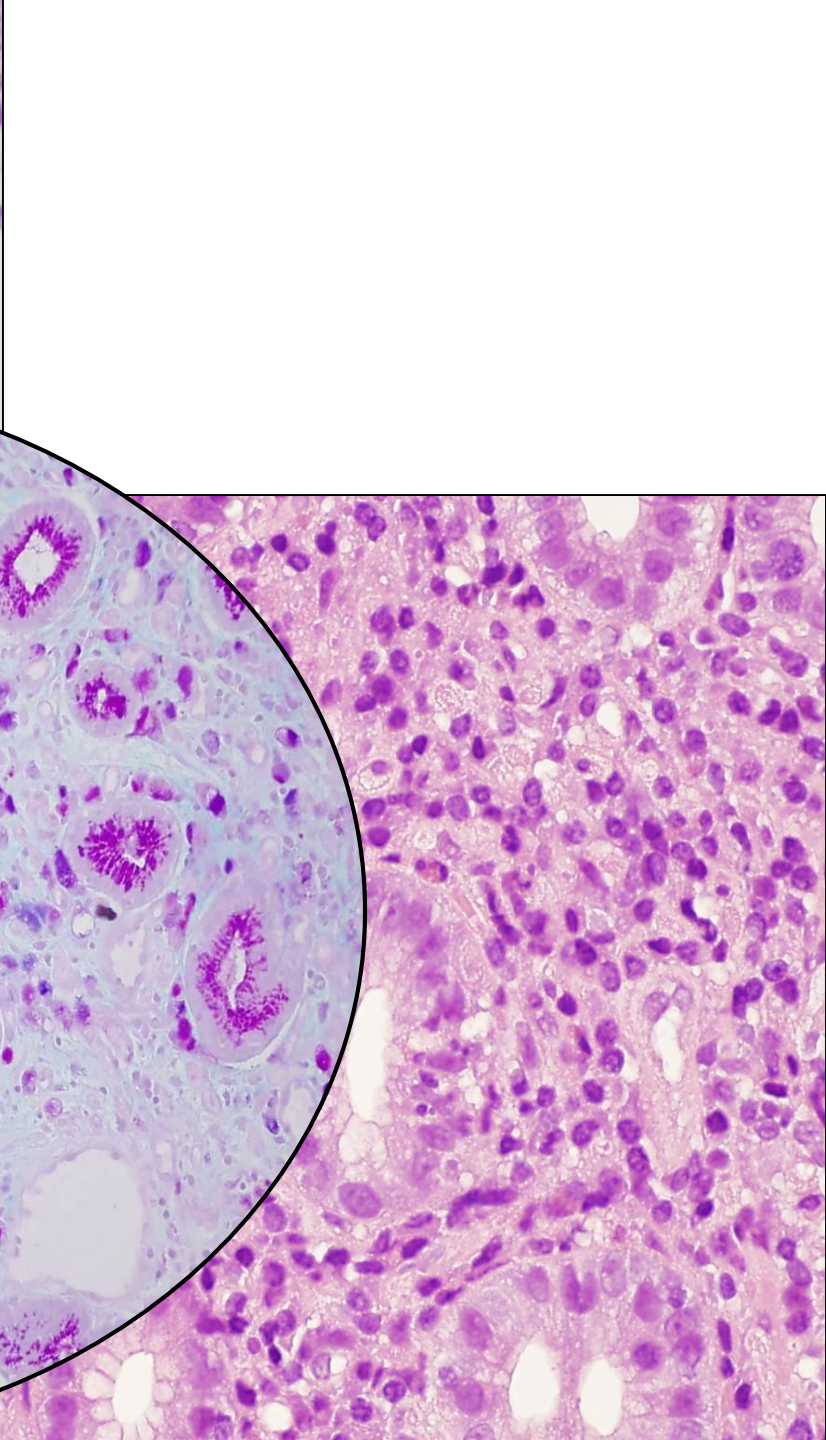
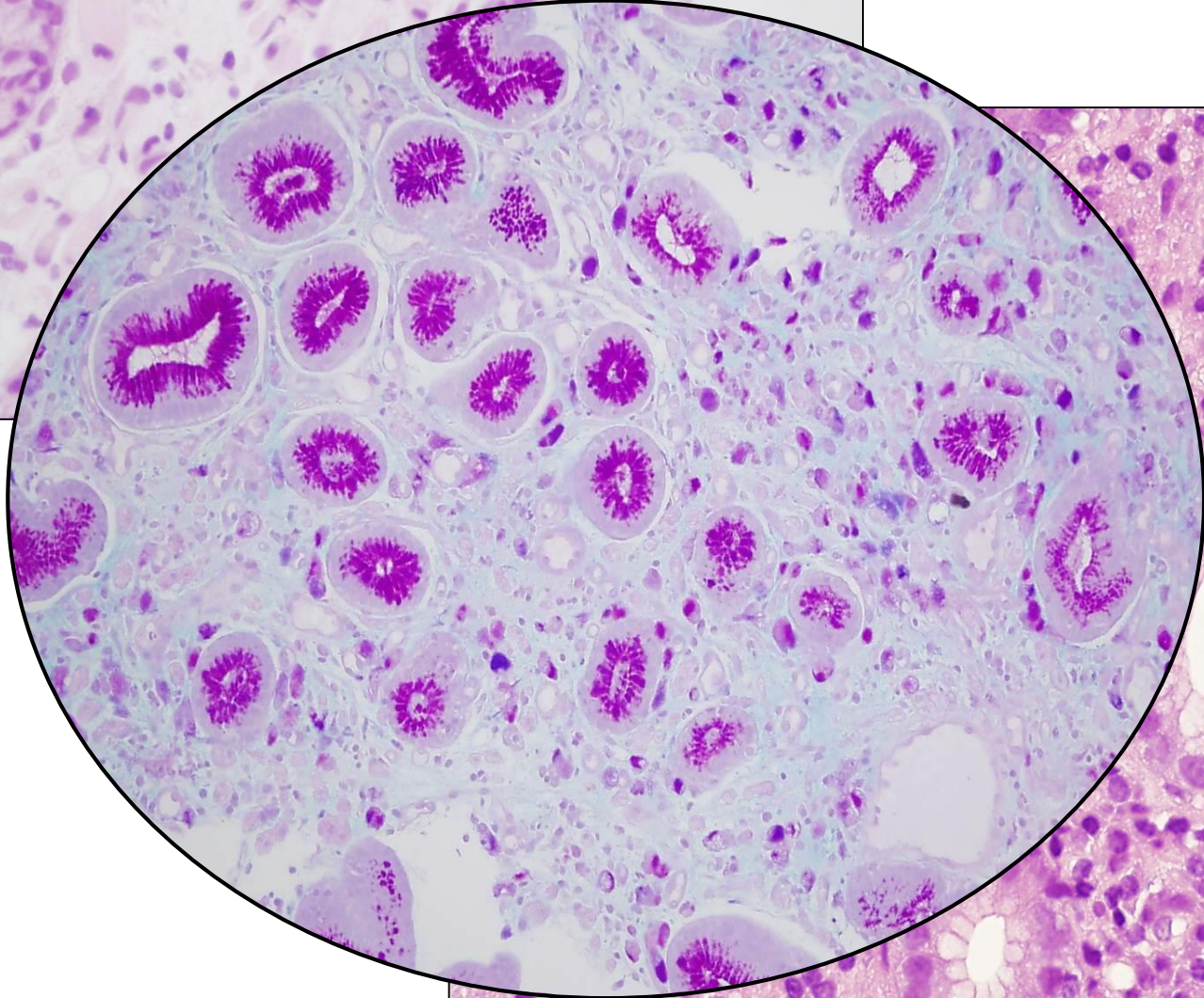
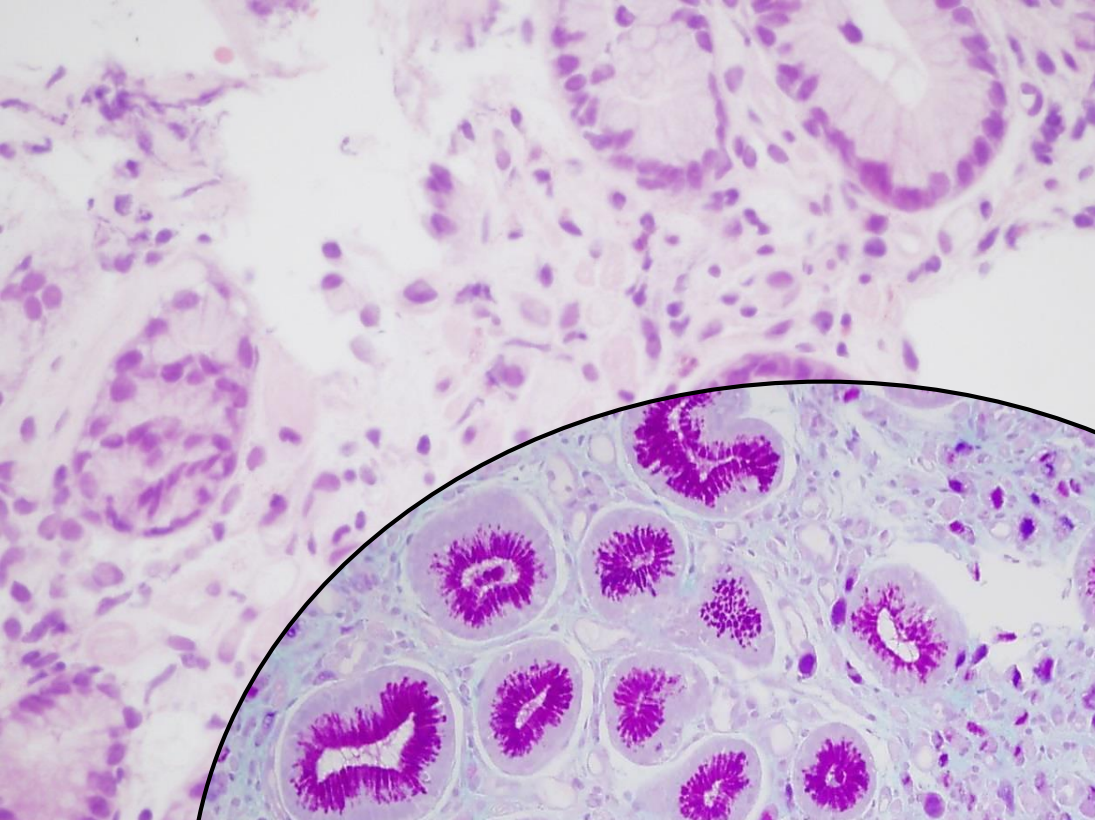


Miért van szükség morfológiai vizsgálatra (biopsziára)?



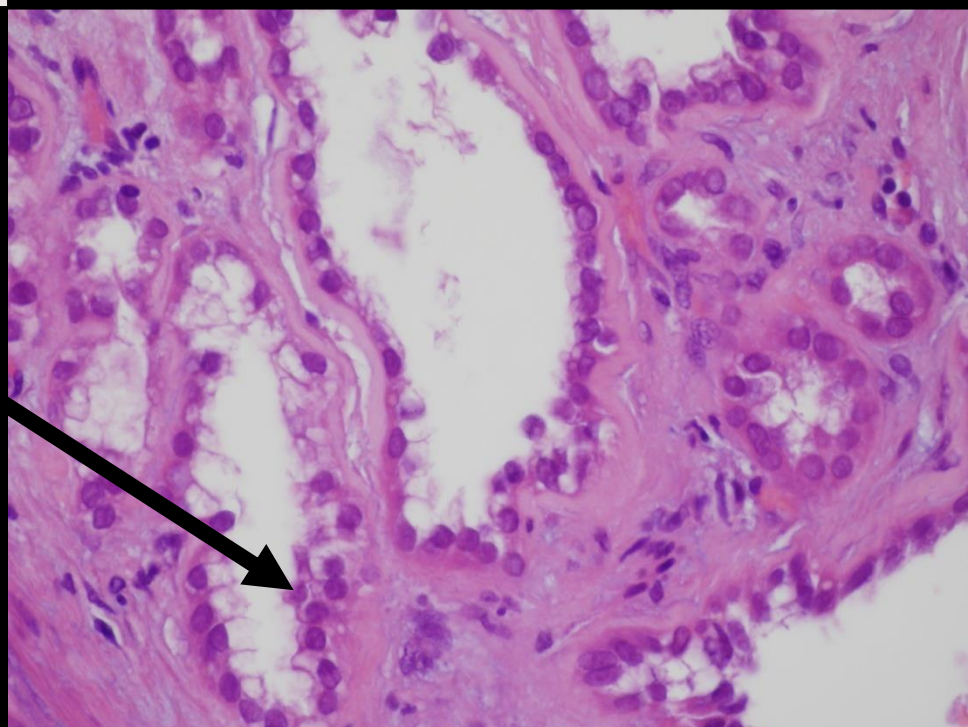
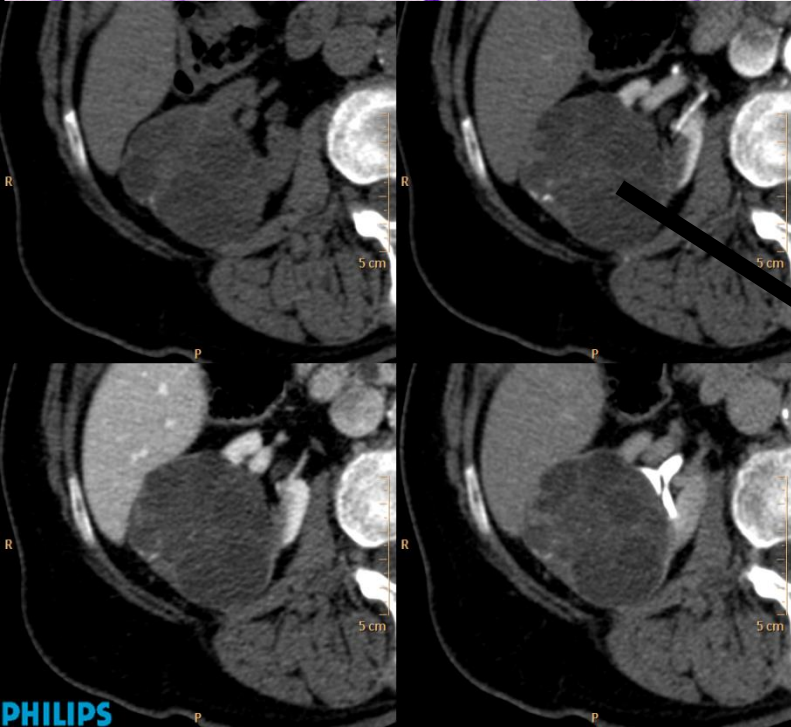
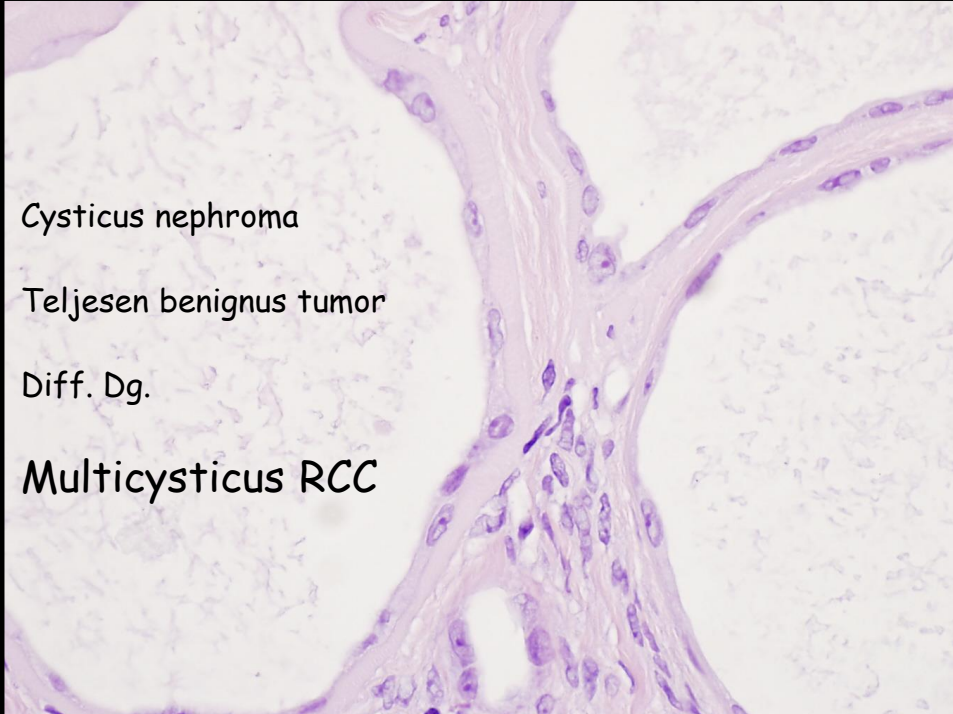






Miért is szükséges a
szövettani vizsgálat?







Sz. Z. 3 éves leány

Dyspnoe miatti kivizs

CT: a jobb mellkasf

inhomogén,

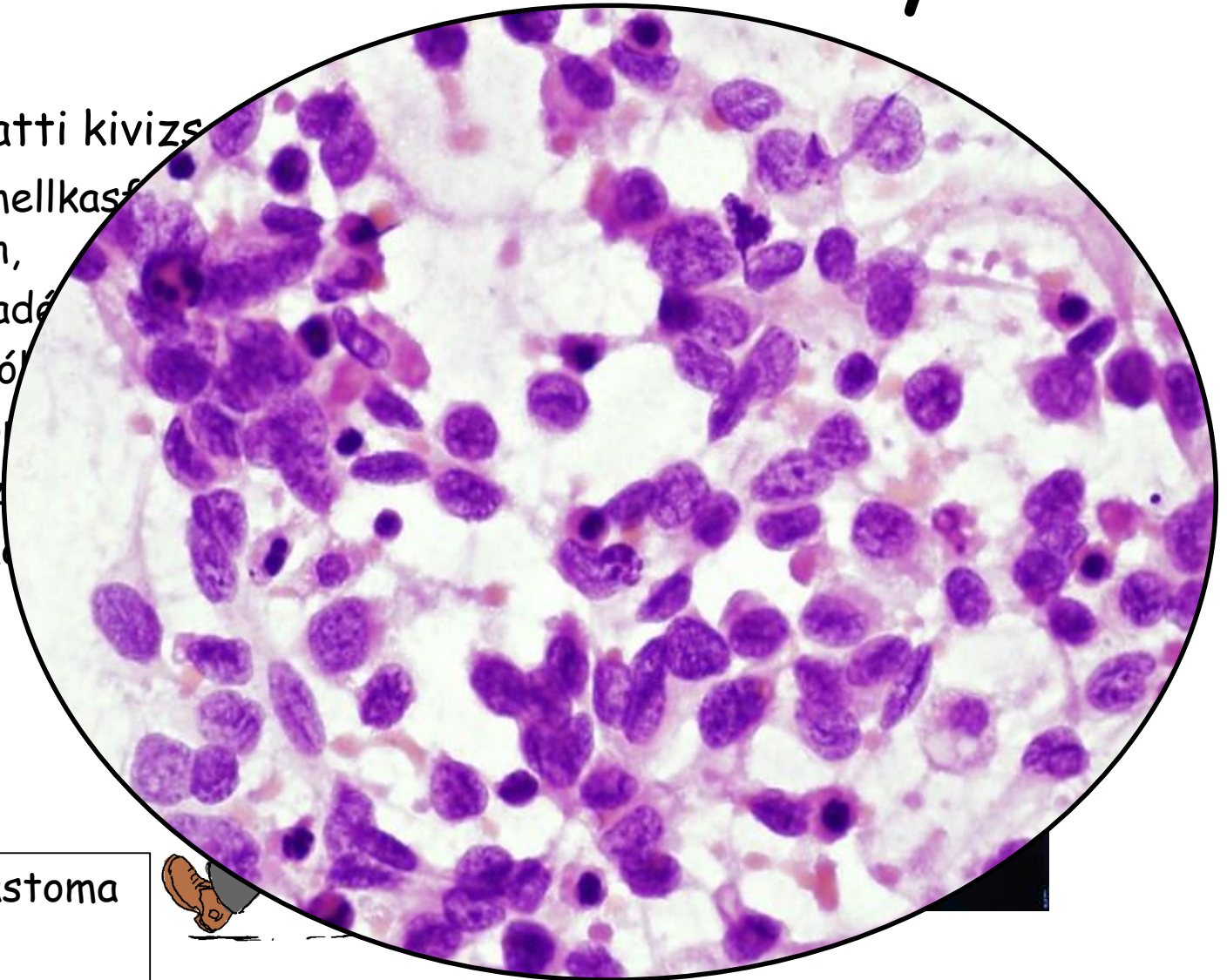
részben folyadé

pericardiumtól

a jobb főbro

az oszlást sz

középárnyék



Dg.: pleuropulmoplastoma

„small blue cell”



00:15747 2910924
02.010:02 NO C
JU -77.5mm
+00.0°
5.0mm
30.0cm
x= -1.47cm
y= +0.00cm
BONE-E2

A

6:10F
1998/08/17 09:57:58
DR. LORAND/ME
SOTE I.GY.KL.
DR. BENYO
@DS
@HS@HC



120 kV
160 mA
1.5 sec
35-CAL

6 évvel később:

recidiva gyanú

00:23779 2910924
03.005:01 NO C
JU -127.5mm
+00.0°
3.0mm
25.0cm
x= +0.00cm
y= +0.00cm
DETL

01F
06 16:40:55
PALAZS/TA
E I. GYKL.
R. RENYI @MC



120 kV
160 mA
1.5 sec
25-CAL
E2

3
0
cm

R

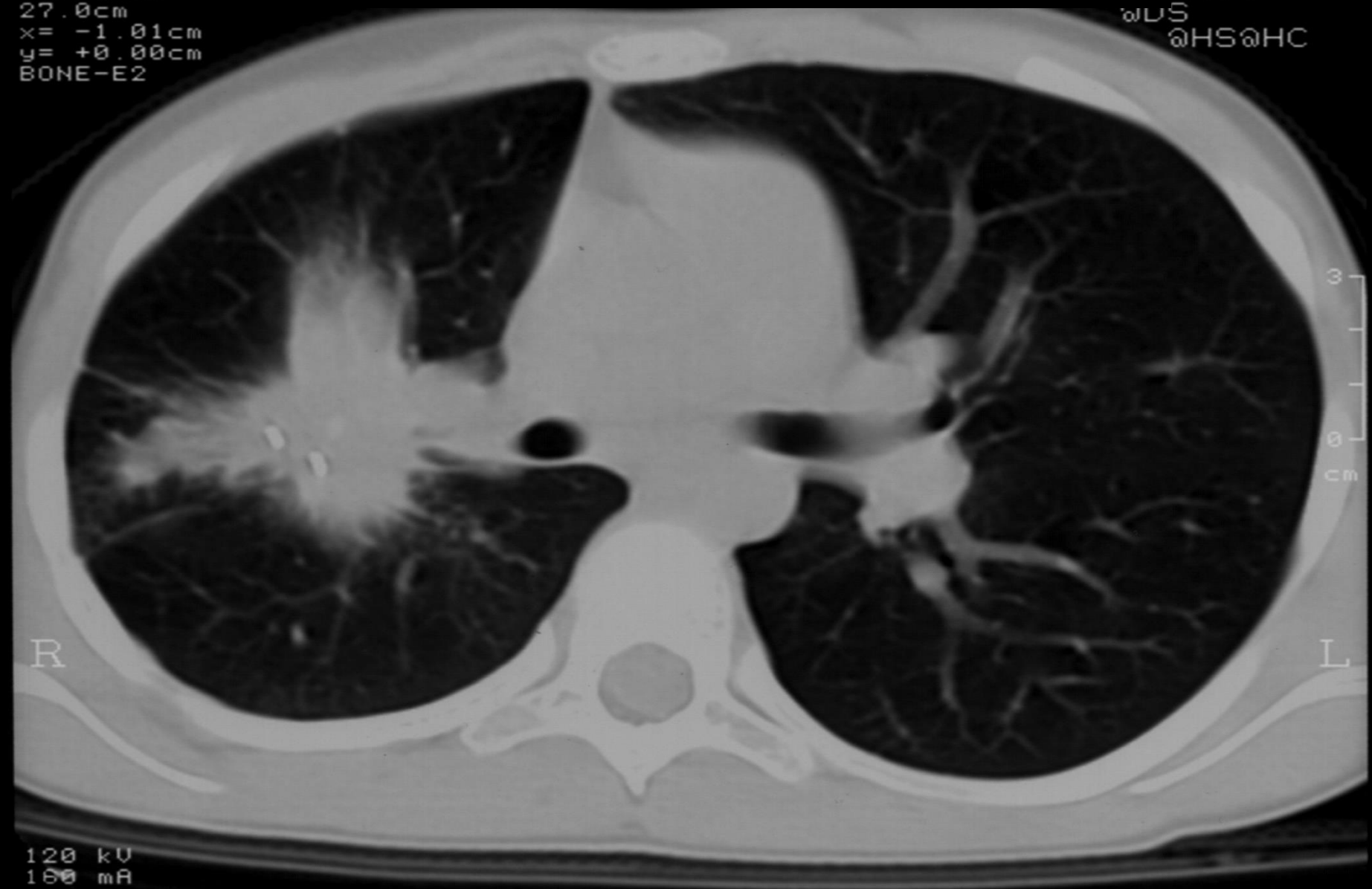
L

00: 24668 29105
02.013;02 NC
JU -95.0mm
+00.0°
5.0mm
27.0cm
x= -1.01cm
y= +0.00cm
BONE-E2

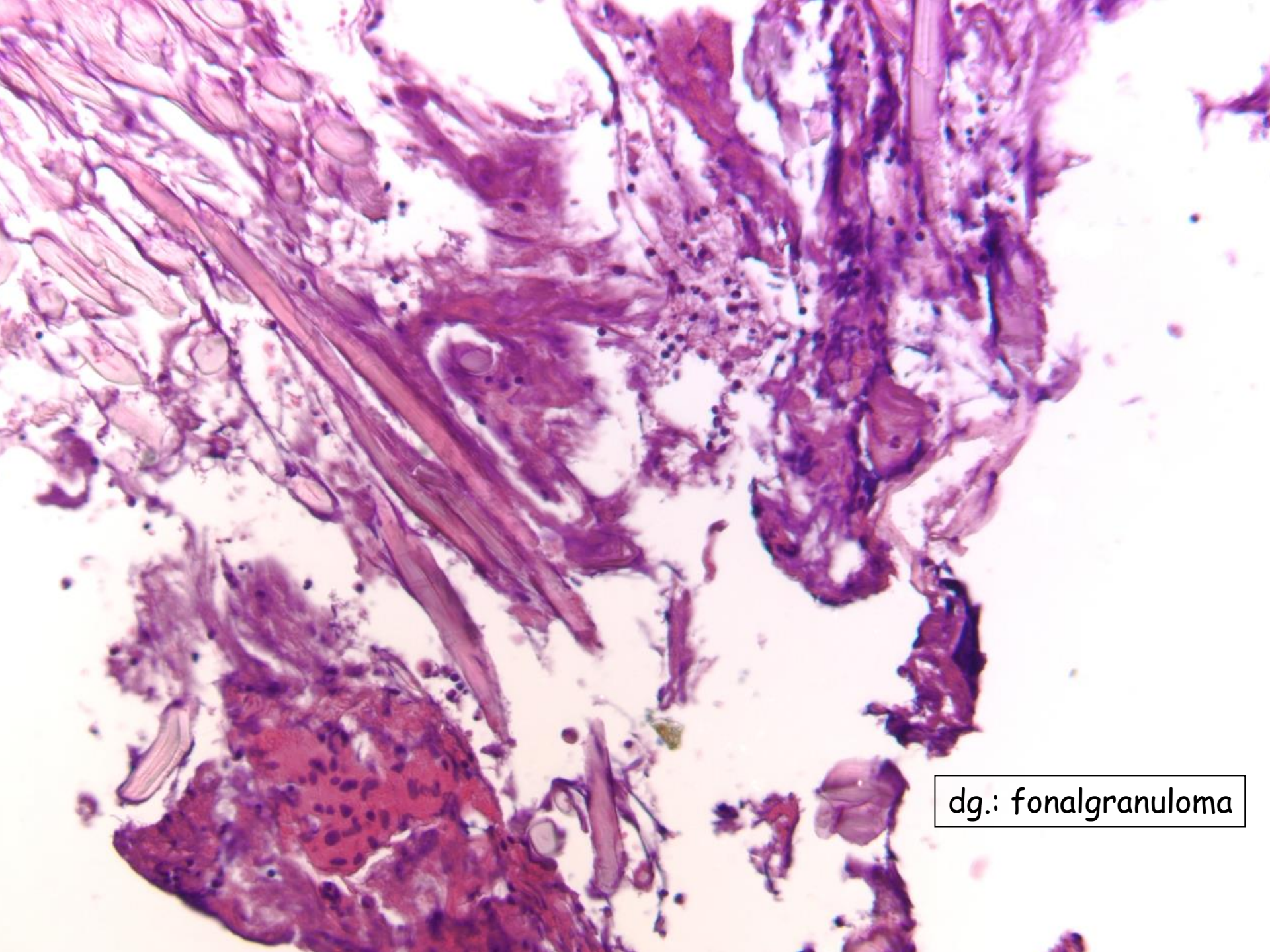
2 hónappal később a tervezett műtét előtti újabb CT:

a tumor tovább nőtt

11:18:25
NYI/HF
YKL:
ENYI
WUS
QHSQHC



120 kV
100 mA
1.5 sec



dg.: fonalgranuloma

Biopszia

Szövetteni vizsgálat

csipesz

vastagtű

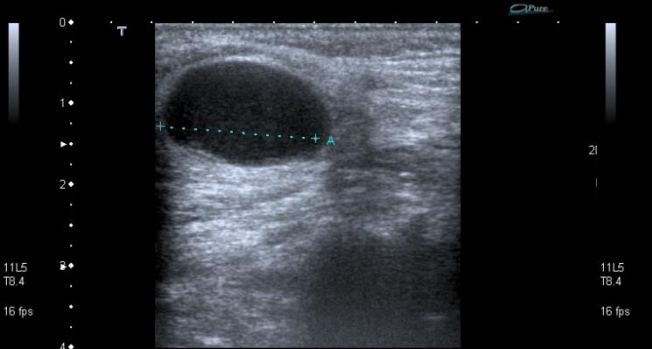
Cytológiai vizsgálat

vékonytű

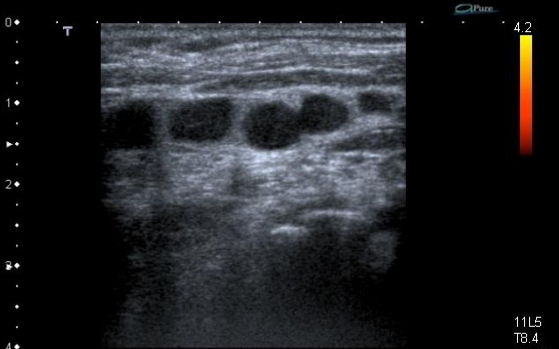
(kenet)

Mindkettőhöz
mikroszkóp kell

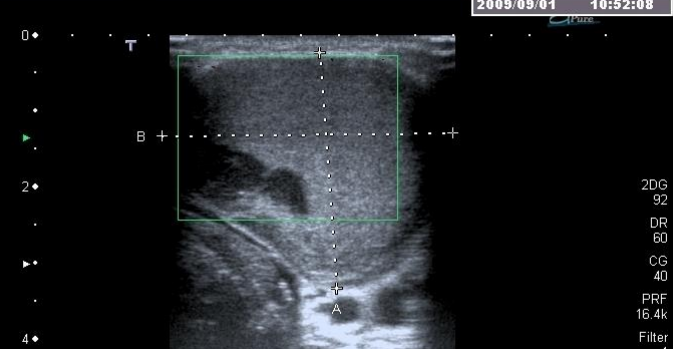




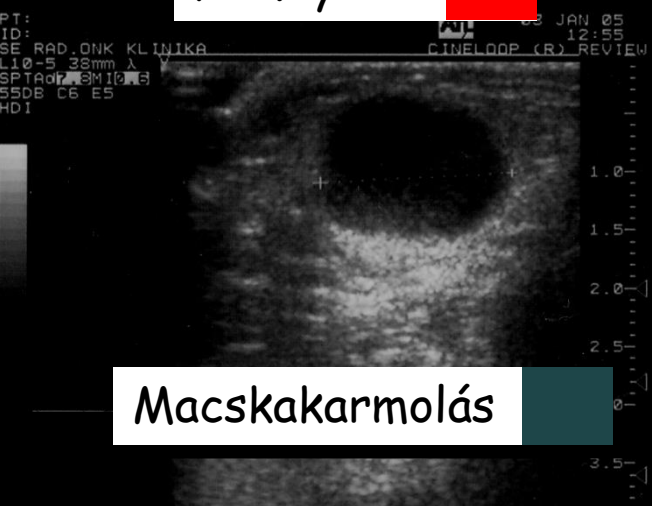
Foll. ly



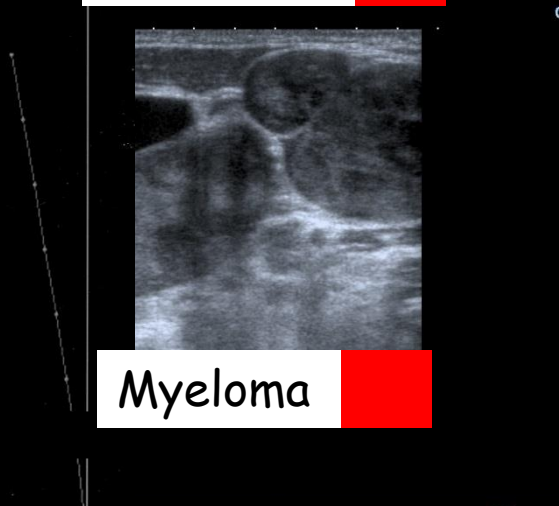
CLL



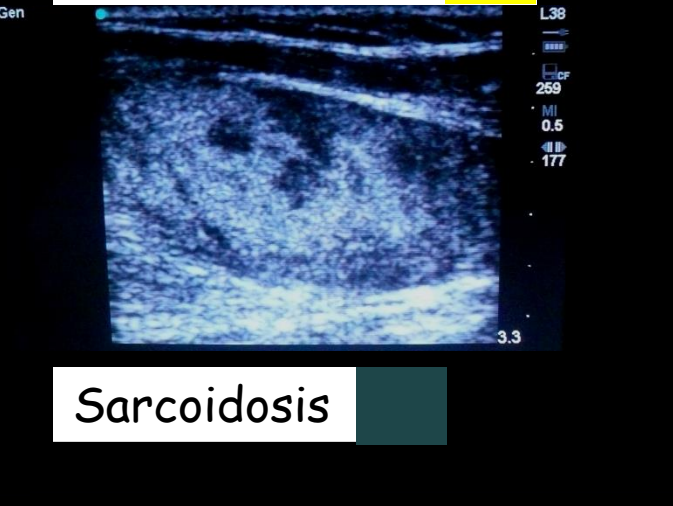
Nyaki cysta



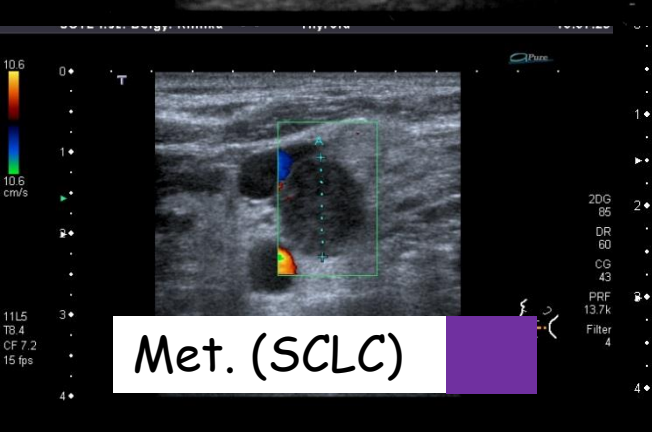
Macskakarmolás



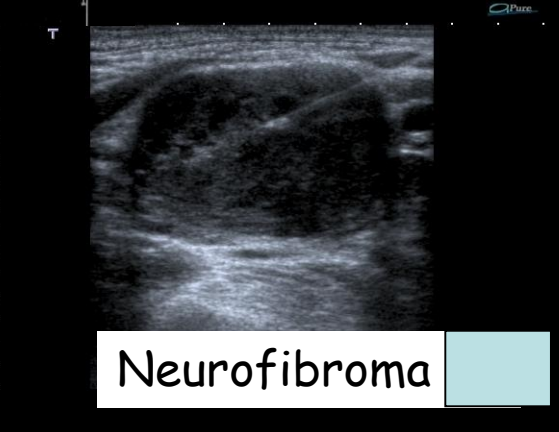
Myeloma



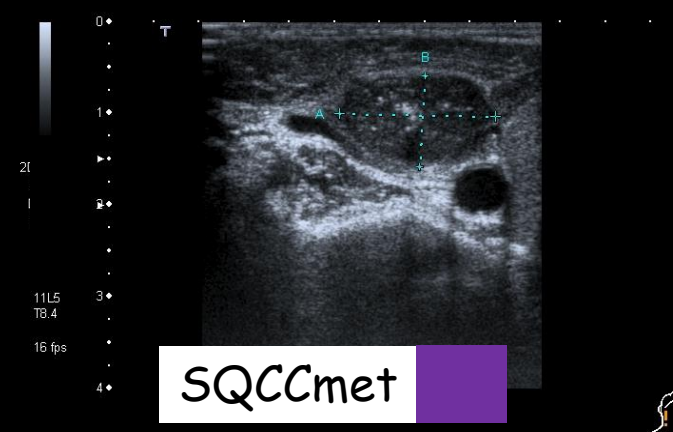
Sarcoidosis



Met. (SCLC)



Neurofibroma



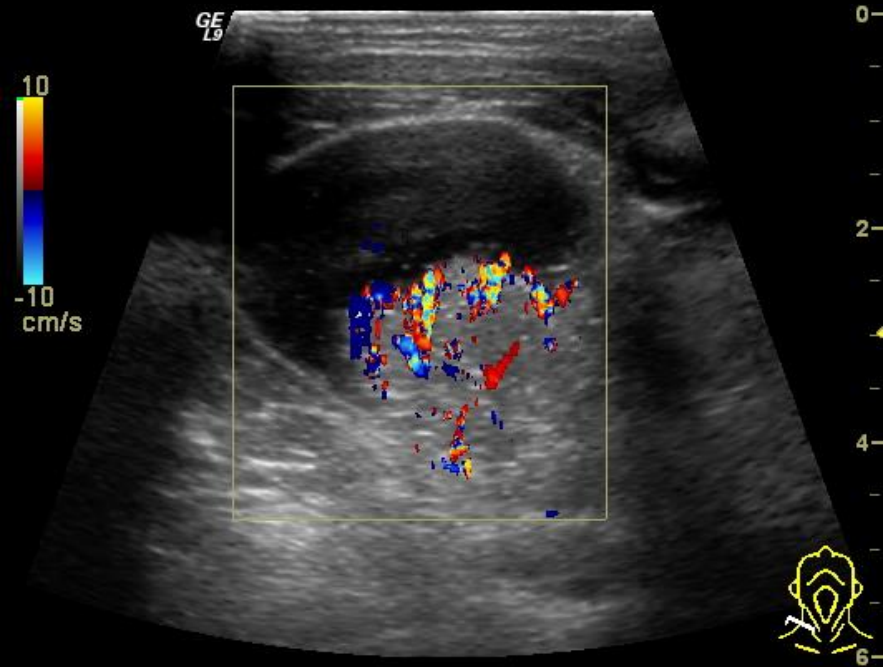
SQCCmet

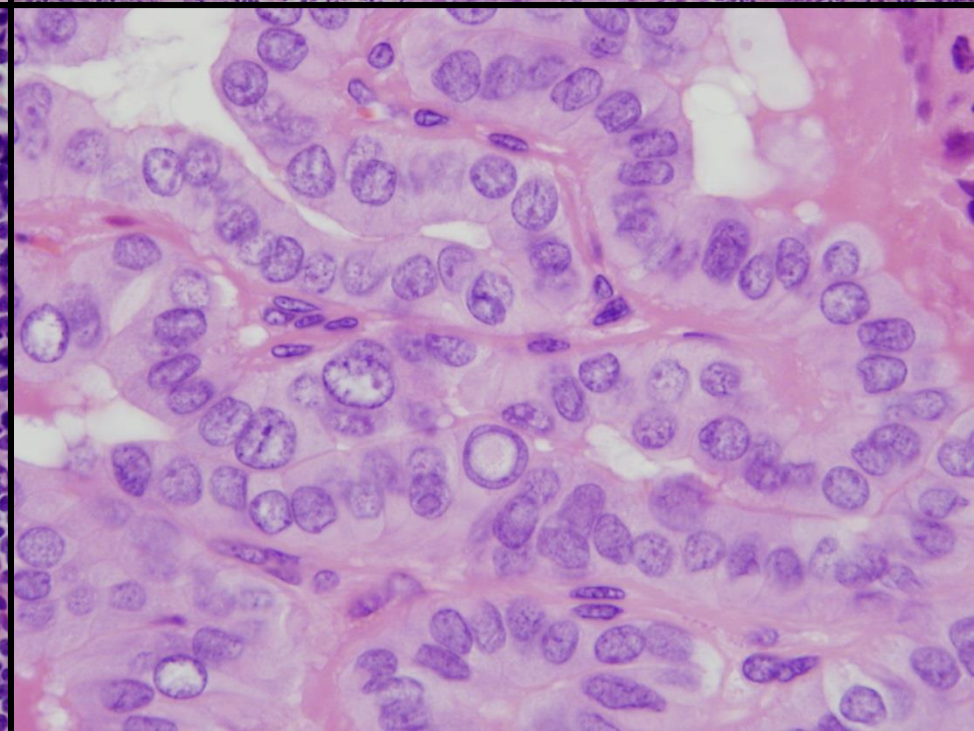
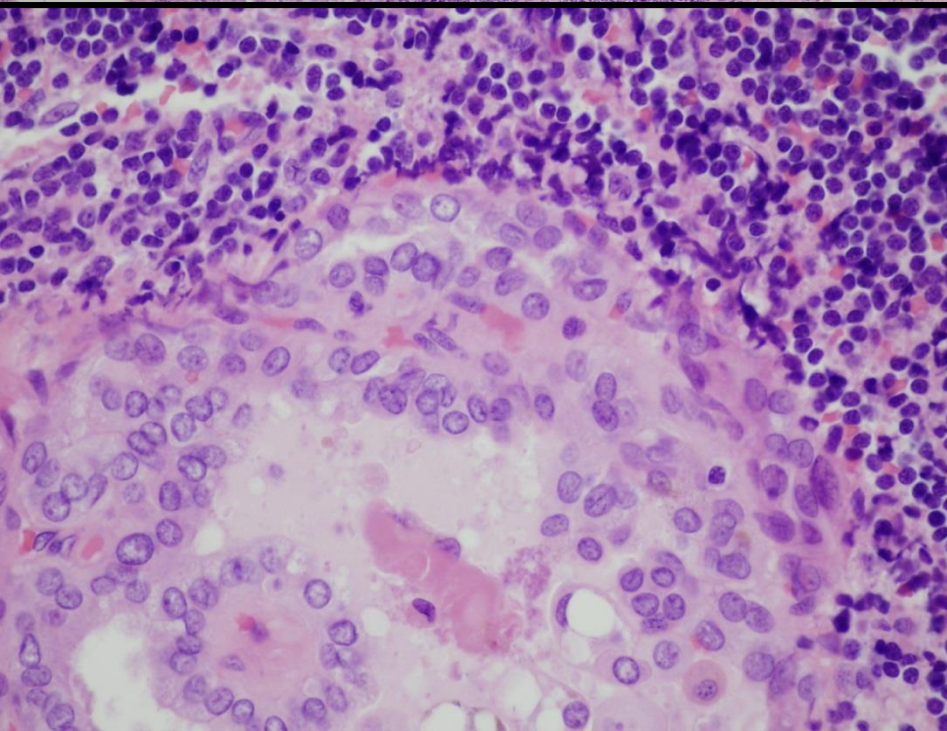
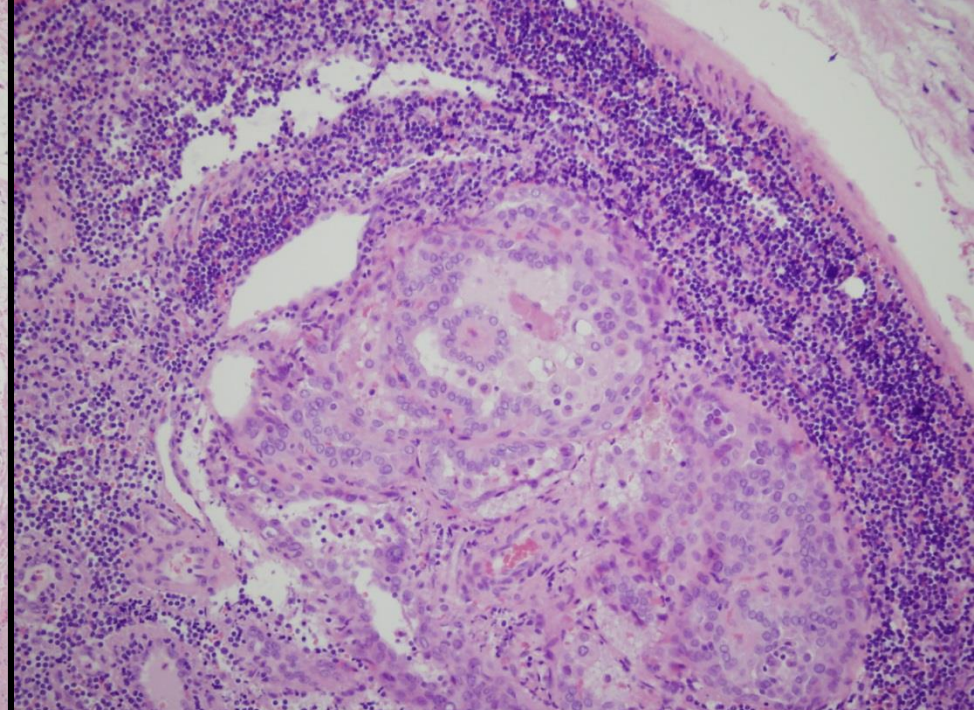
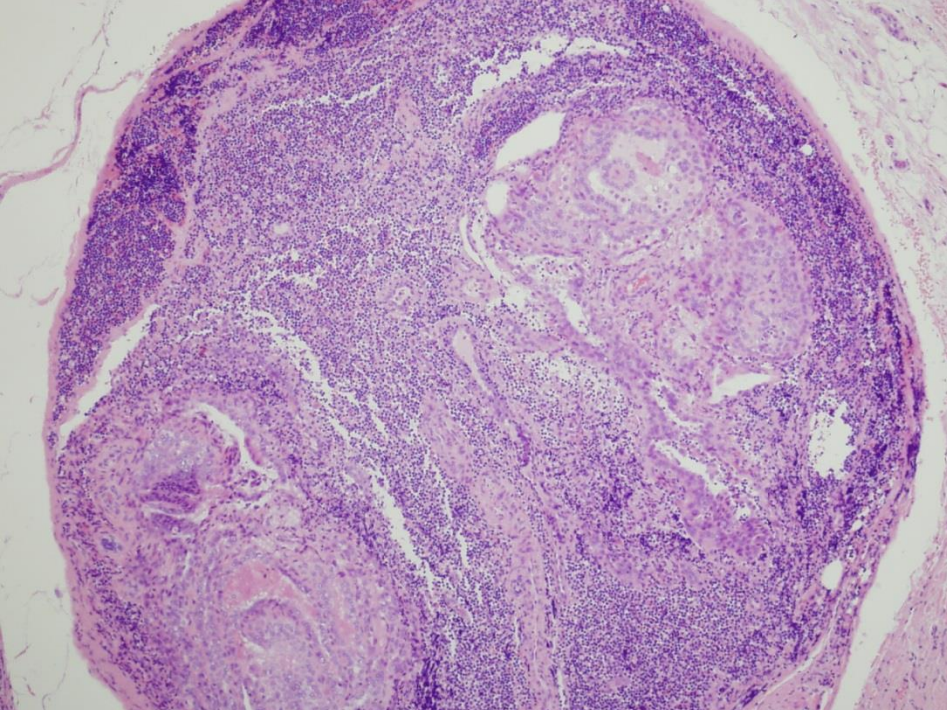


Mi történhet, ha a túlságosan határozott radiológiai diagnózisra alapozva, morfológiai vizsgálat nélkül történik a beteg kezelése?



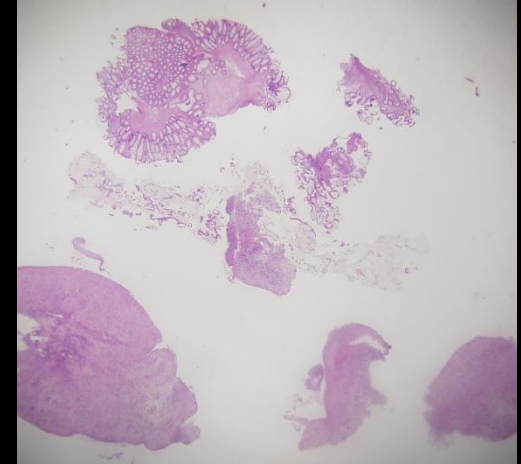
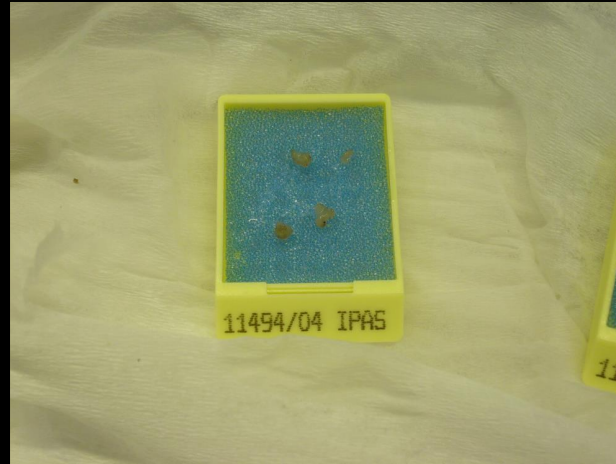
16 éves fiú
Nyaki duzzanat.
UH, CT:
glomus tumor



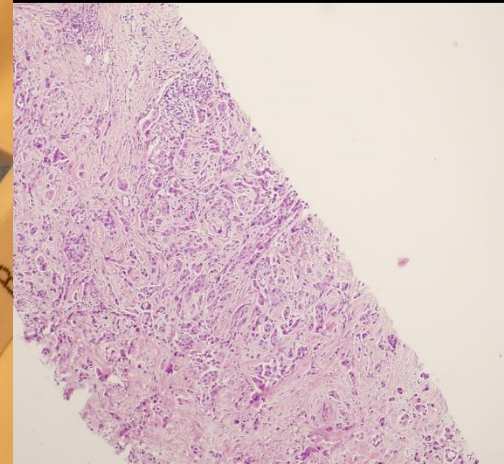
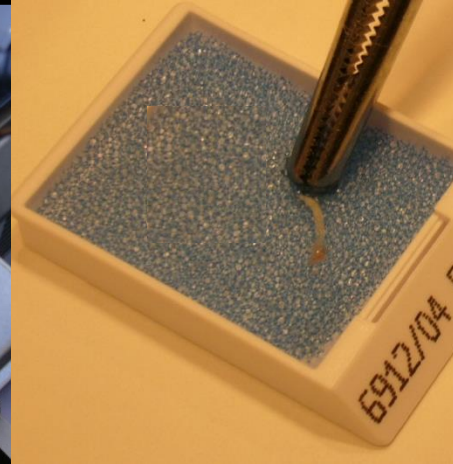


Szövetteni biopszia

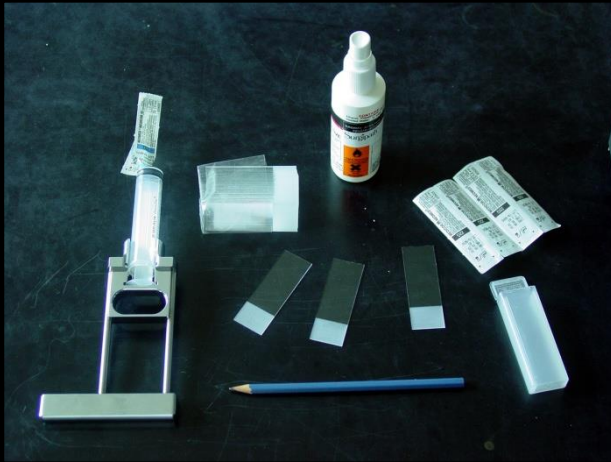
Kicsípő-biopszia



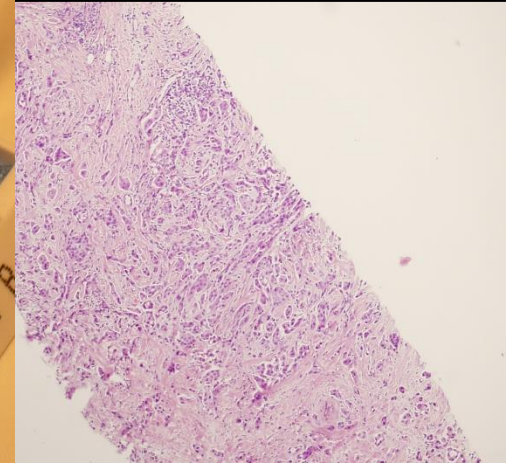
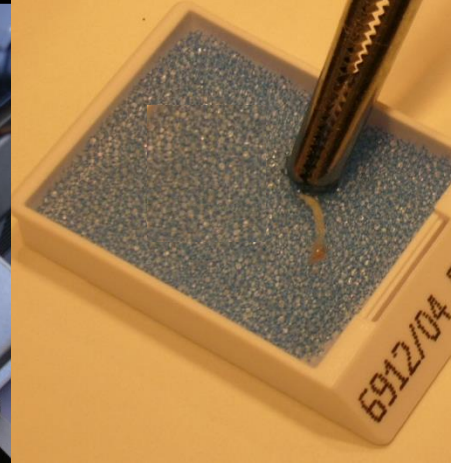
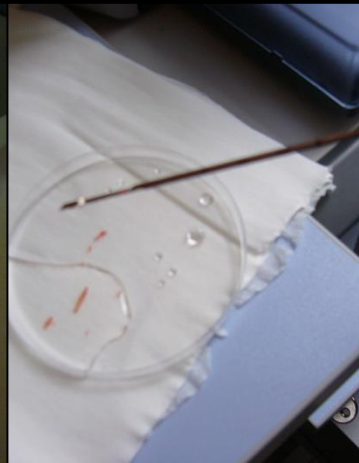
Vastagtű-biopszia



Vékonytű-biopszia (kenet, cytológia)



Vastagtű-biopszia (szövethenger, szövettan)

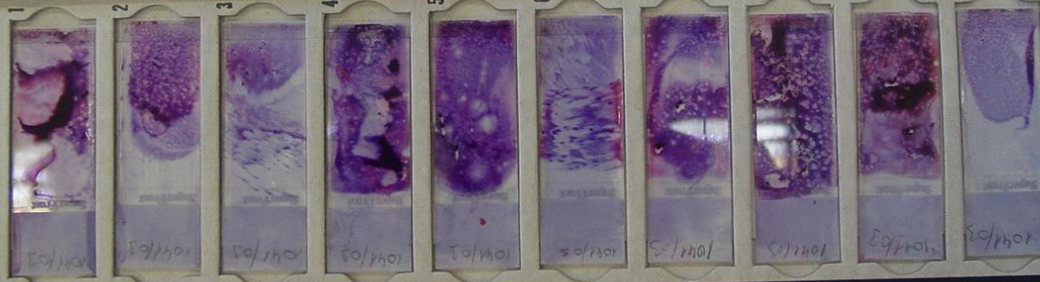


• INDEX •

Kenet

PROPERTY OF

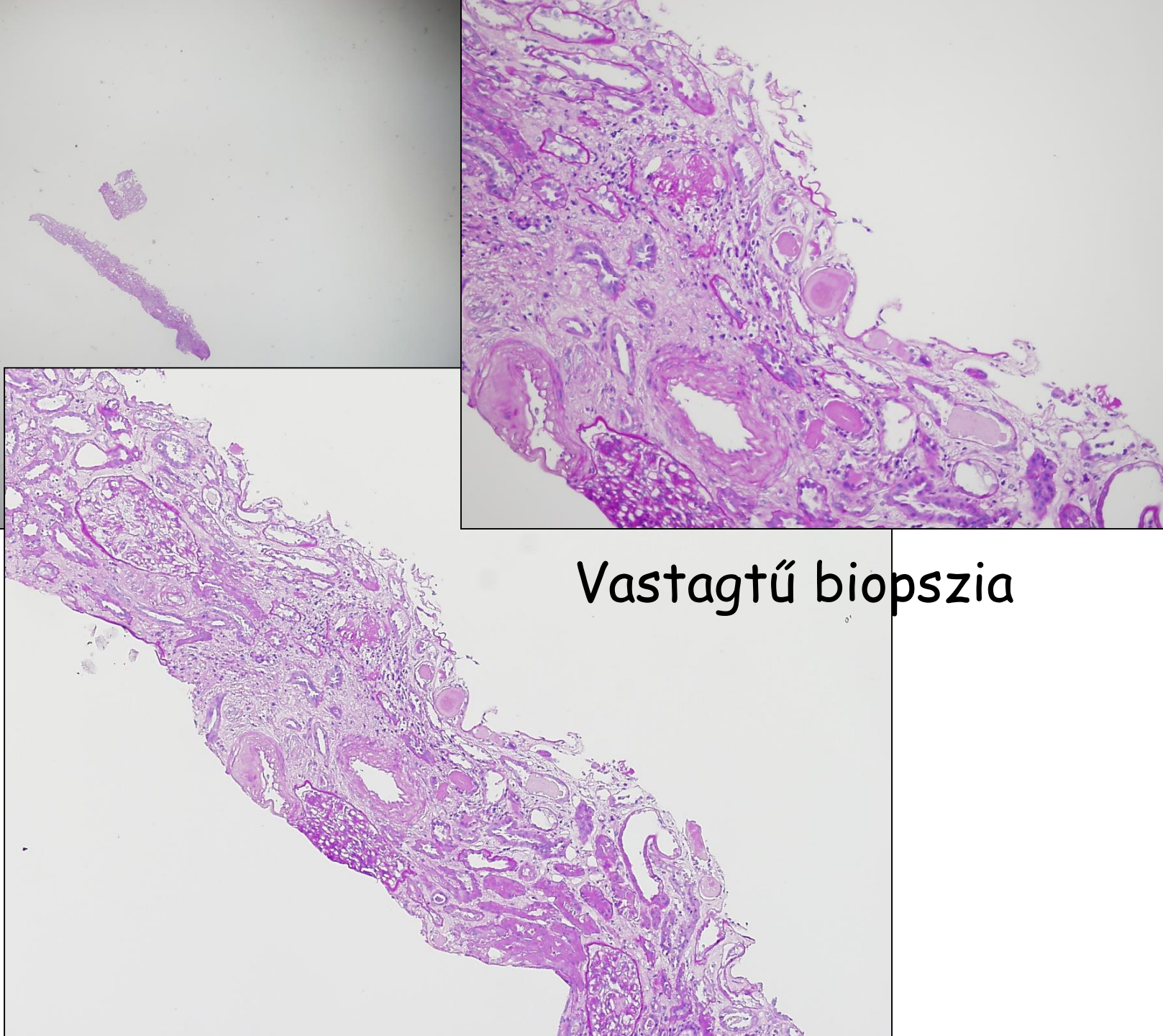
11
12
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20



Metszet

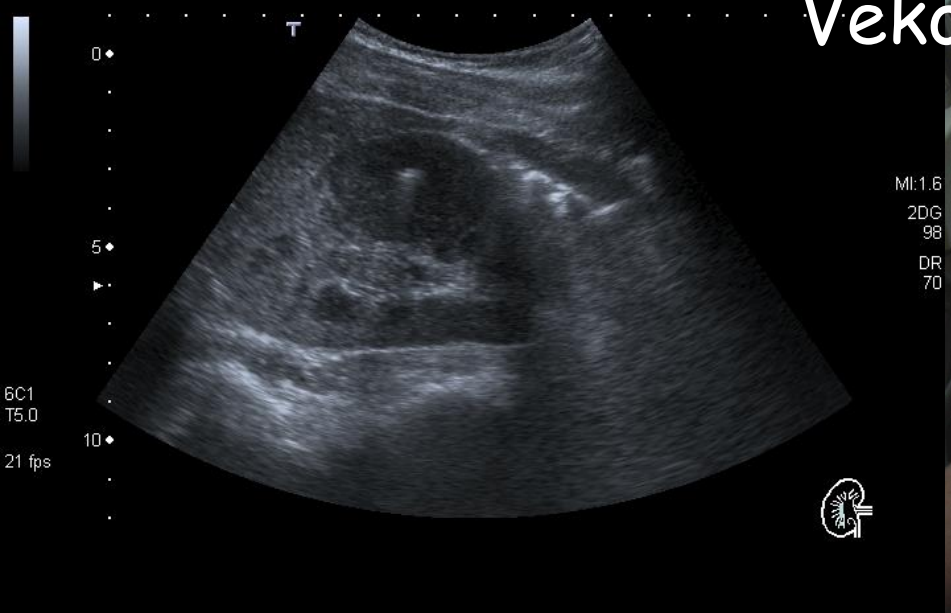
Vastagtű biopszia - vese

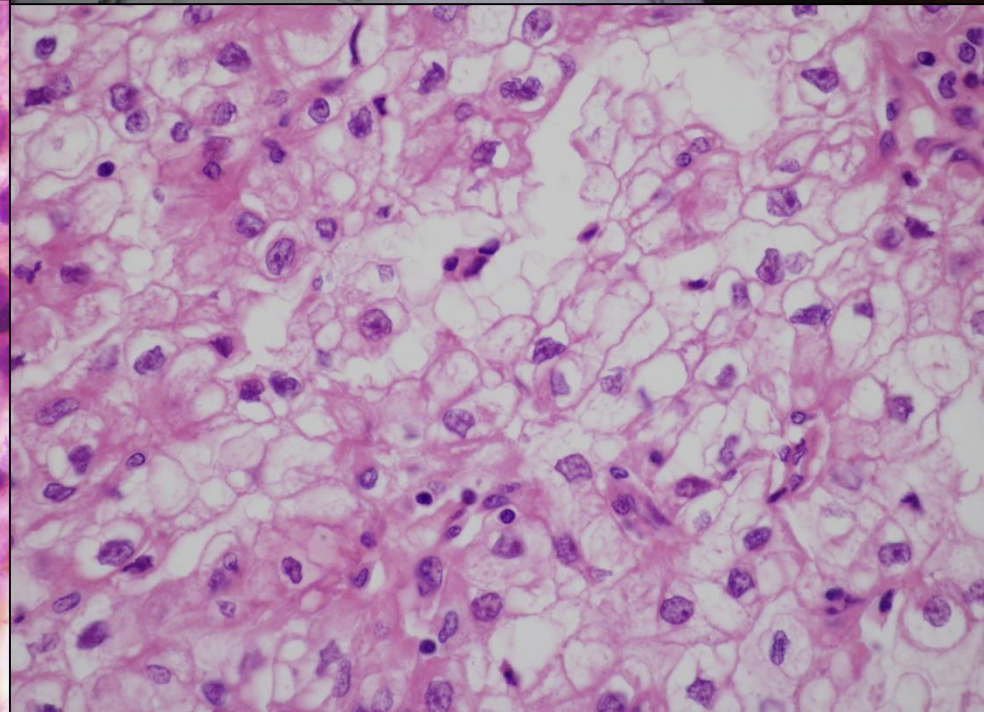
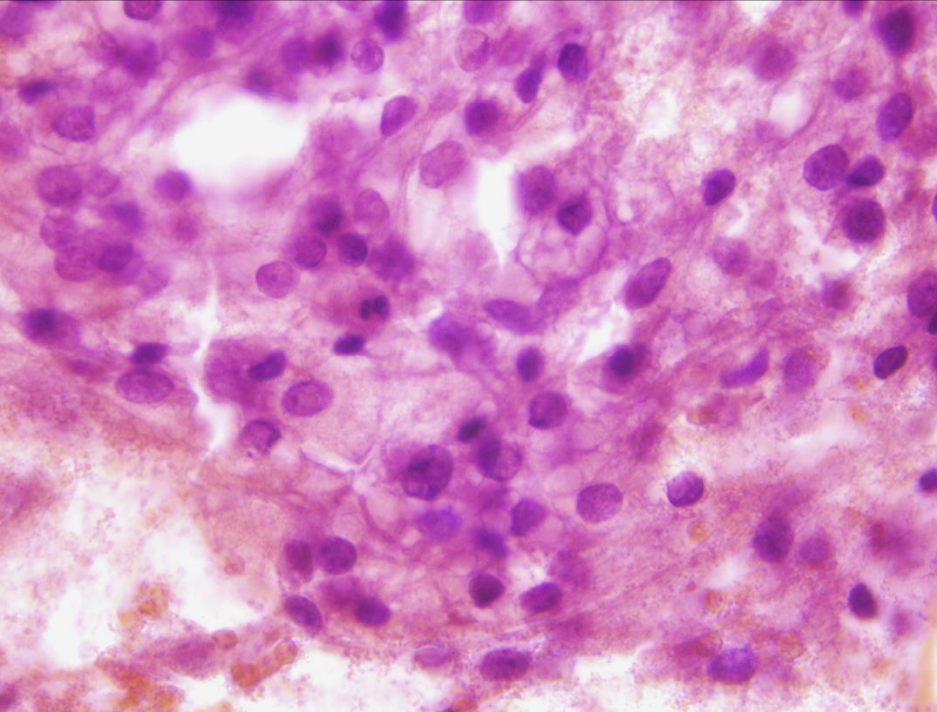




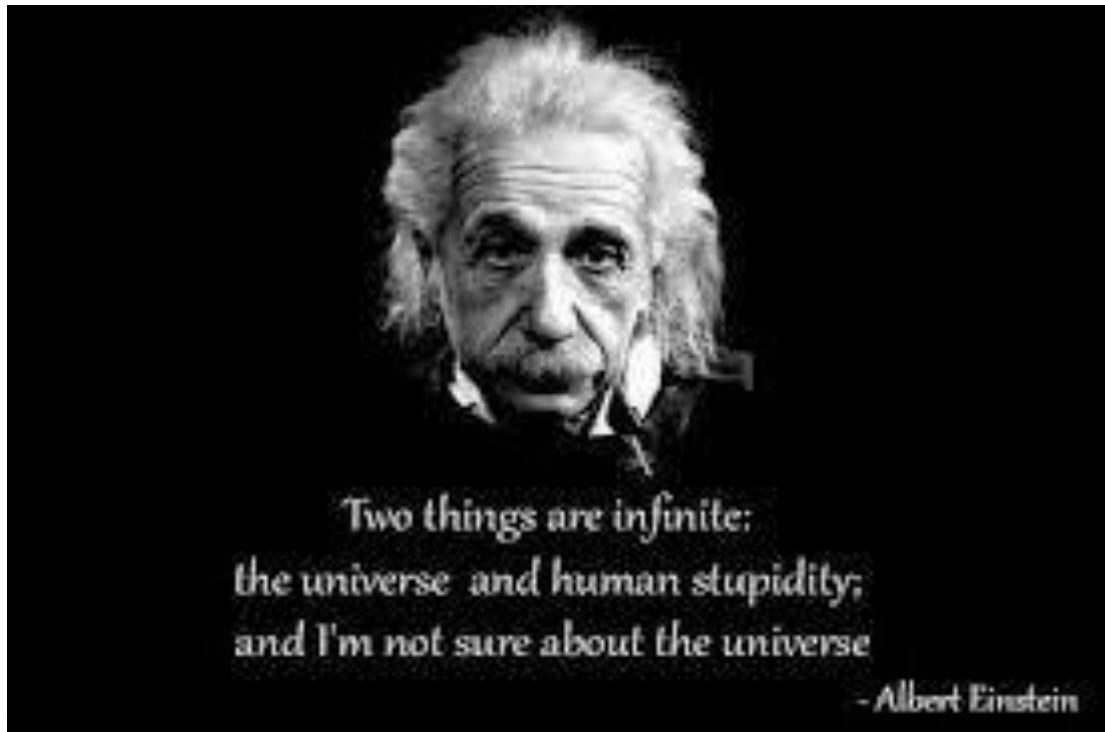
Vastagtű biopszia

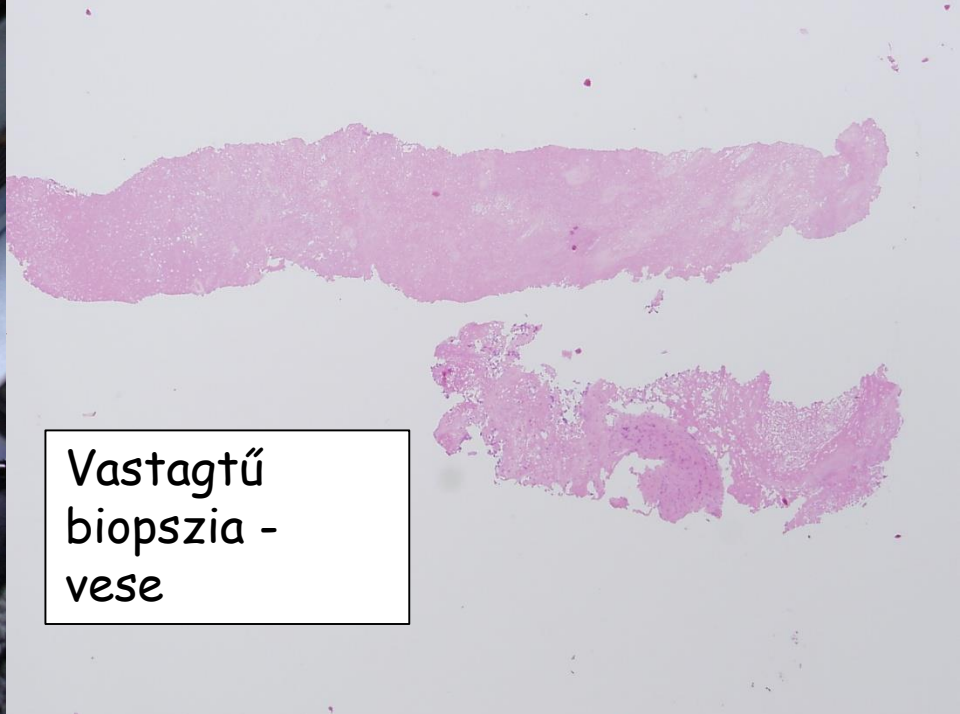
Vékonytű biopszia - vese



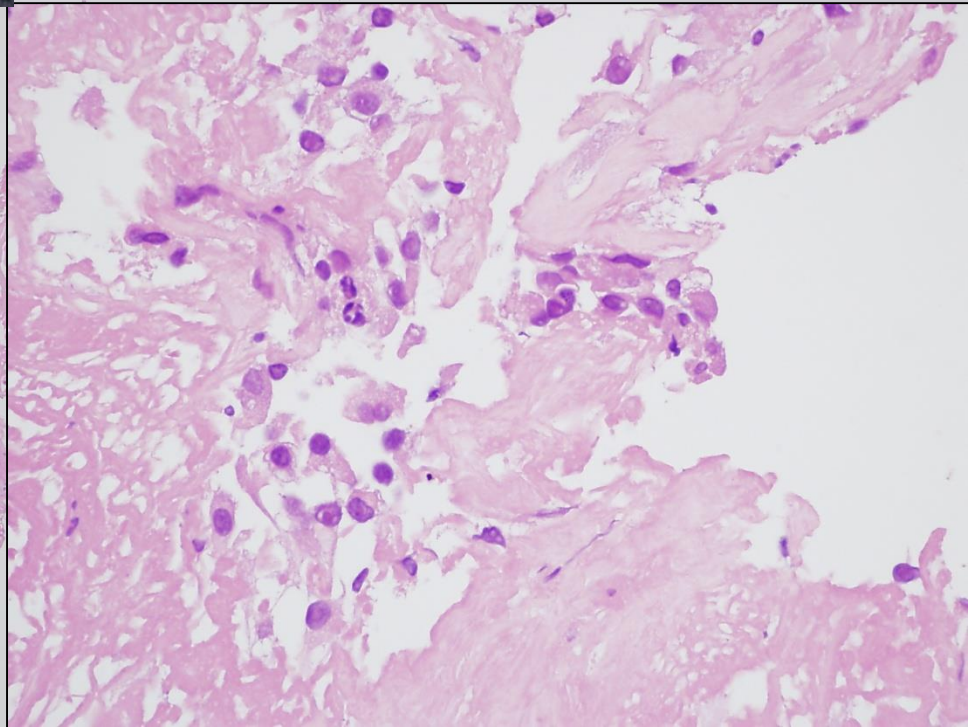
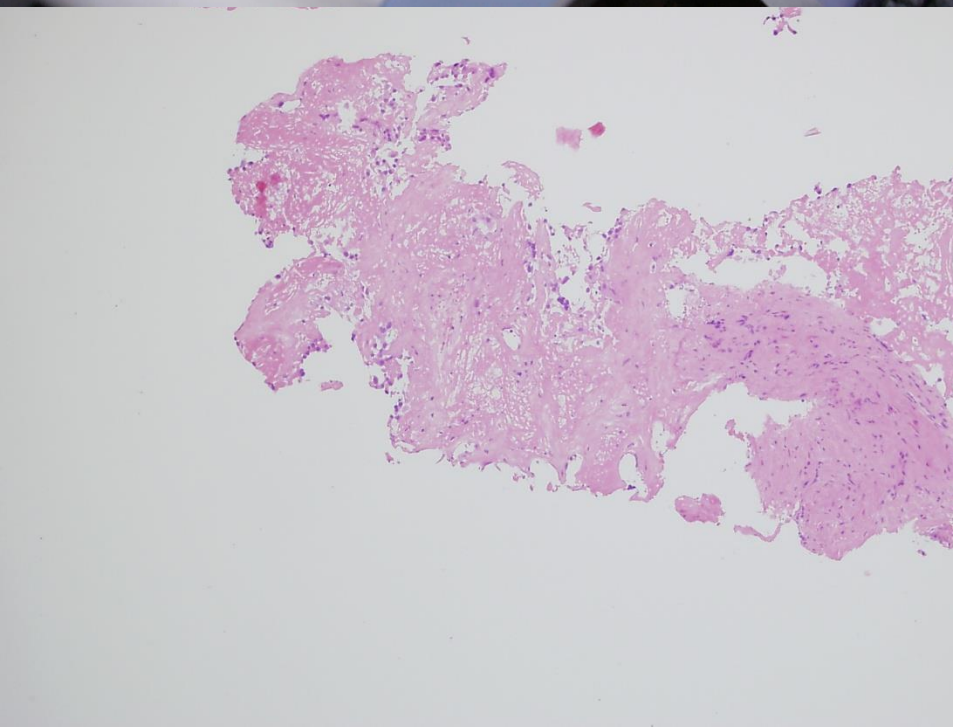


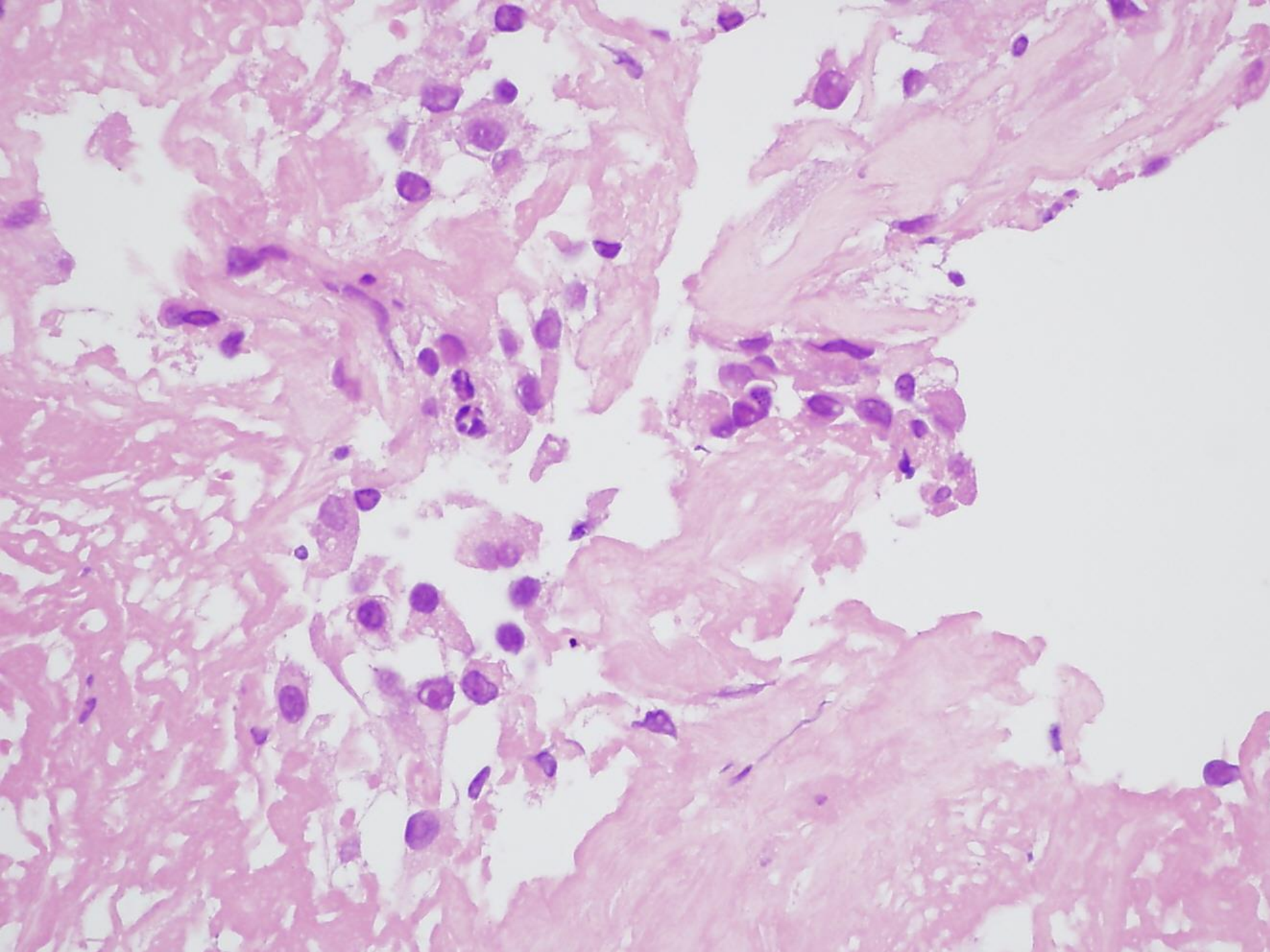
Az emberi / orvosi butaság



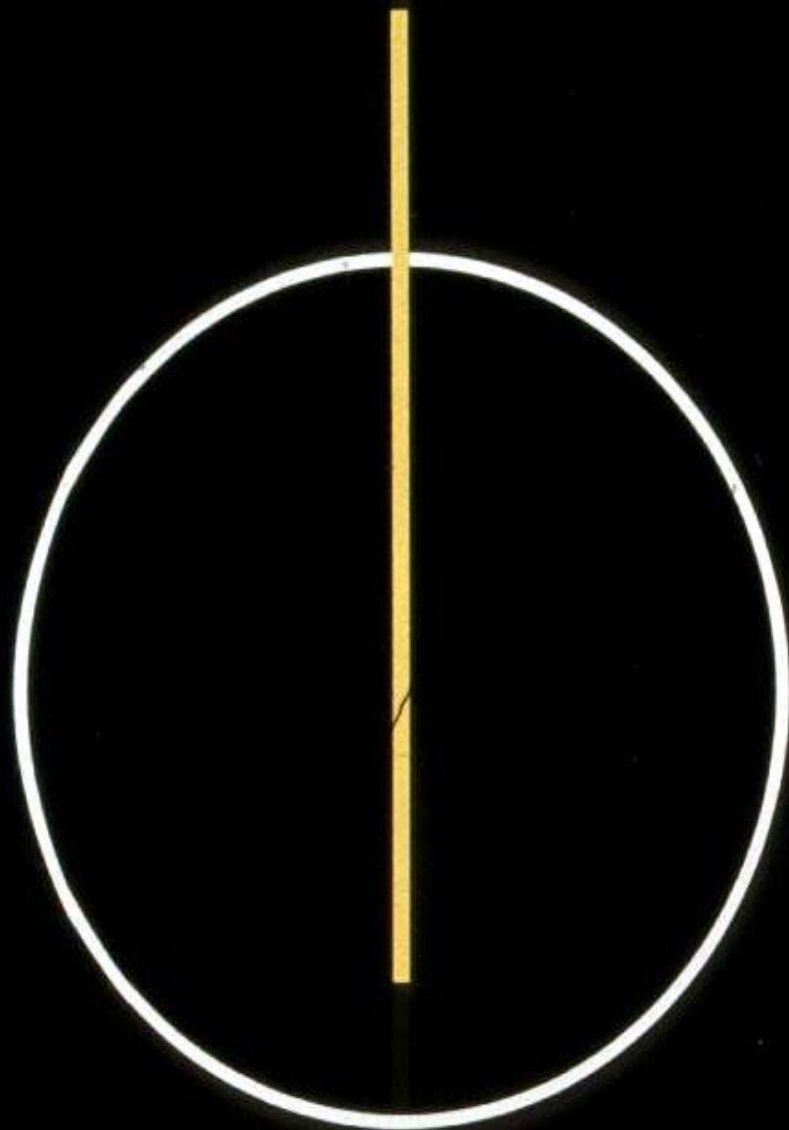


Vastagtű
biopszia -
vese



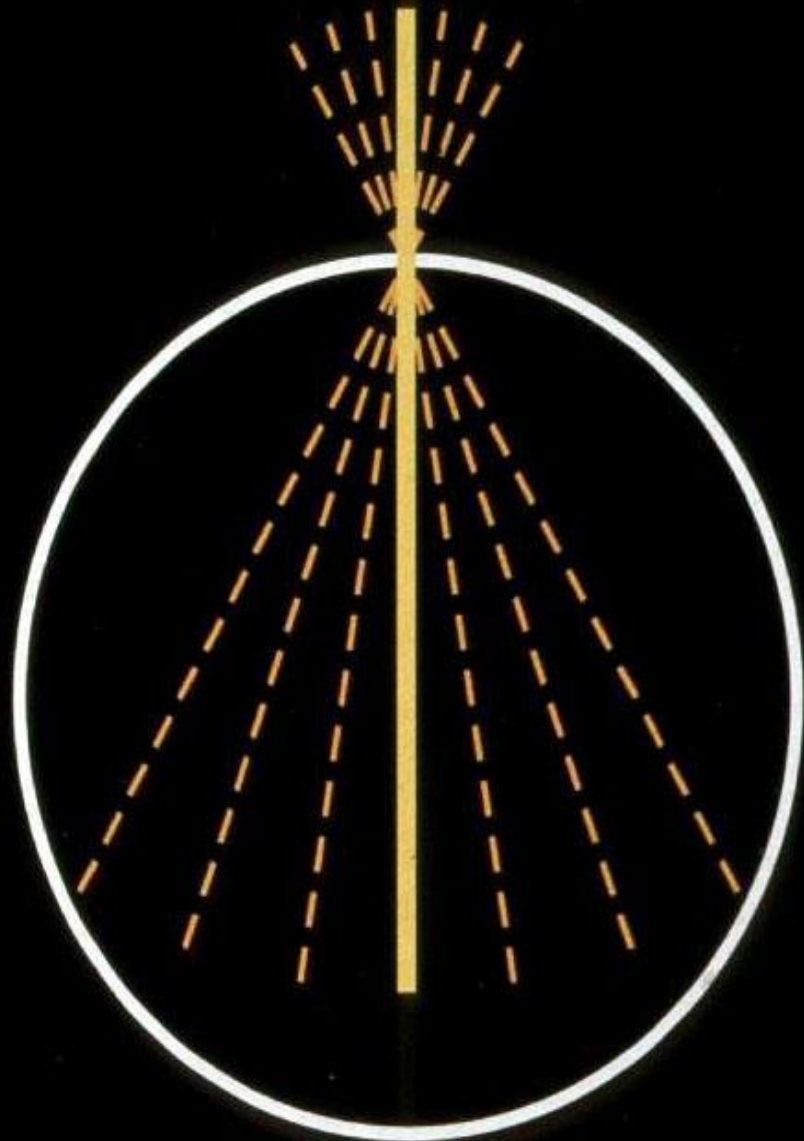


1 Plane



Core Biopsy

>10 Planes

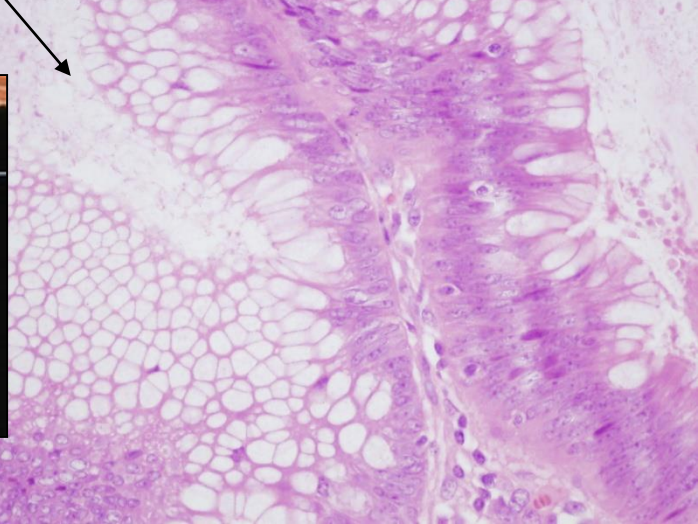
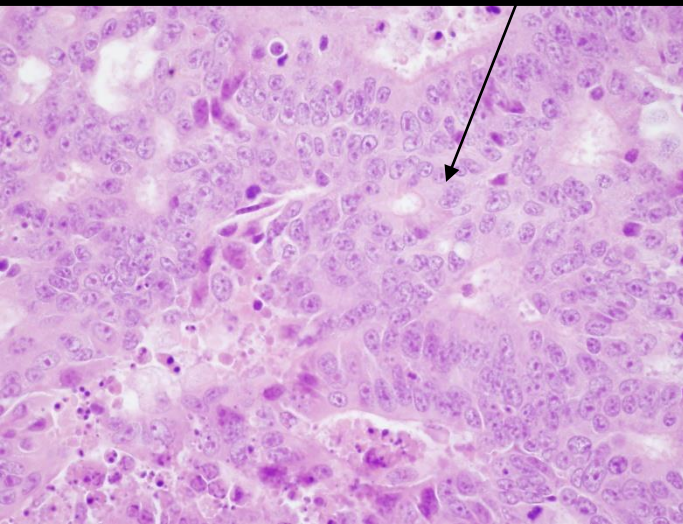
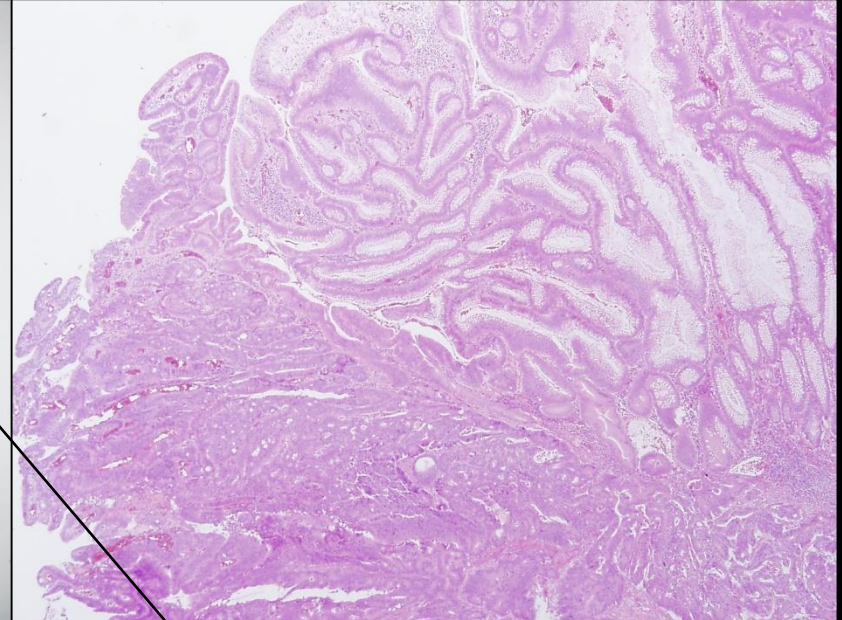
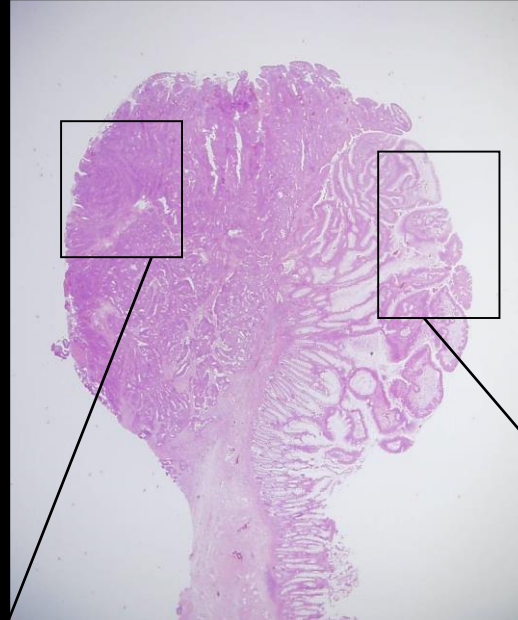
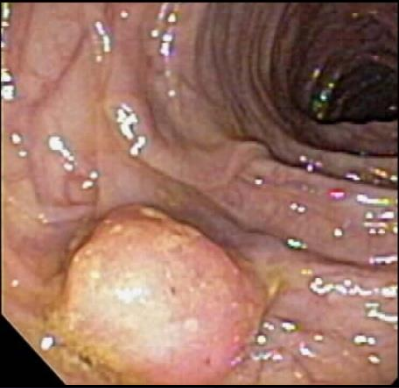


FNA Biopsy

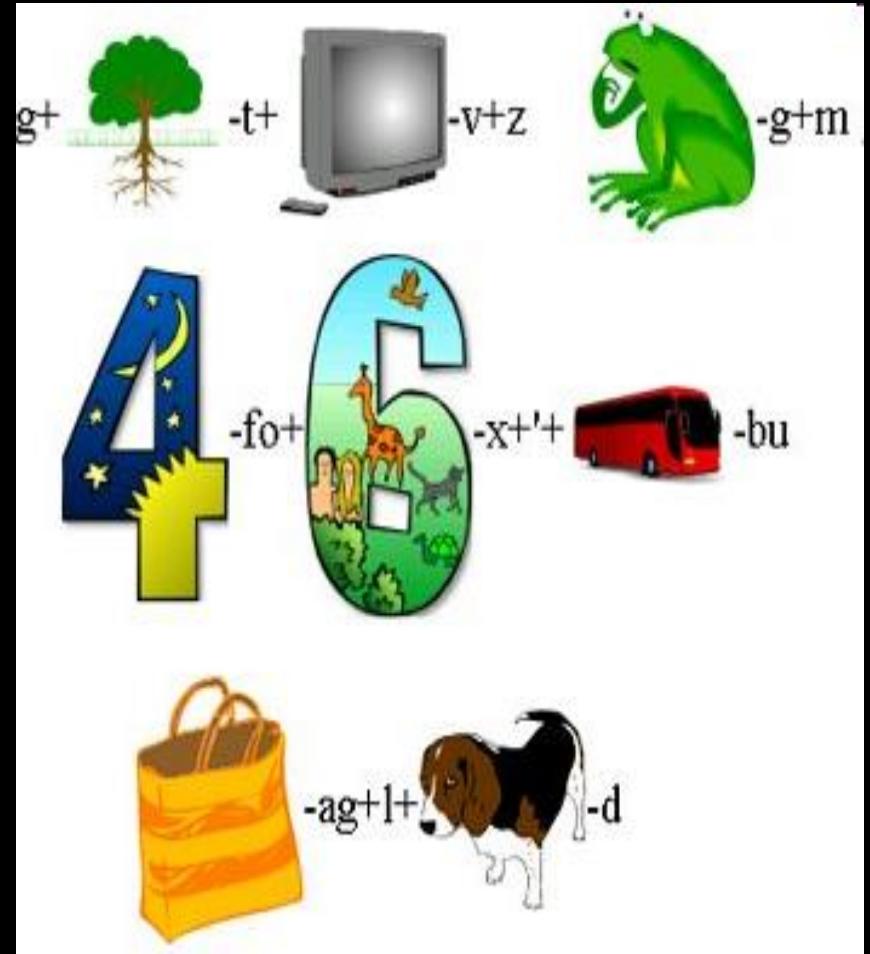
A biopszia nagy veszélye hogy.....



Honnan kapjuk a mintát?



Mit jelent pontosan a pathológus munkája?





METAMORPHOSIS: Pathology Resident



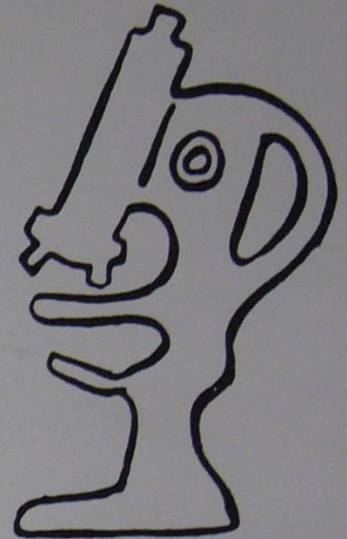
1ST YEAR



2ND YEAR



3RD YEAR



4TH YEAR

A cytológiai vizsgálat

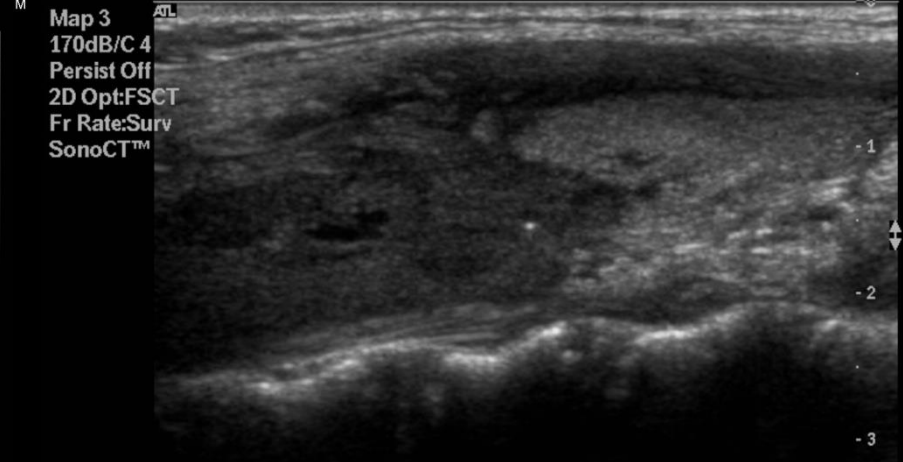


A cytológiai vizsgálat

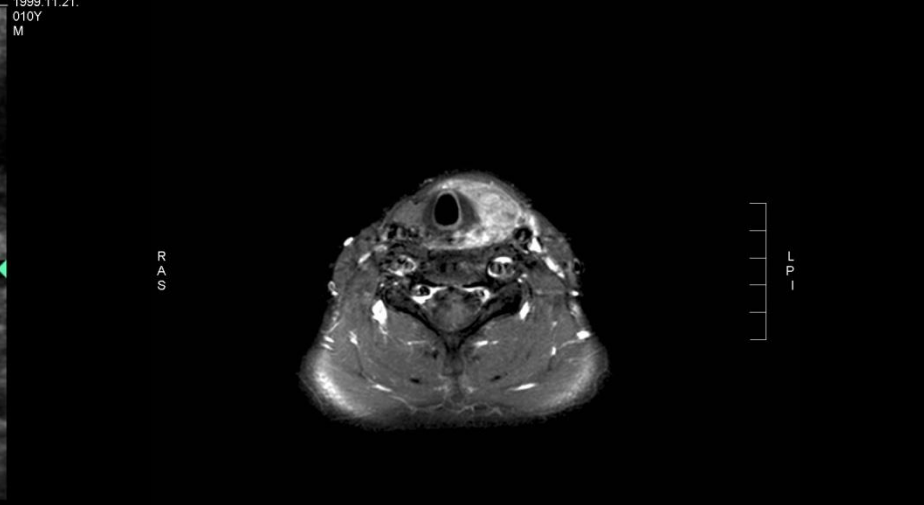
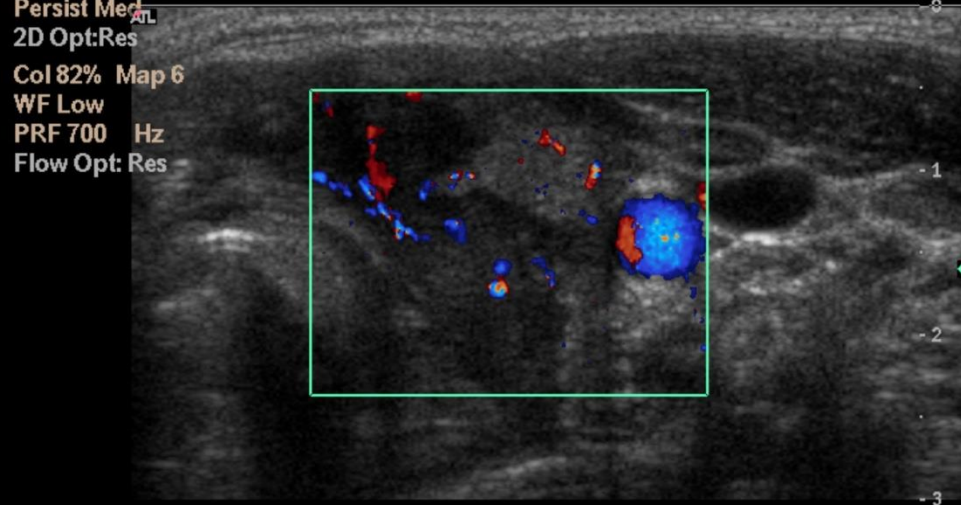


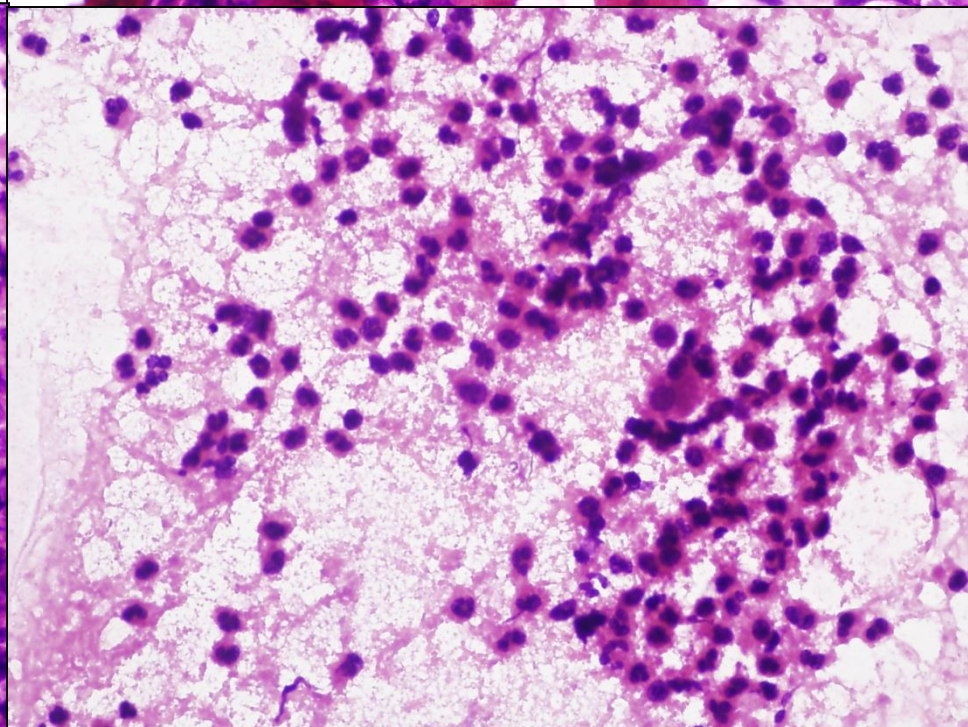
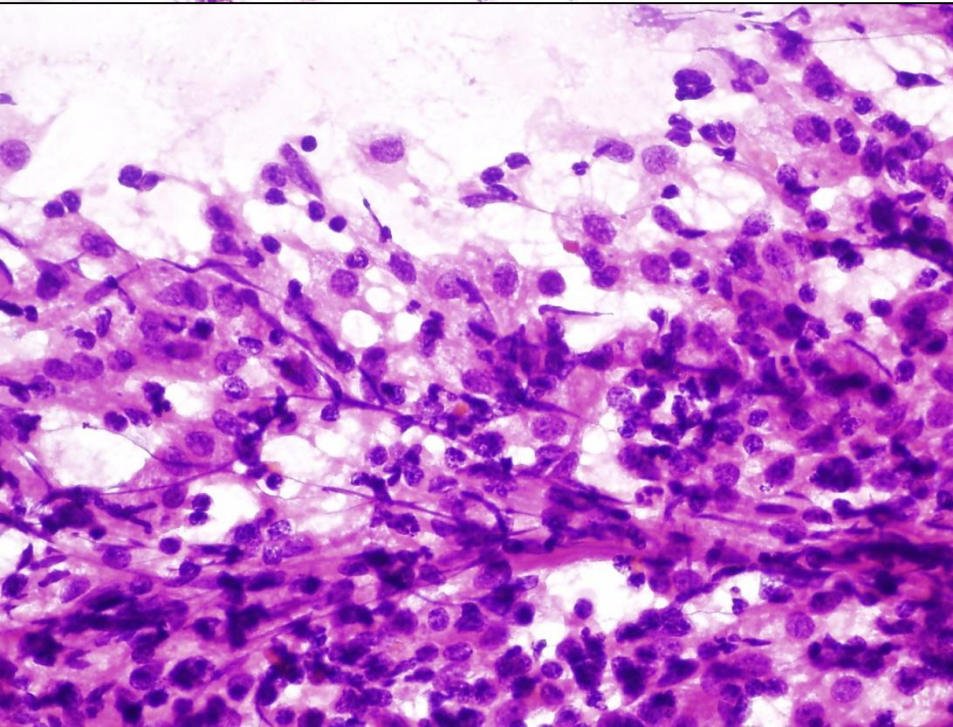
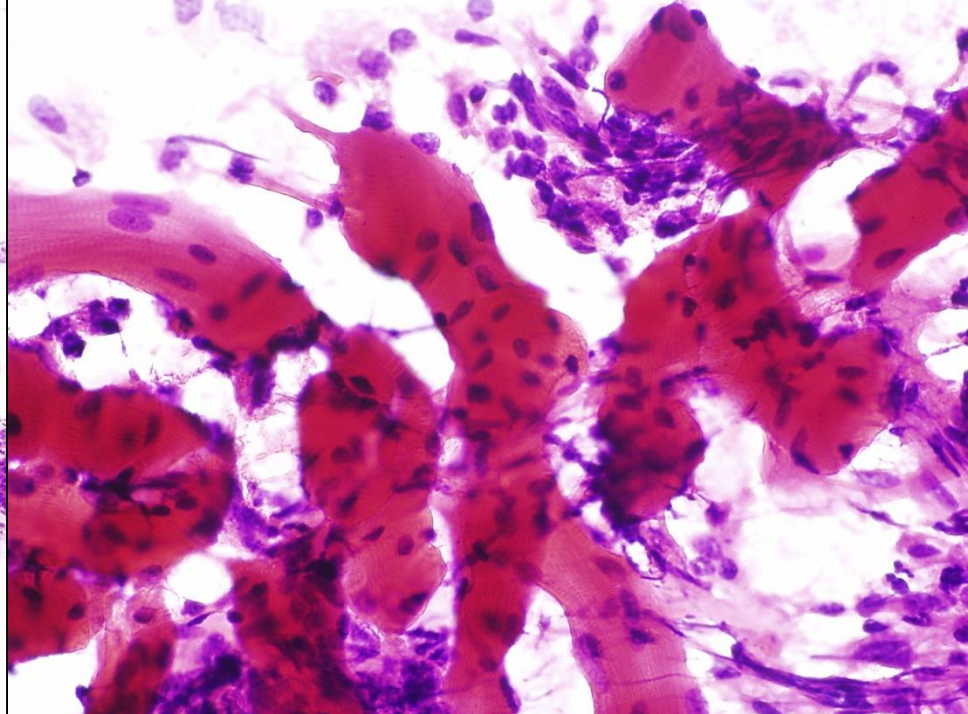
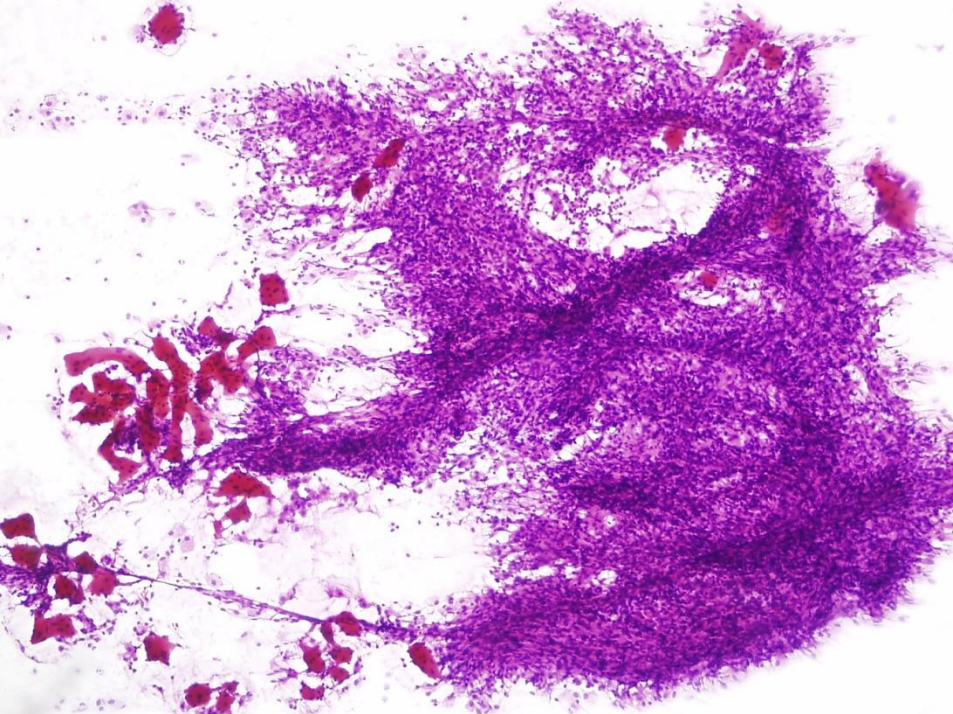


Az elkészült kenetek értékeléséhez is mikroszkóp szükséges



K.T. 11 éves. Kl.: Tumor a pajzsmirigyben. Prim.? Met.?

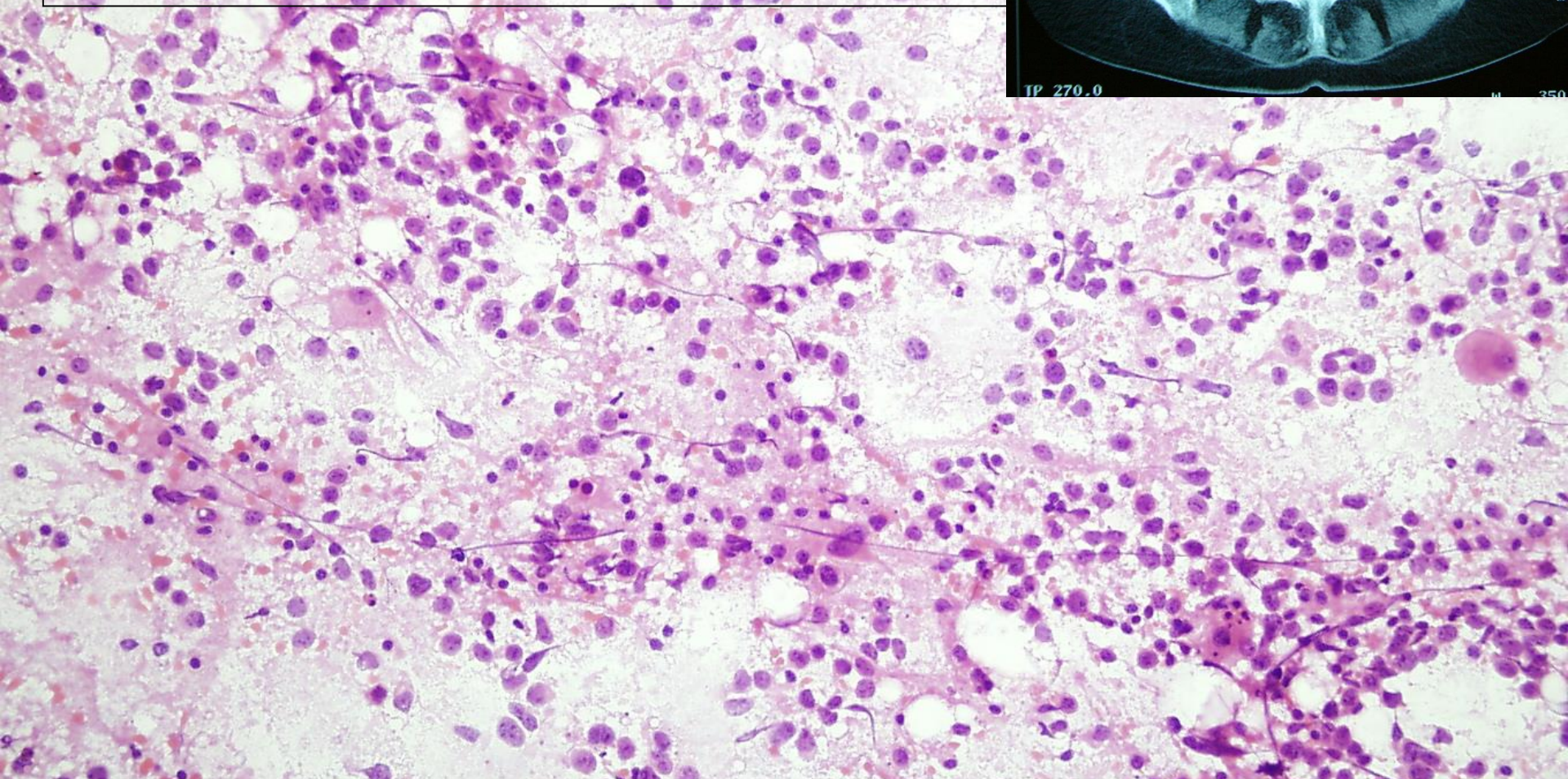
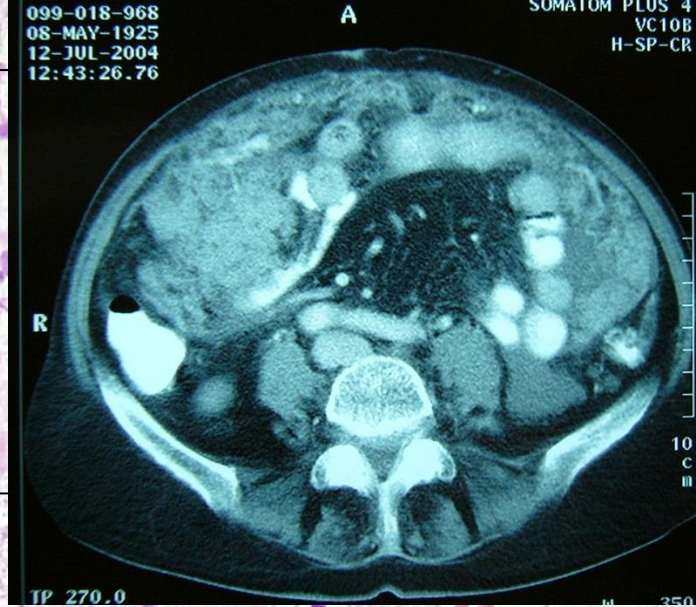




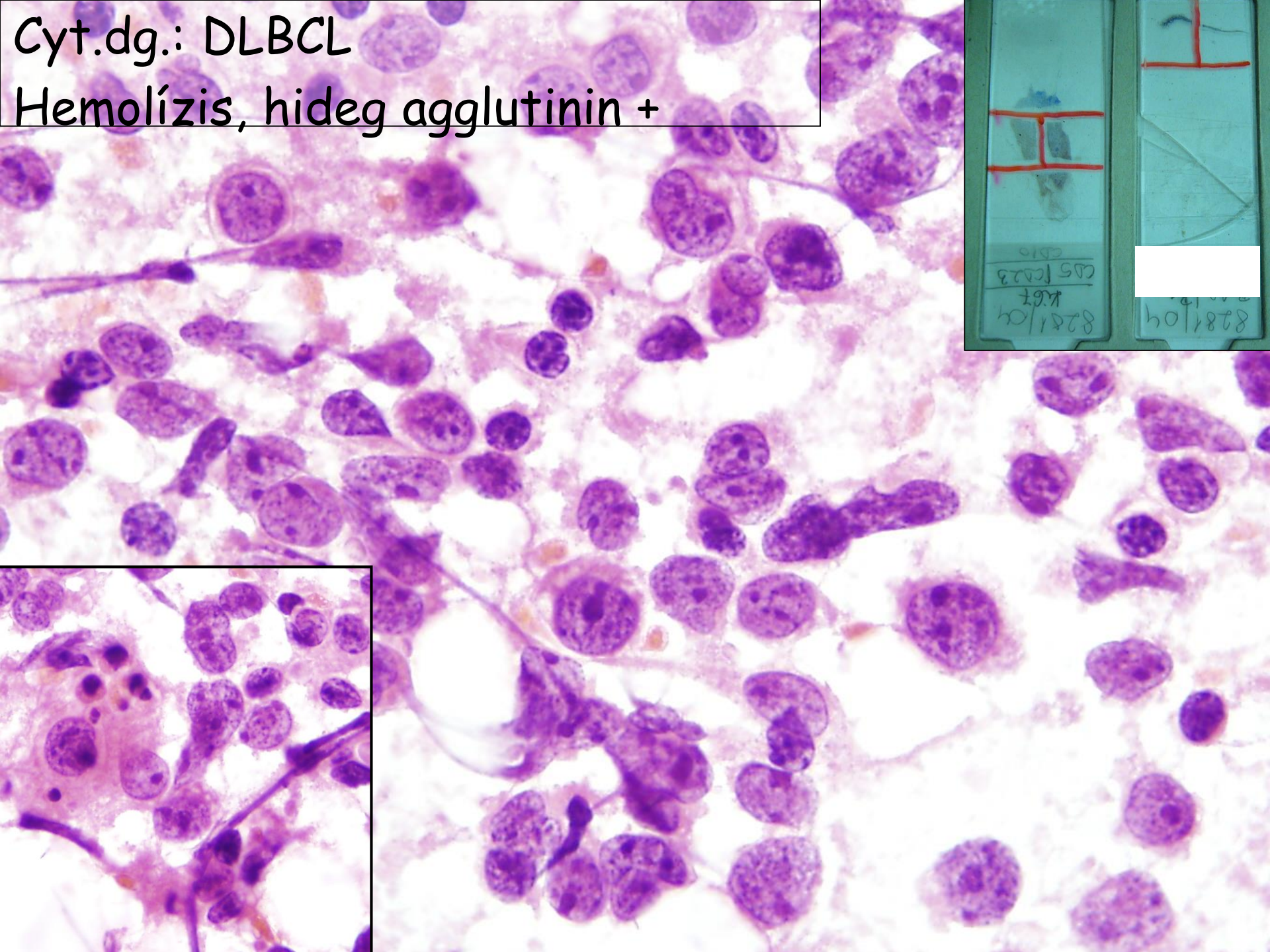
79 éves nő

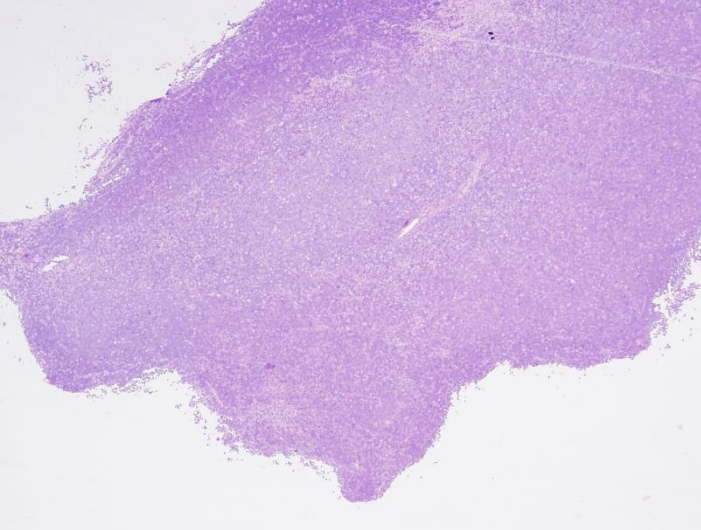
Hasi panaszok miatt CT:
carcinosis peritonei, vs
kismedencei, talán ovarium tumor

099-018-968
08-MAY-1925
12-JUL-2004
12:43:26.76



Cyt.dg.: DLBCL
Hemolízis, hideg agglutinin +



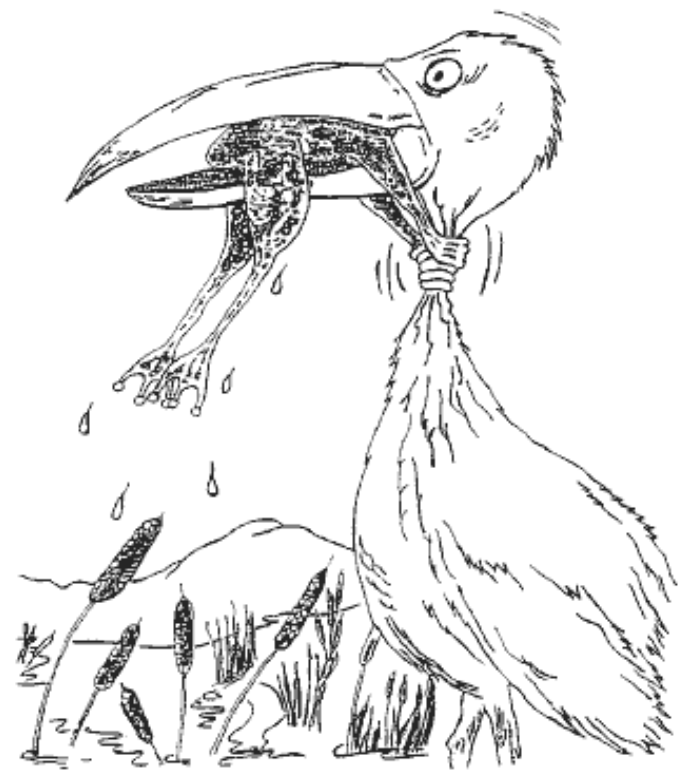


099-018-968
08-MAY-1925
12-JUL-2004
12:43:26.76



1.49:1
wav 2.01:1
100%

8/27



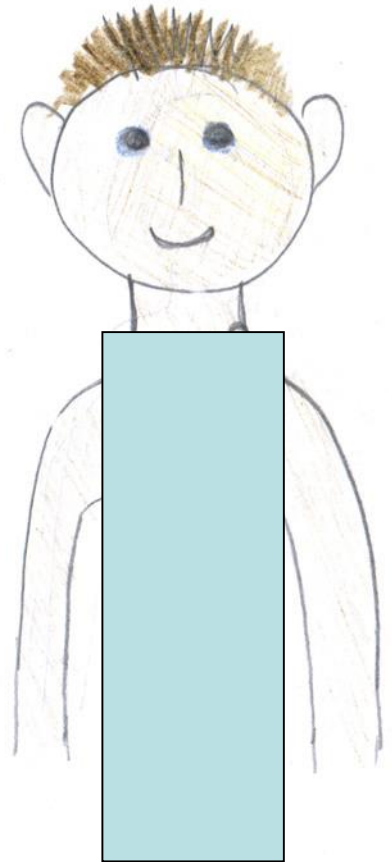
Never ever give up !

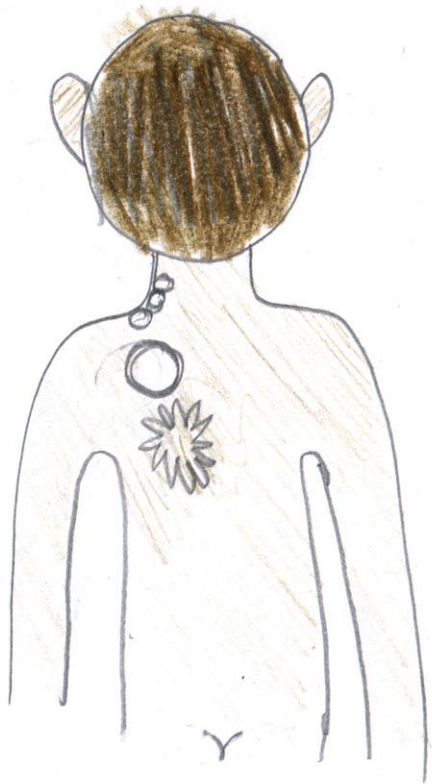
26 éves ffi

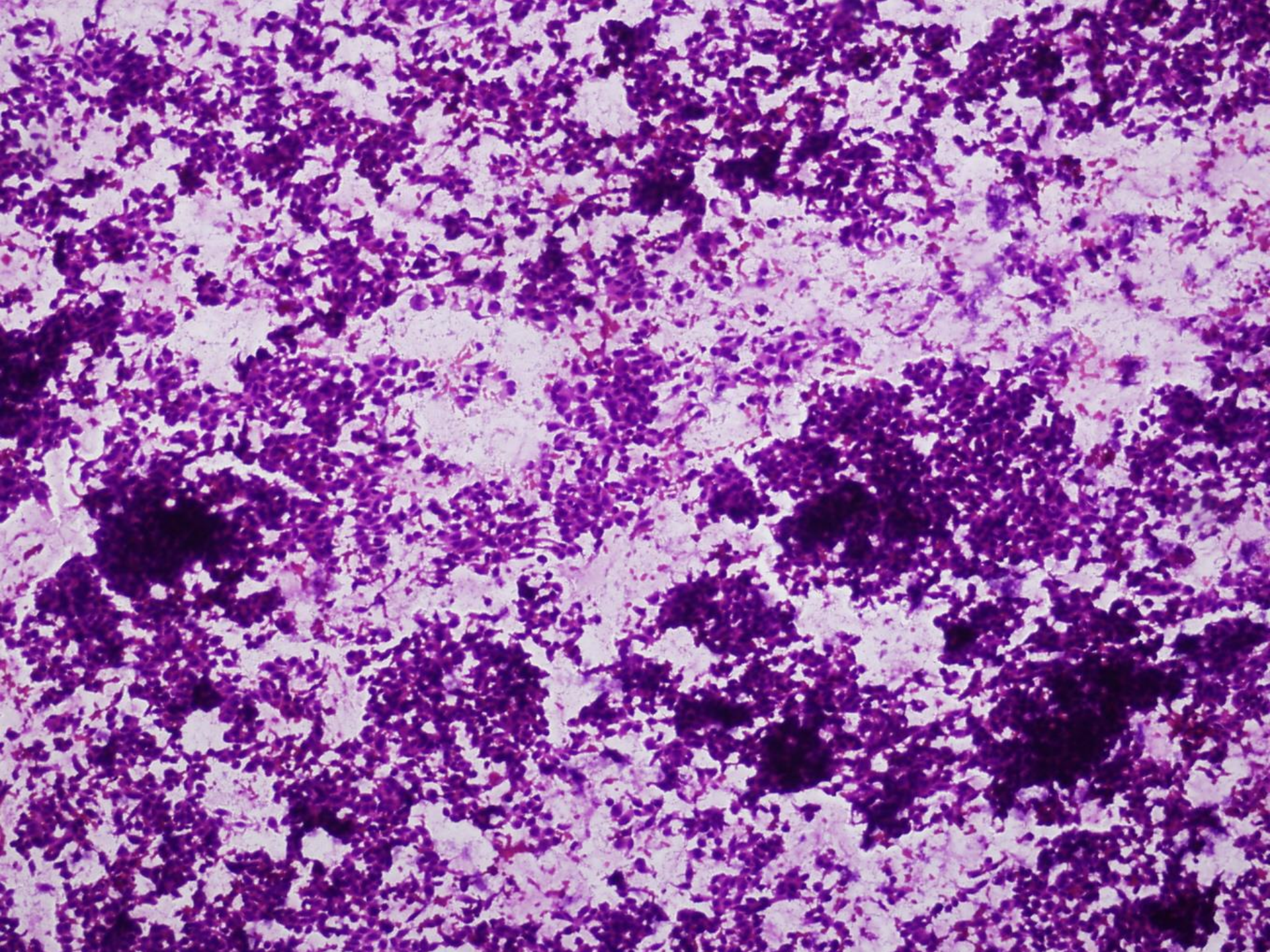
Bo-i nyaki megnagyobbodott
nycs-k.

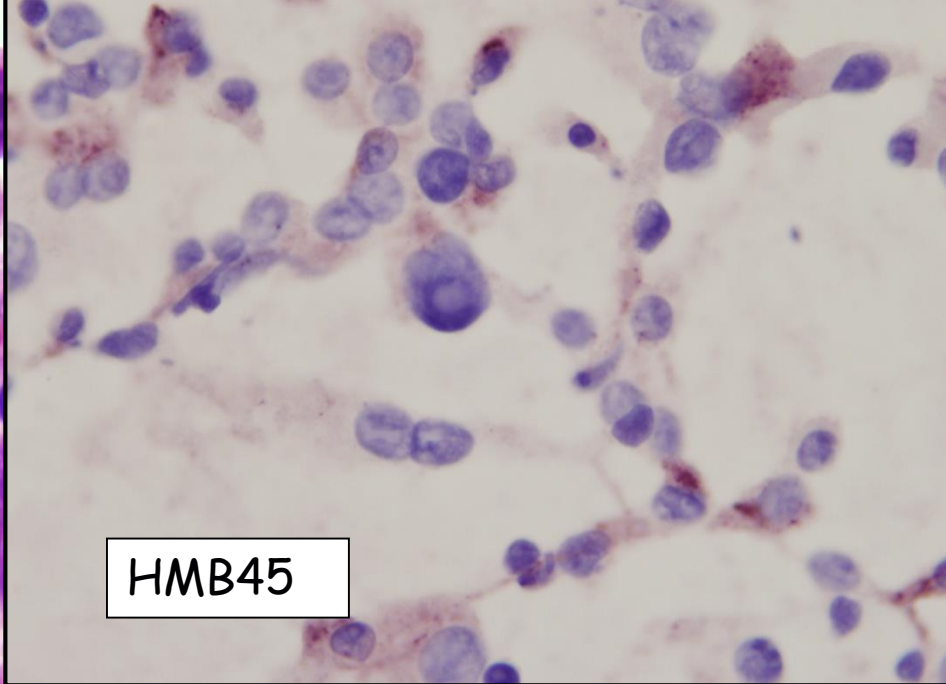
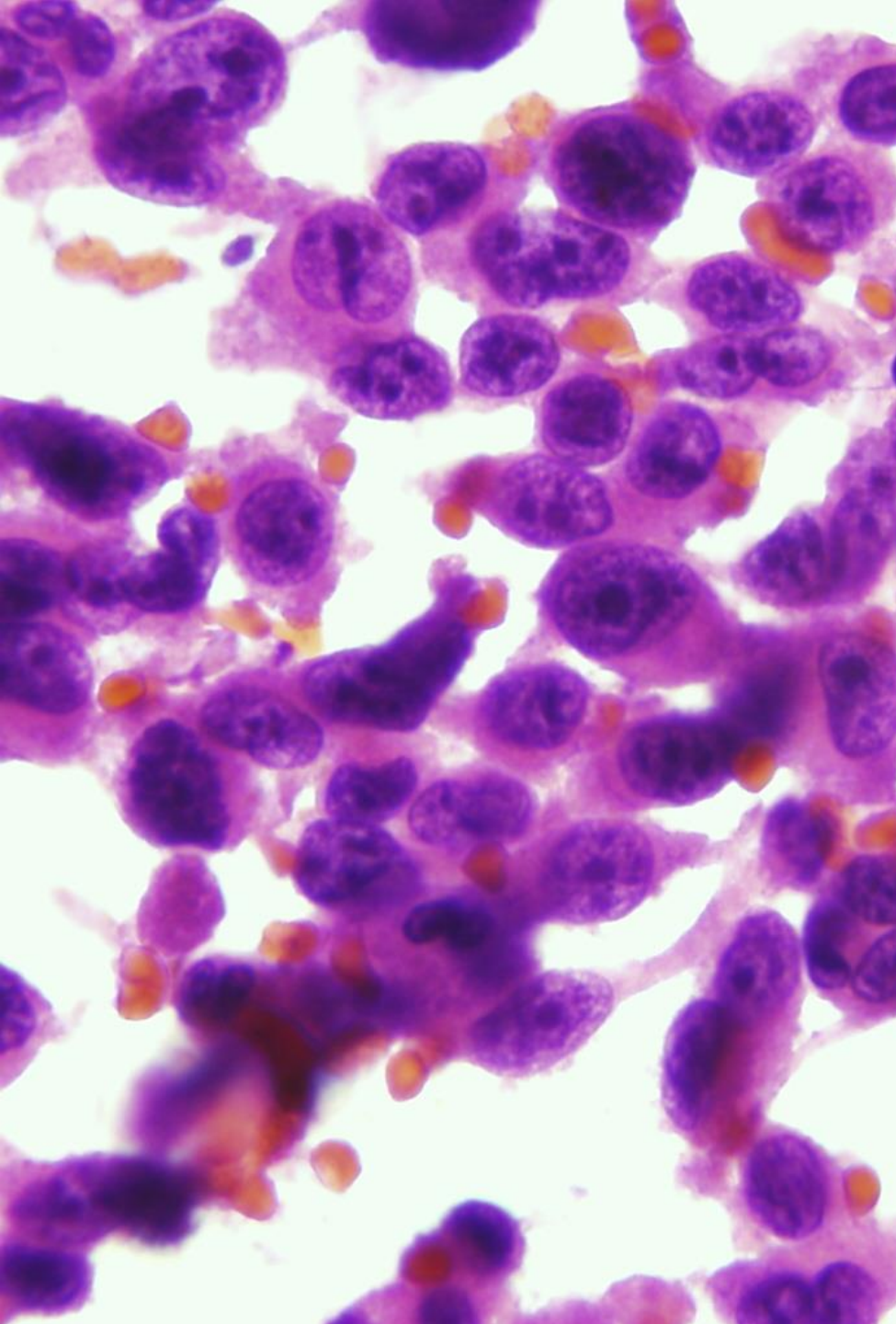
Kl. Dg.:

Hodgkin lymphoma?/ Non-
hodgkin lymphoma?

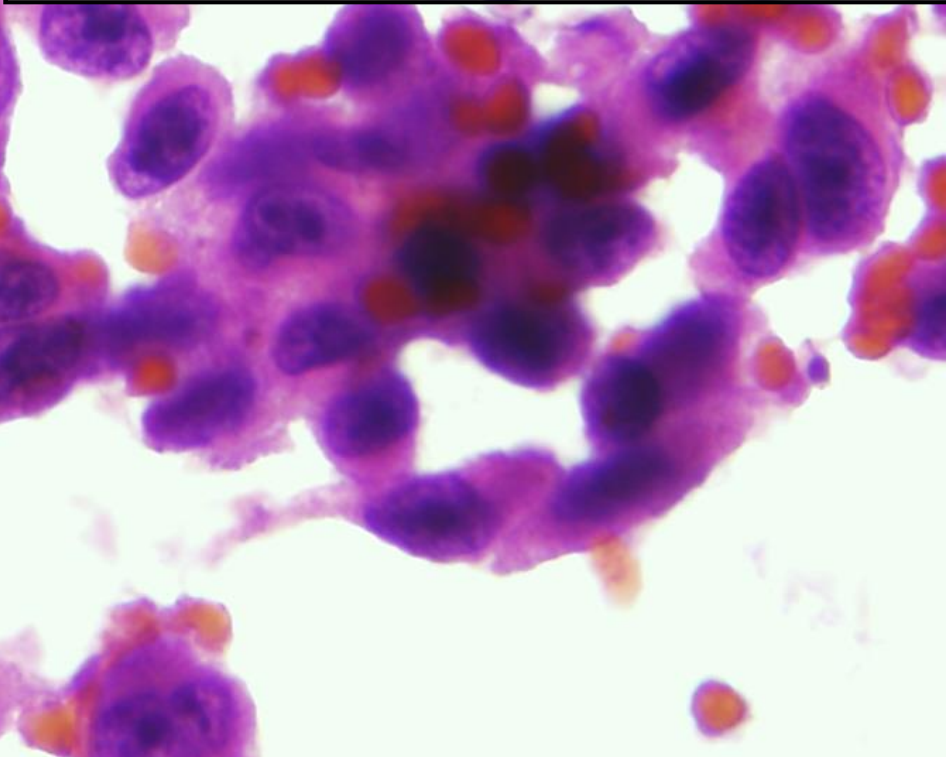








HMB45



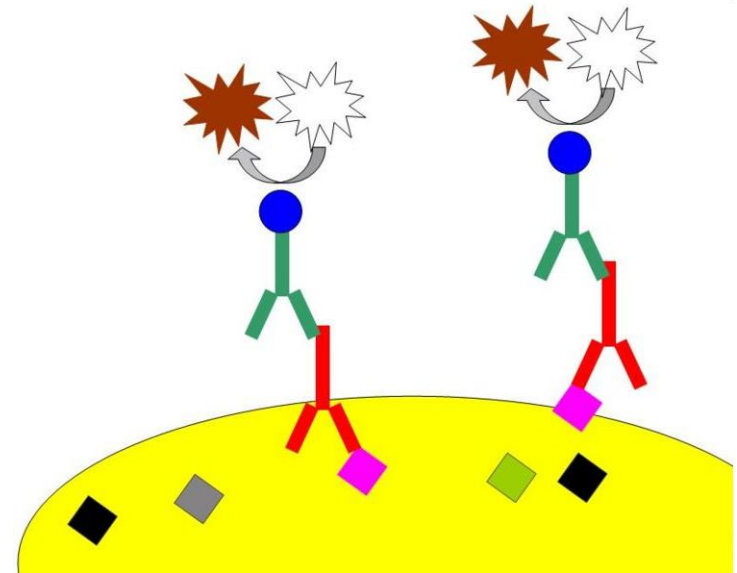
Immunhisztokémia

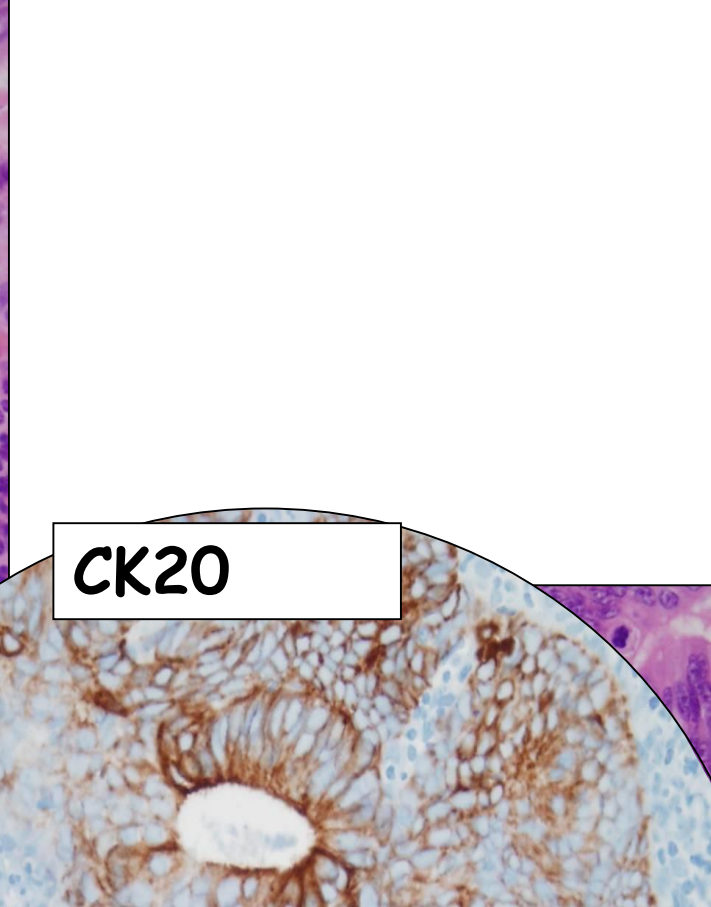
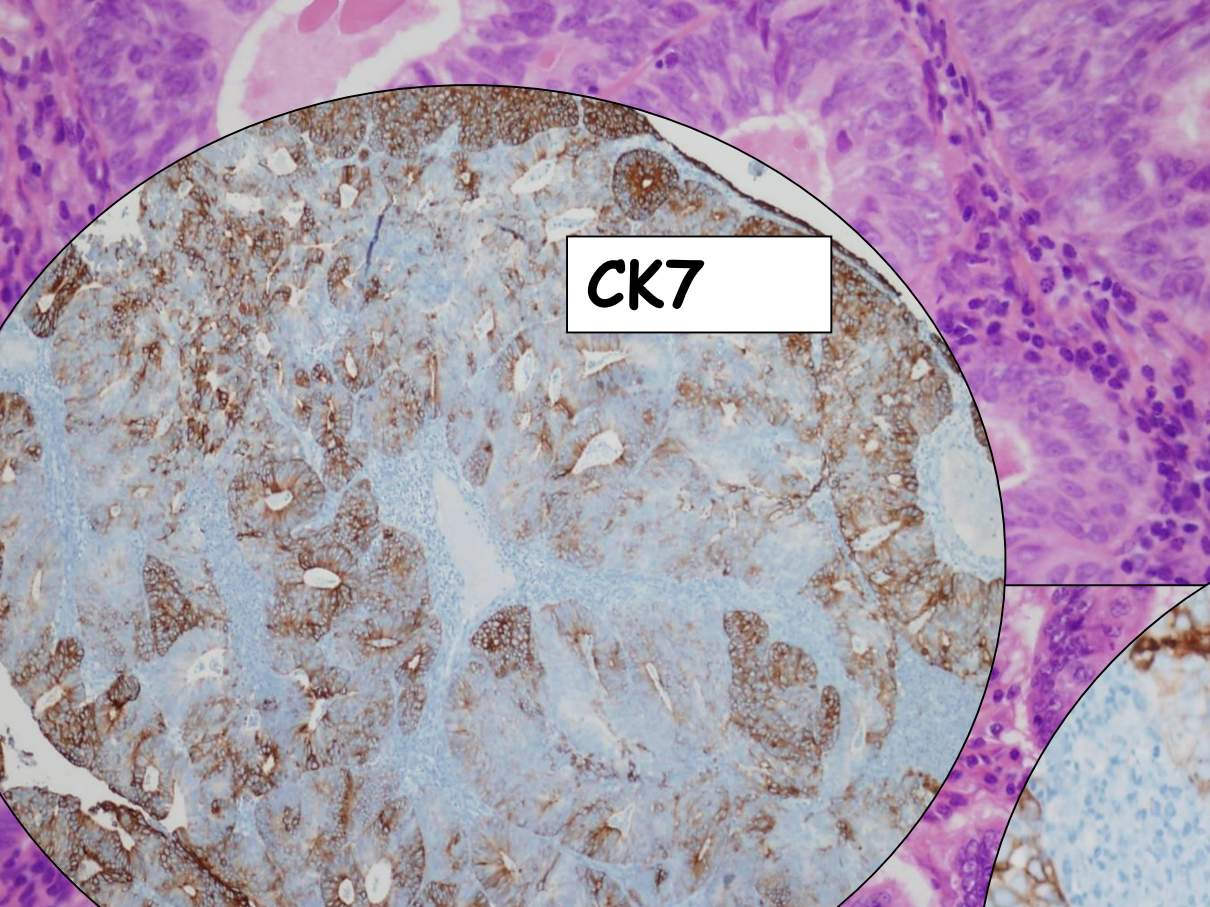
Differenciálatlan daganatok
eredetének (hisztogenezisének)
tisztázása

Metastaticus tumorok esetén a tumor
kiindulási szervének meghatározása

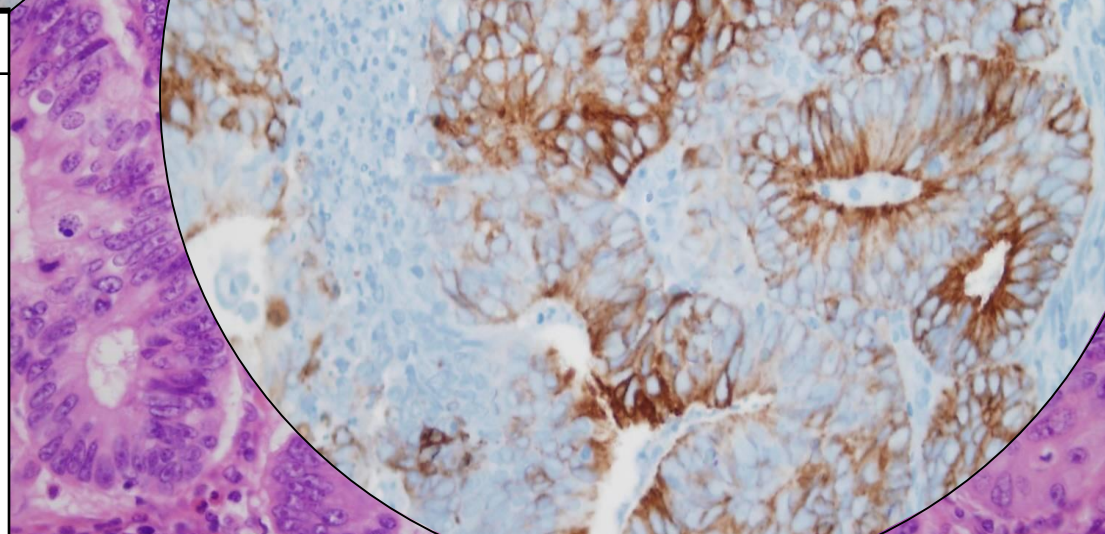
Fehérjék kimutatása a tumorban,
melynek prognosztikai és / vagy
terápiás jelentősége van

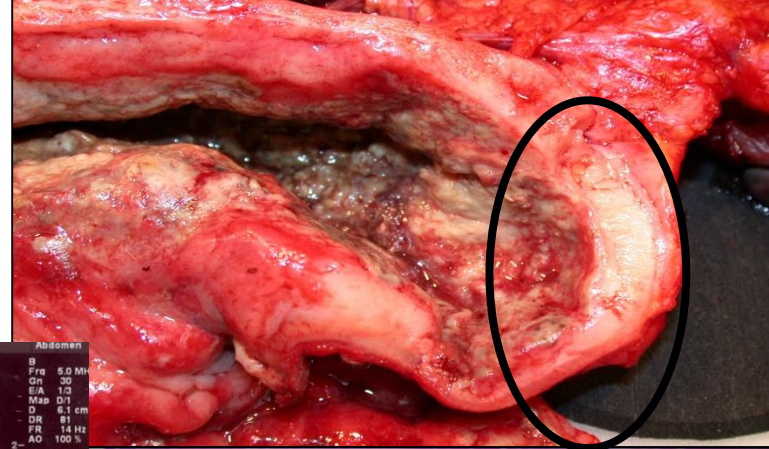
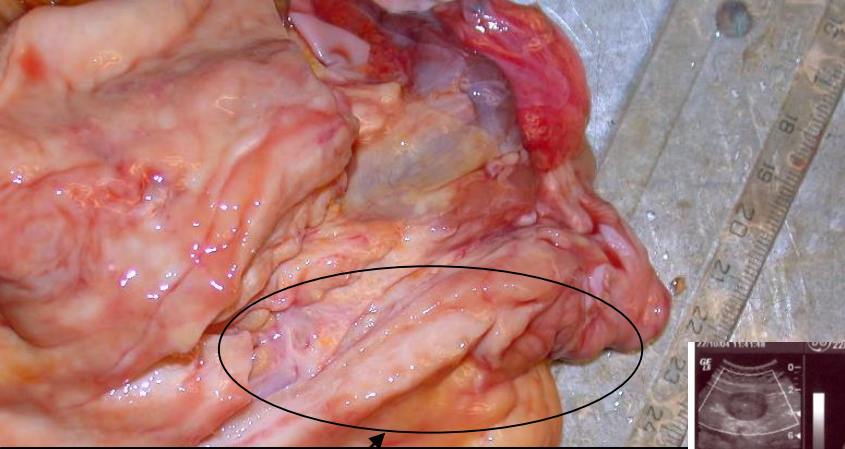
Leukémiák / lymphomák tipizálása





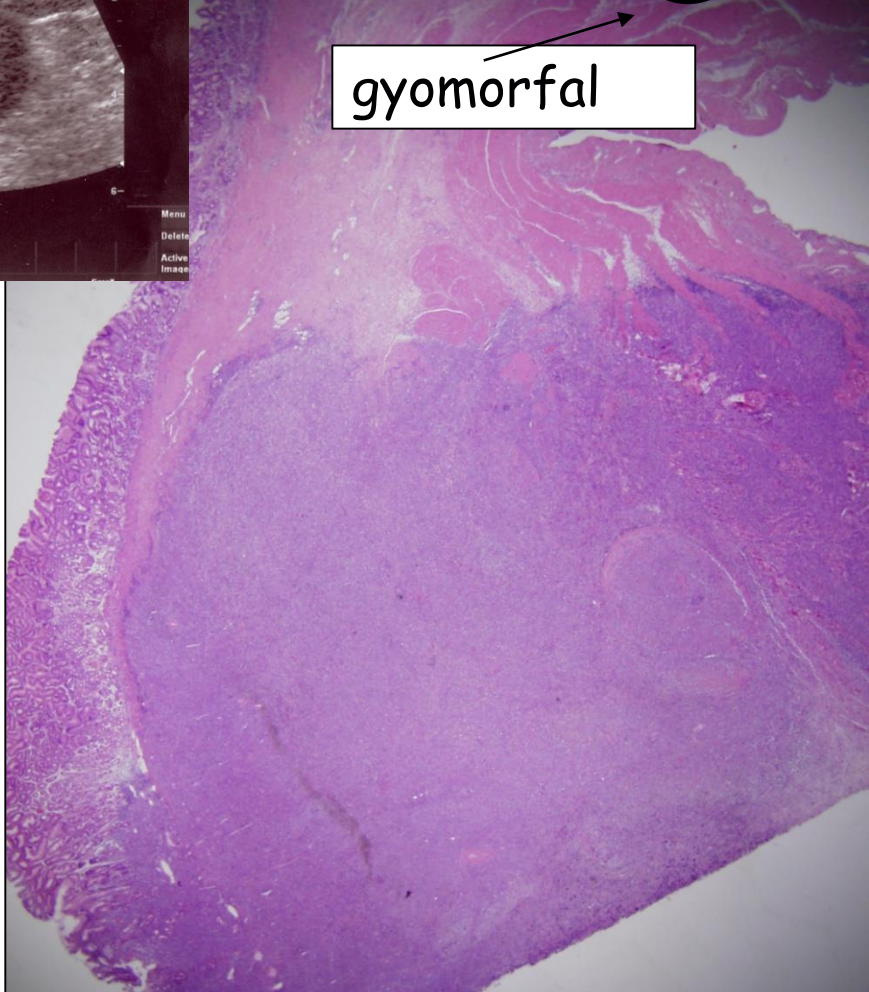
CK7+/CK20-	CK7-/CK20+
<p>Tüdő adeno</p> <p>Ovarium ser.</p> <p>Pancreas</p> <p>Cholangio</p> <p>Gyomor</p> <p>Cervix</p> <p>Endometrium</p> <p>Nyálmirigy</p> <p>PM</p> <p>Emlő</p>	<p>Colorectalis</p> <p>Merkel sejtes</p> <p>Gyomor</p>

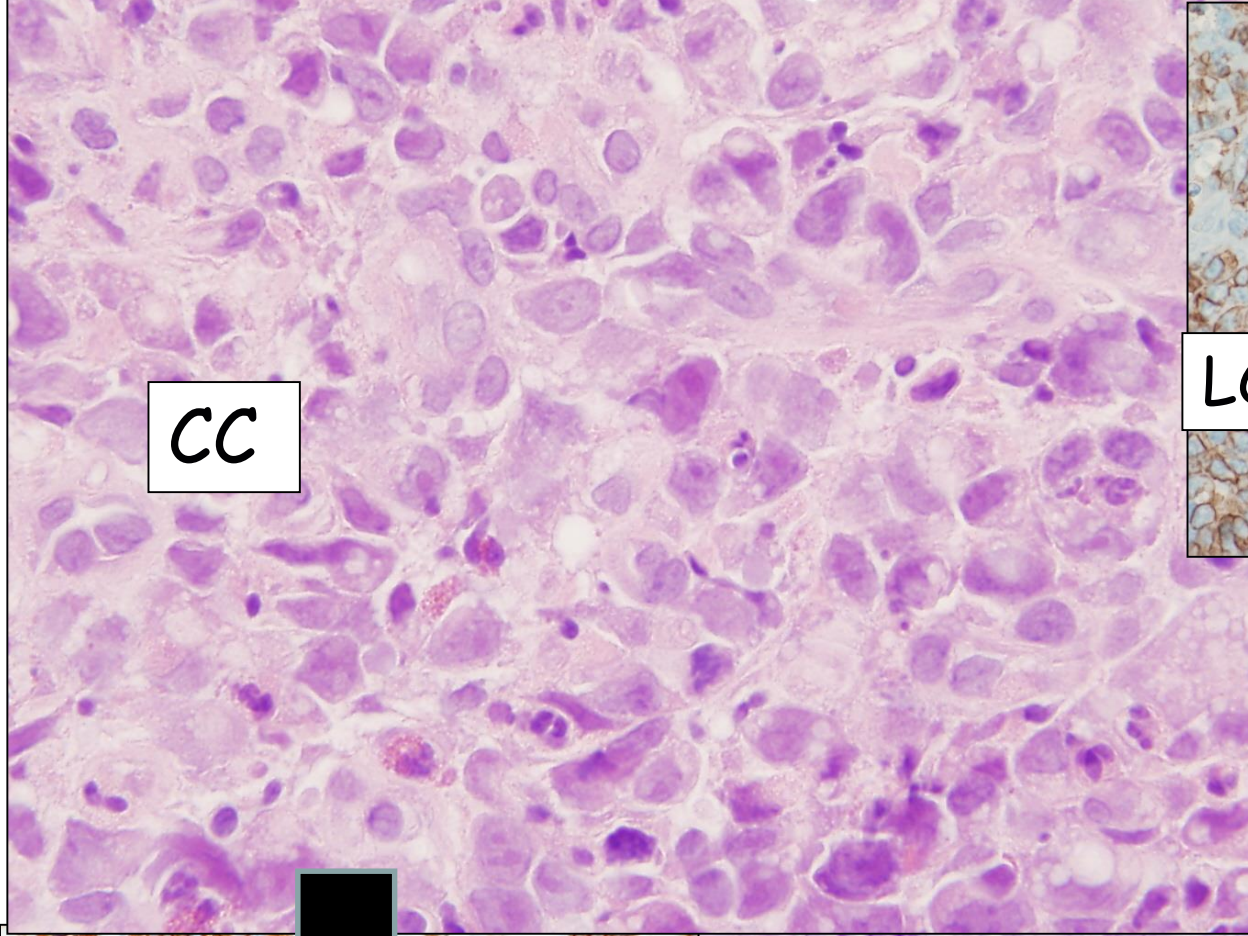




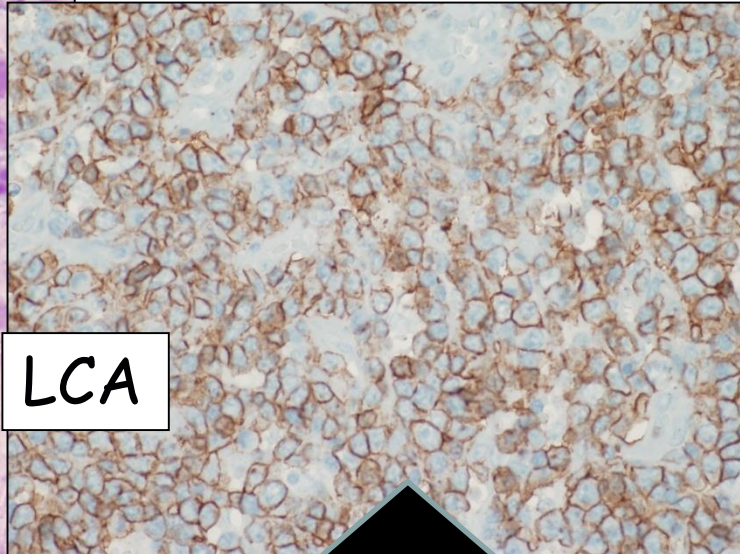
gyomorfal

gyomorfal

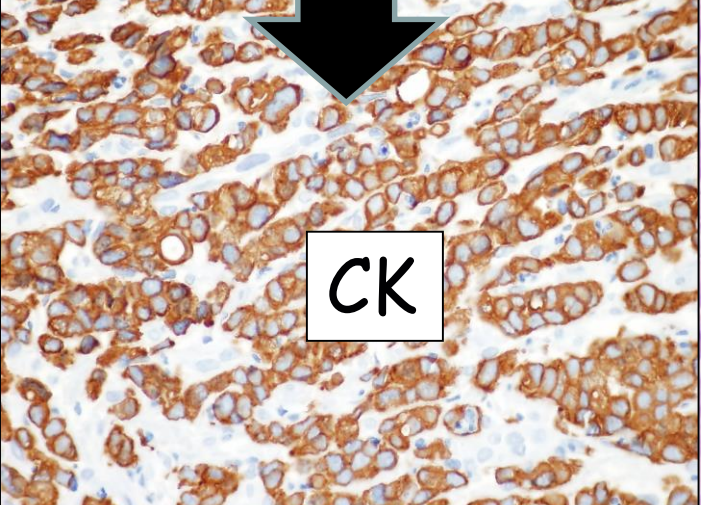




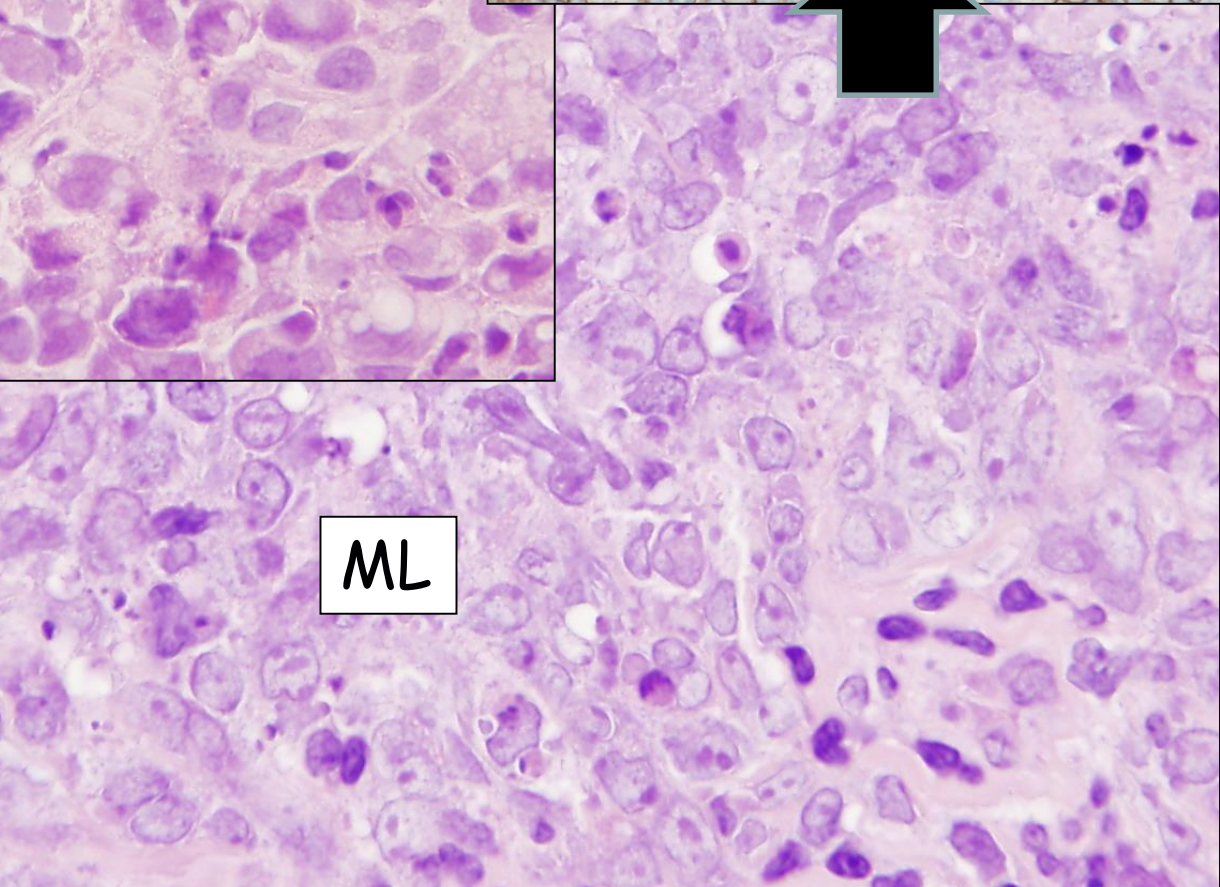
CC



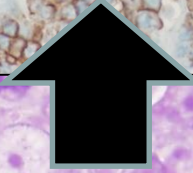
LCA

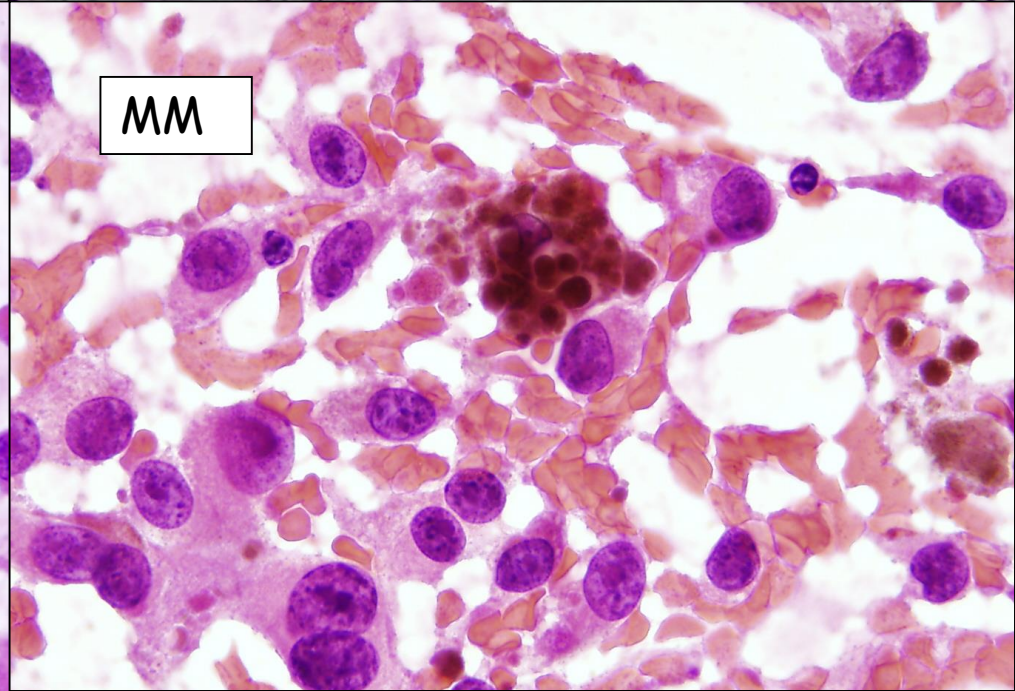
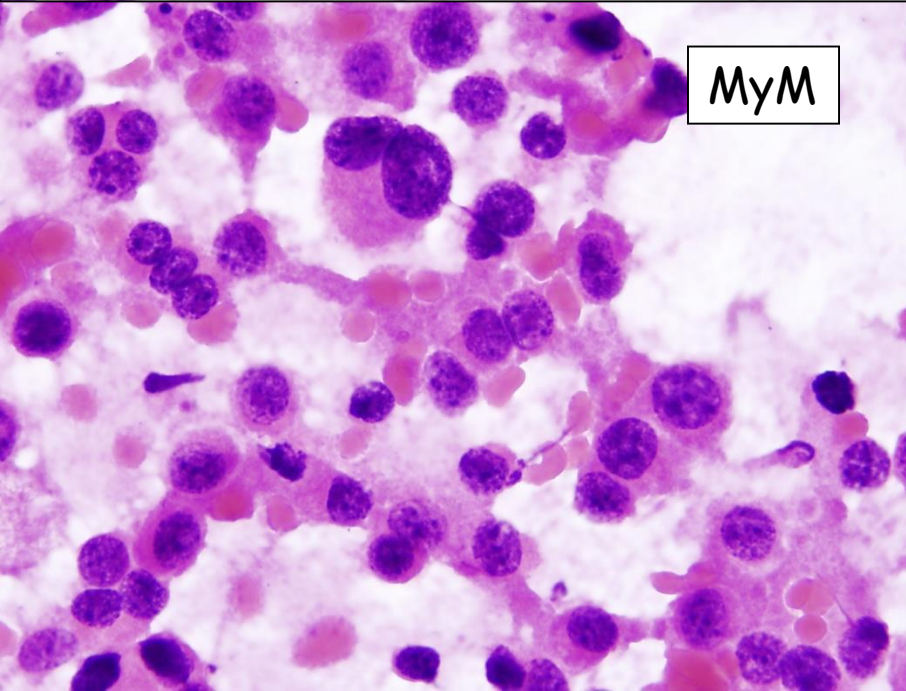
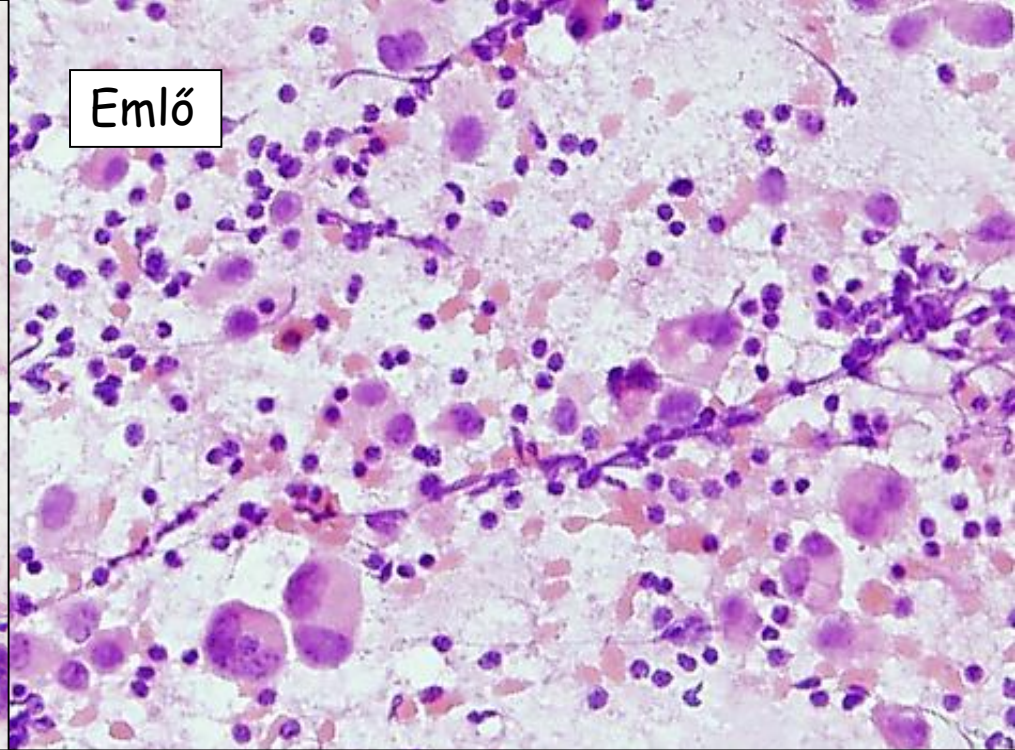
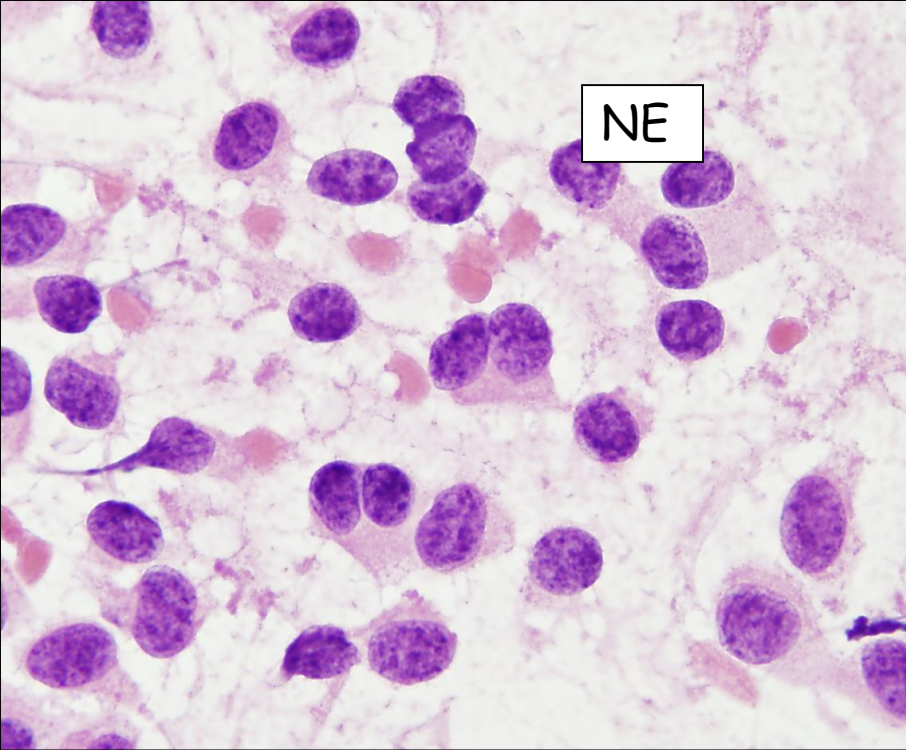


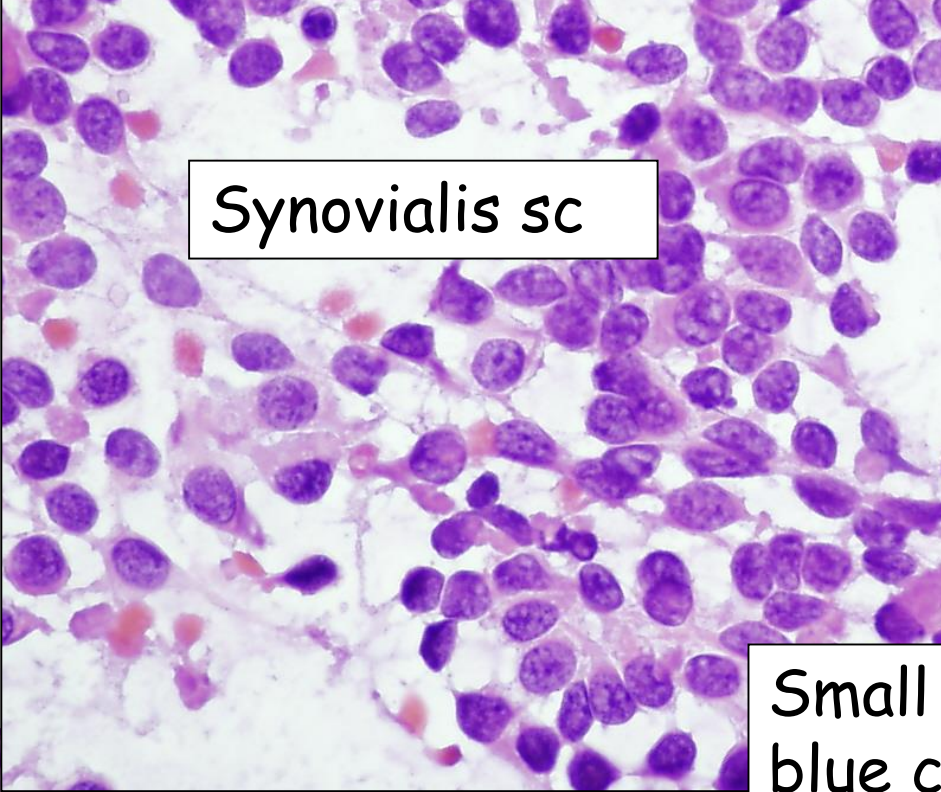
CK



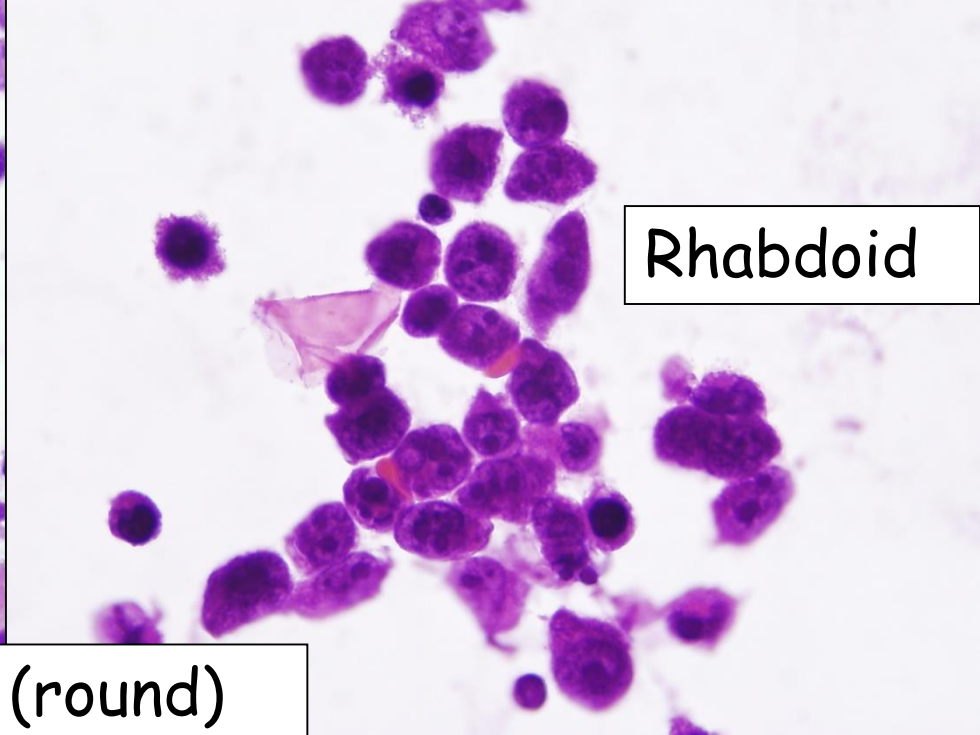
ML





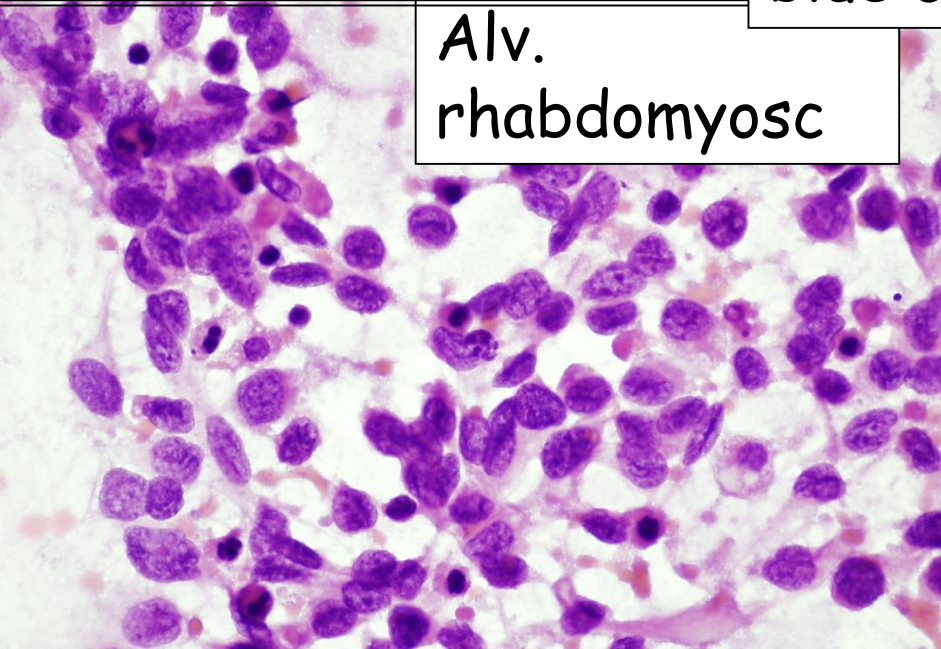


Synovialis sc

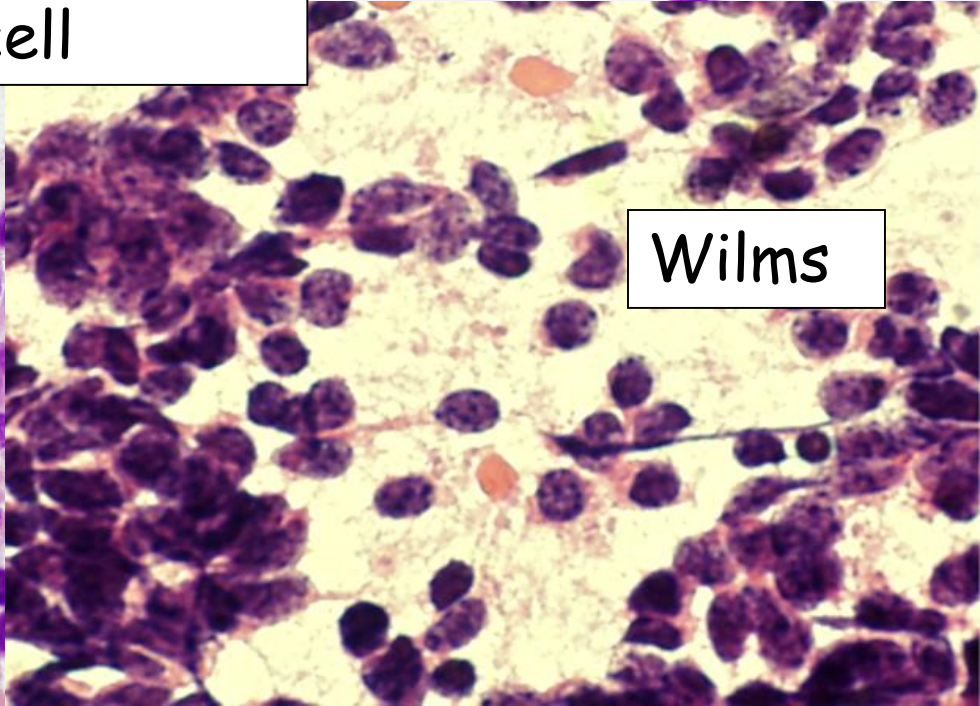


Rhabdoid

Small (round) blue cell



Alv. rhabdomyosc



Wilms

Primer tumor helyének meghatározása CK7/CK20 expresszió alapján

CK7+/CK20+	CK7+/CK20-	CK7-/CK20+	CK7-/CK20-
Urothelialis Ovarium muc. Pancreas Cholangio Gyomor	Tüdő adeno Ovarium ser. Pancreas Cholangio Gyomor Cervix Endometrium Nyálmirigy PM Emlő	Colorectalis Merkel sejtes Gyomor	HCC RCC Tüdő SQ Tüdő microc Gyomor Fej-nyak Prostata

Primer tumor helyének meghatározása CK
/Vimentin koexpresszió megléte vagy hiánya
alapján/

KOEXPRESSZIÓ VAN

RCC

Endometrium

Nyál, verejtékmirigy

Mesothelioma

PM

Bármely orsósejtes

KOEXPRESSZIÓ NINCS

Emlő

Ovarium

Tüdő (Kissejtes, nem kissejtes)

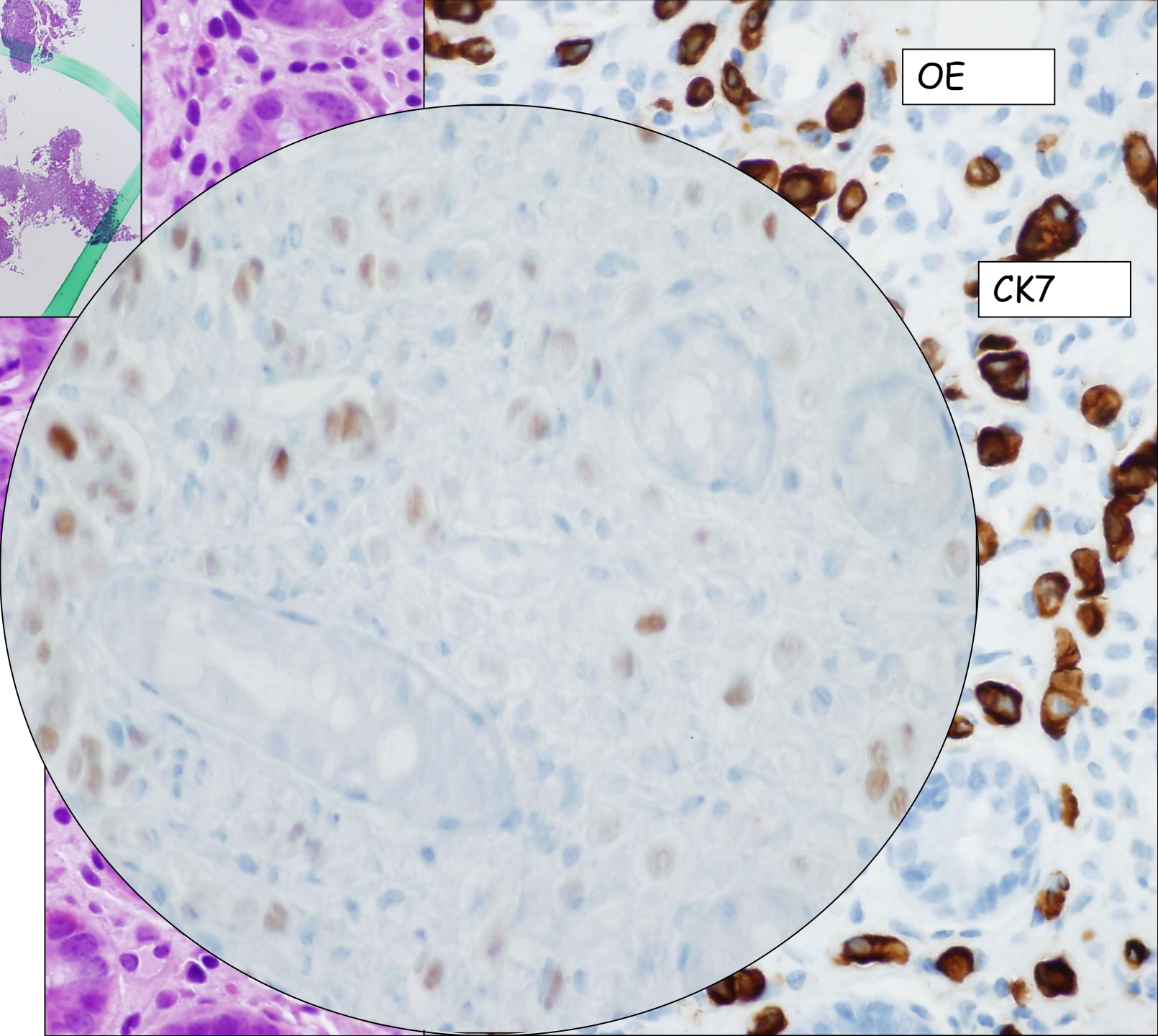
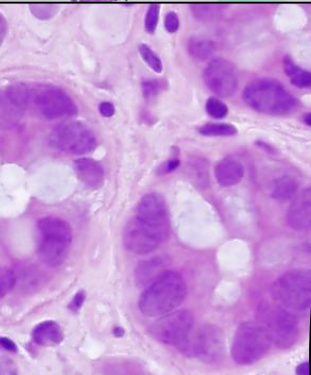
Prosztata

Colon-rectum

HCC

Kiegészítő /szervspecifikus markerek

Urotheliális	UROIII, p63, Uroplakin
Emlő	GCDFP15, ER, PR
Tüdő adeno	TTF1, surfactant A, B
PM	TTF1, calcitonin
HCC	Hep par1, HSA
Prostata	PSA, PSAP
Cholangio	CK19
Mesothelioma	Calretinin
Lymphoid	LCA, CD20, CD45RO, stb
NE	Chr, Syn, NSE

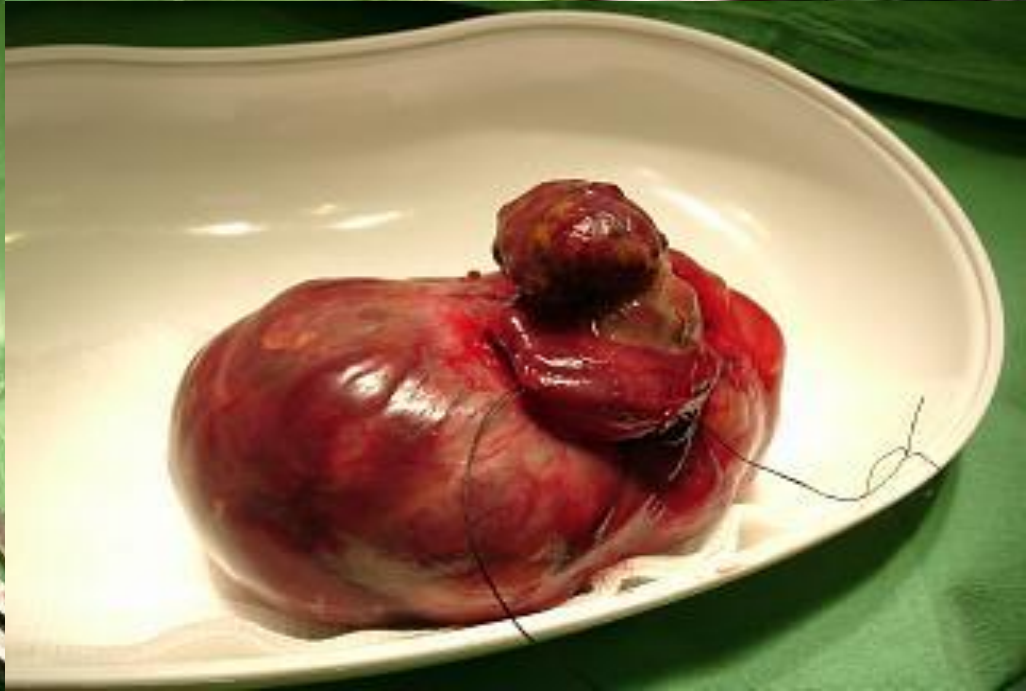
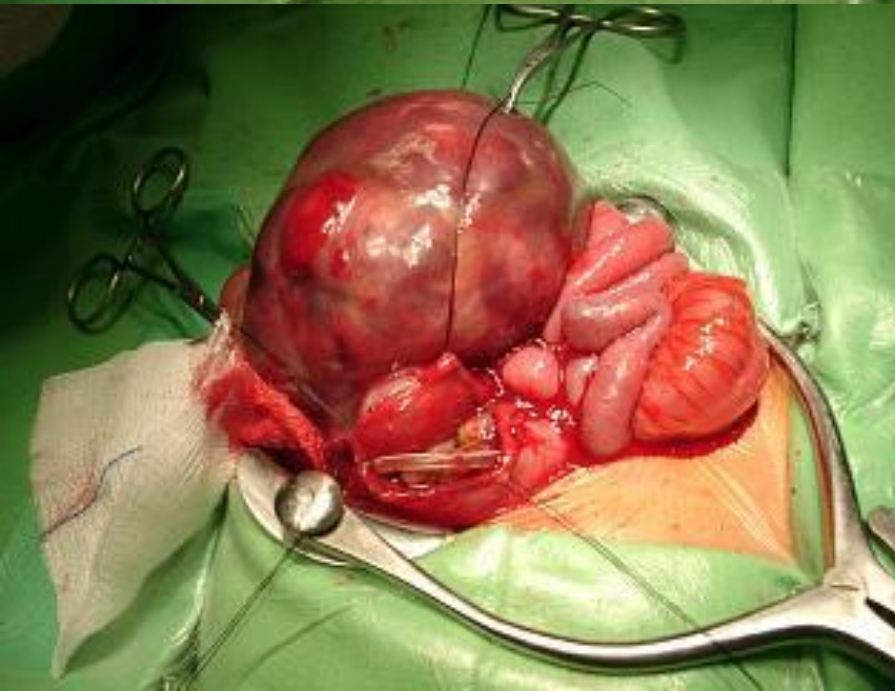


OE

CK7

26/08
72 éves nő
35 cm-nél
szűkület, az
eszköz nem
vezethető
tovább.
Biopszia

Szövetteni vizsgálatok menete, ideje: Hétfő / műtét





**Kedd:
specimen
megérkezik**



**Szerda:
indítás**

**Blokkok kivágva,
kezdődhet a
dehidrálás
(szerda)**

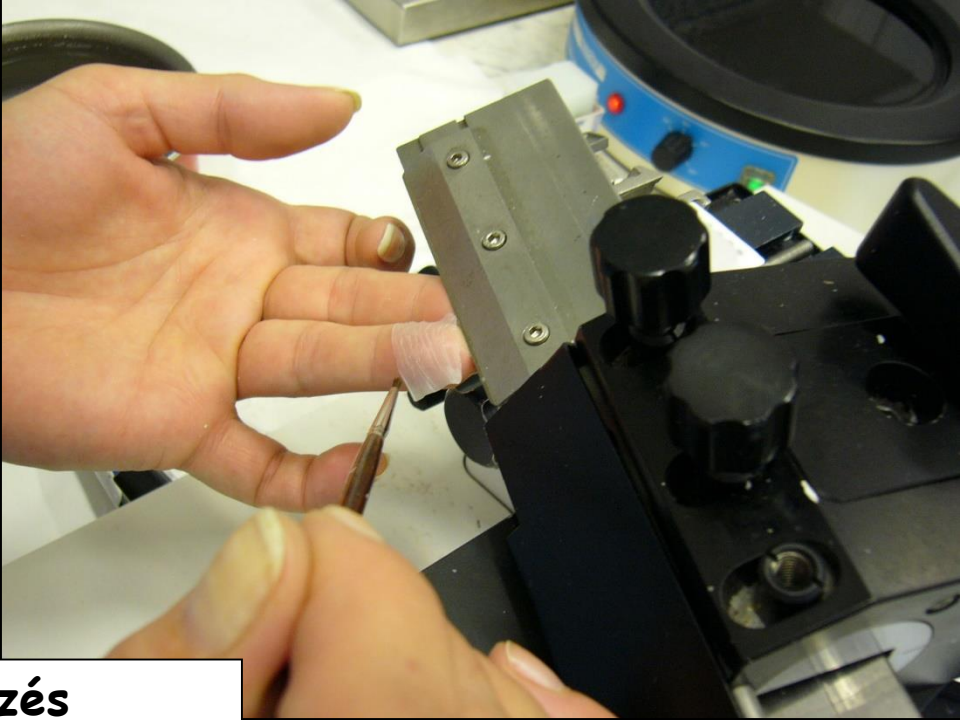
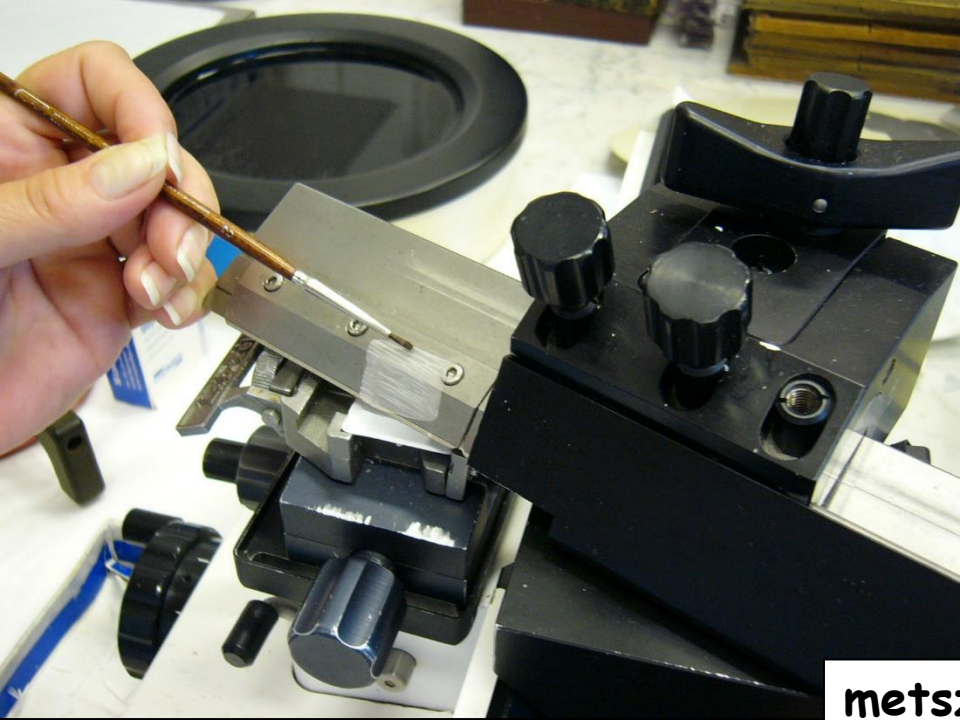


**„kiagyazás”
csütörtök**



**Blokk
elkészül:
csütörtök**



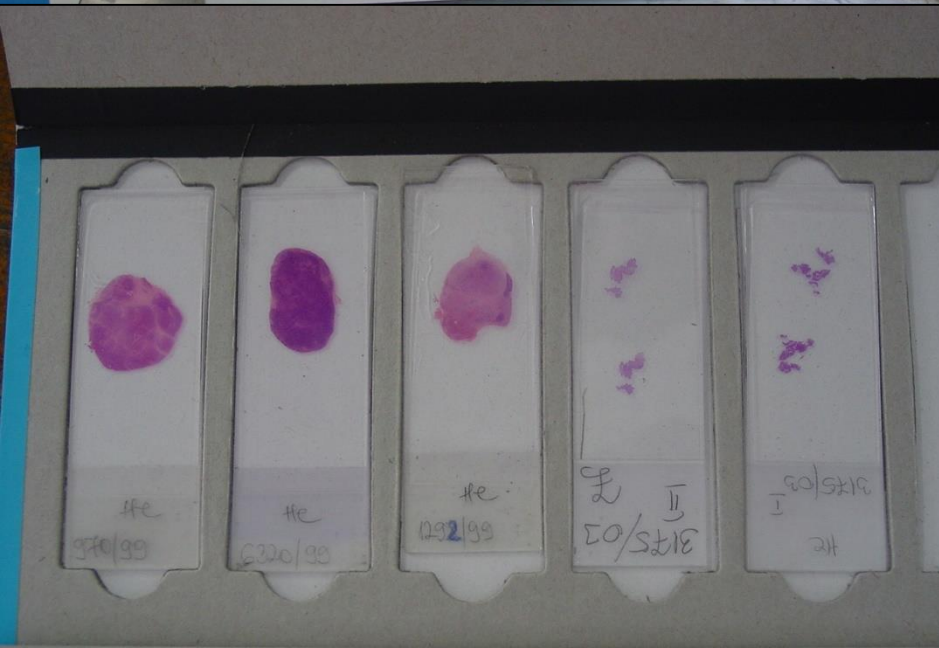


**metszés
csütörtök**





**Festés:
csütörtök**



**Leletezés:
Csütörtök
délután**

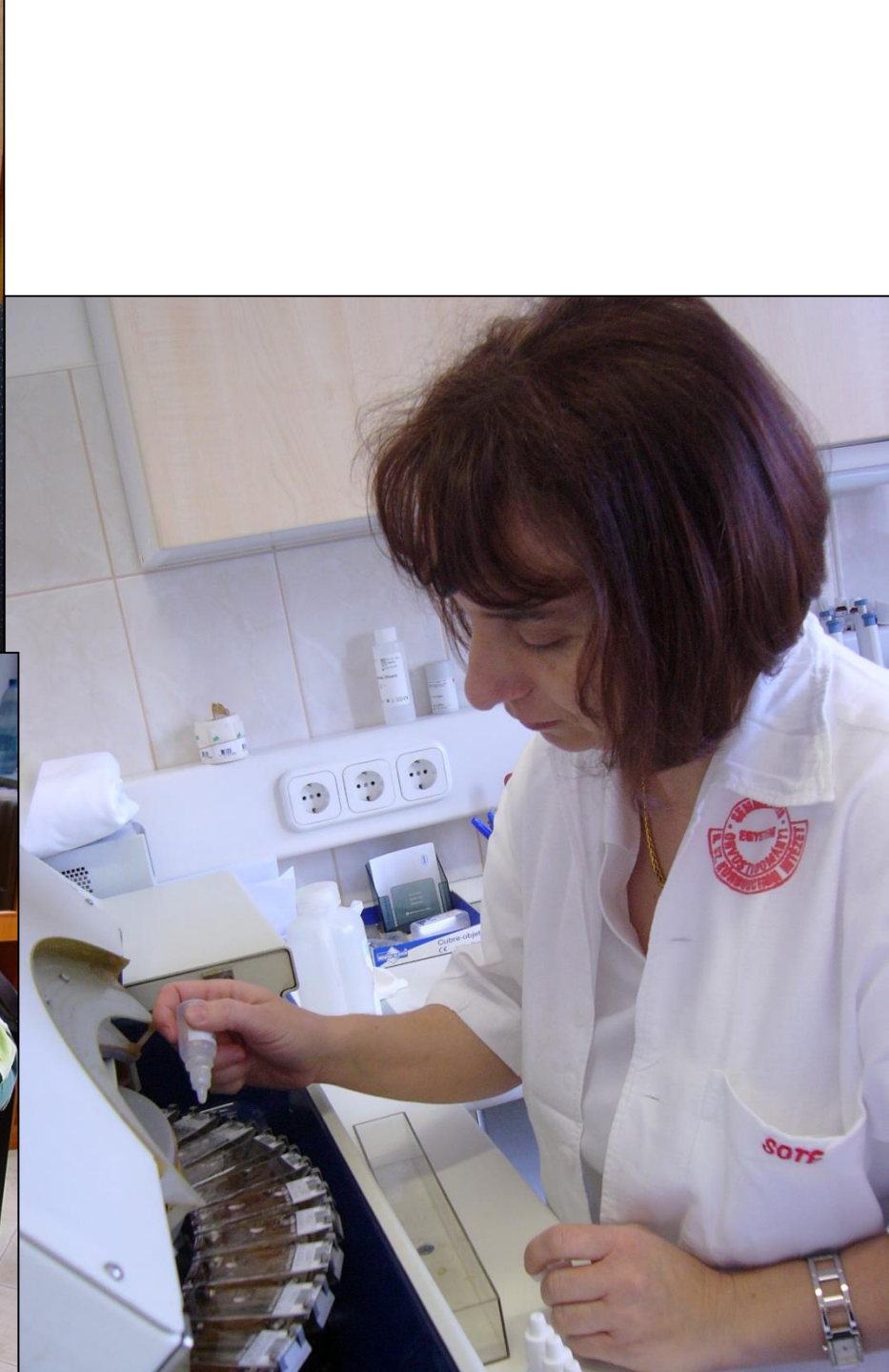


Lelet készen:
(ha minden símán
megy)

Péntek

De ha nem
egyszerű az
eset.....





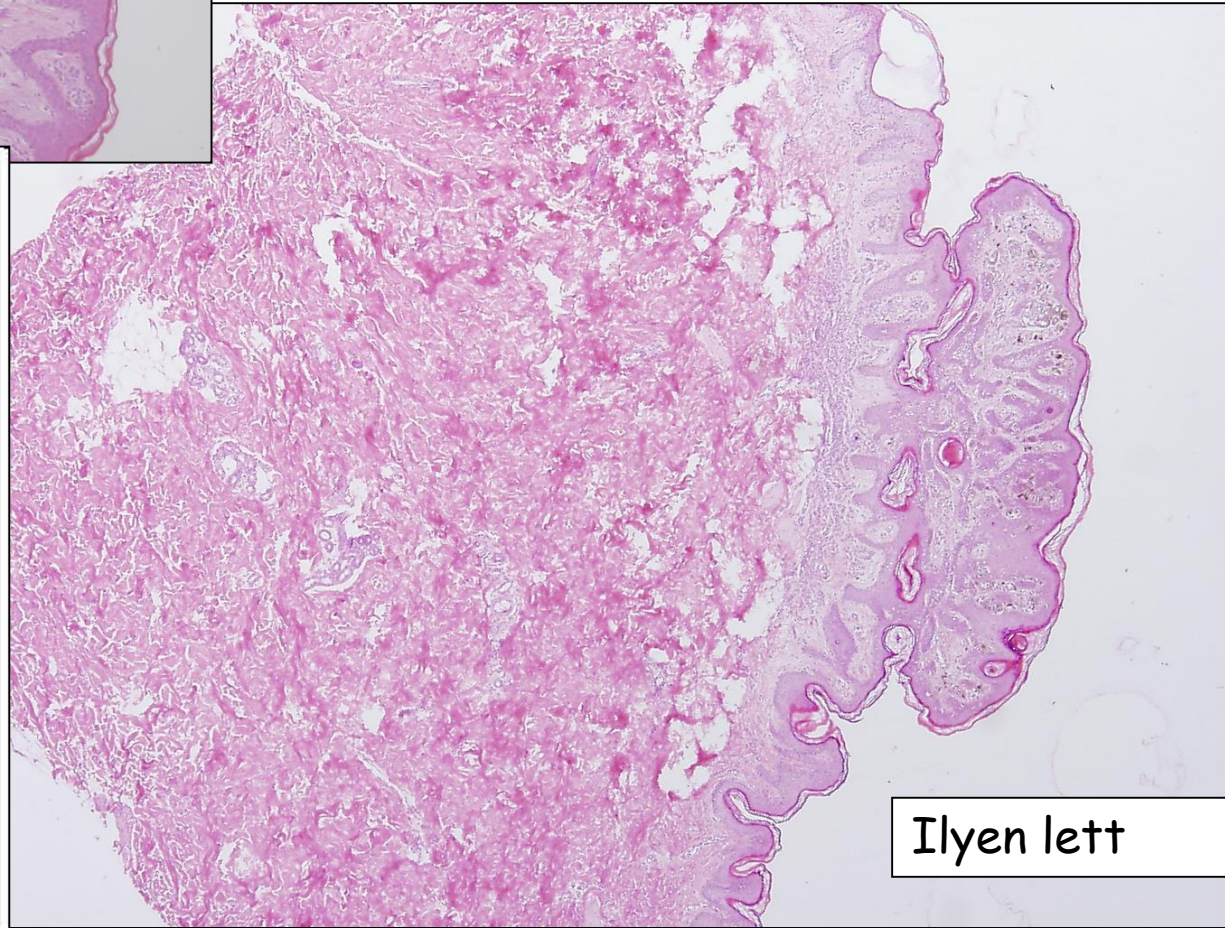
Sorozatmetszések, immunhisztokémia





Továbbmetszések

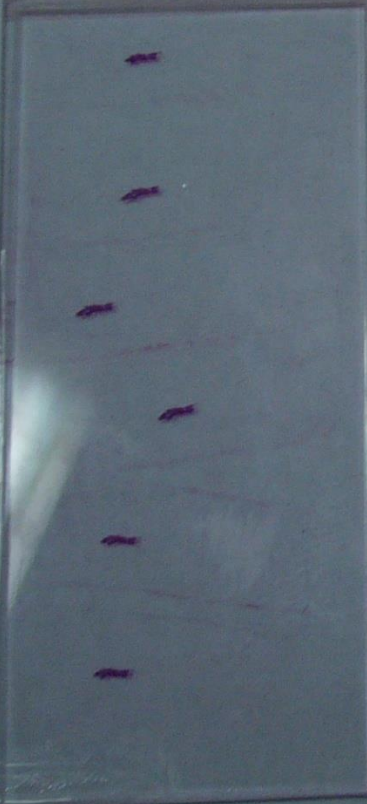
Ilyen
volt



Ilyen lett

9261/05

SOK



9261/05

unlabeled SOK



9261/05

T.M. 1.

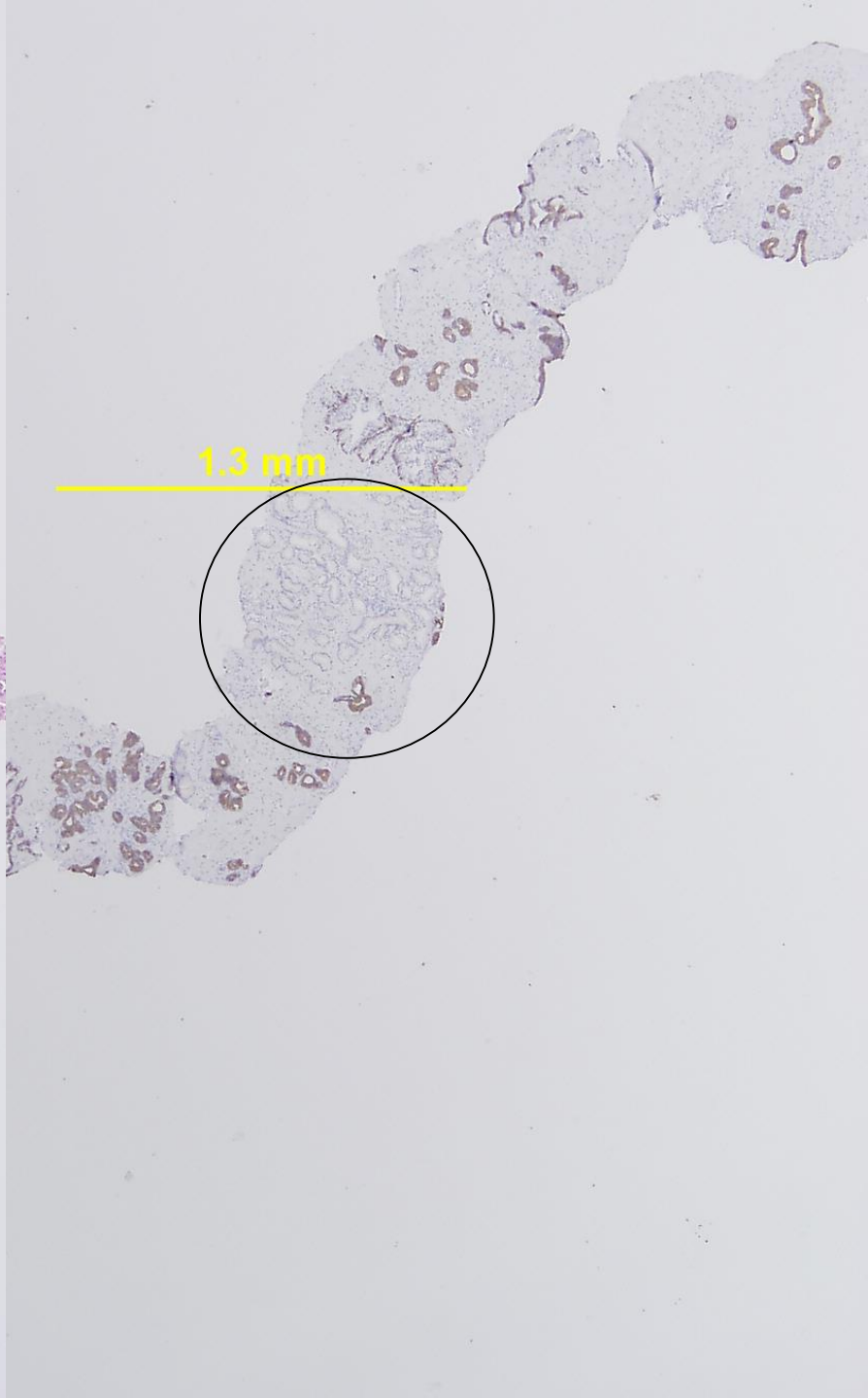
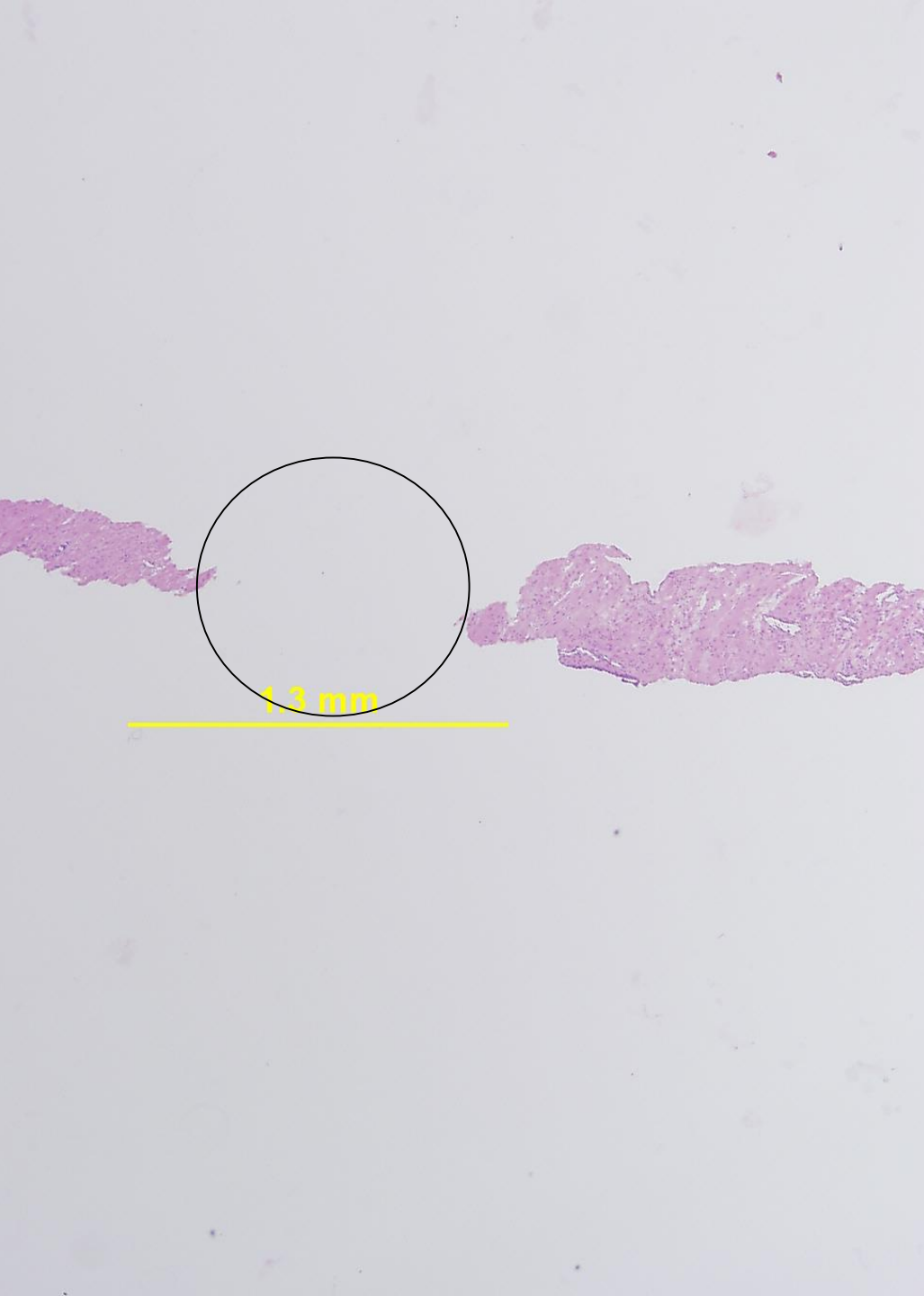


9261/05

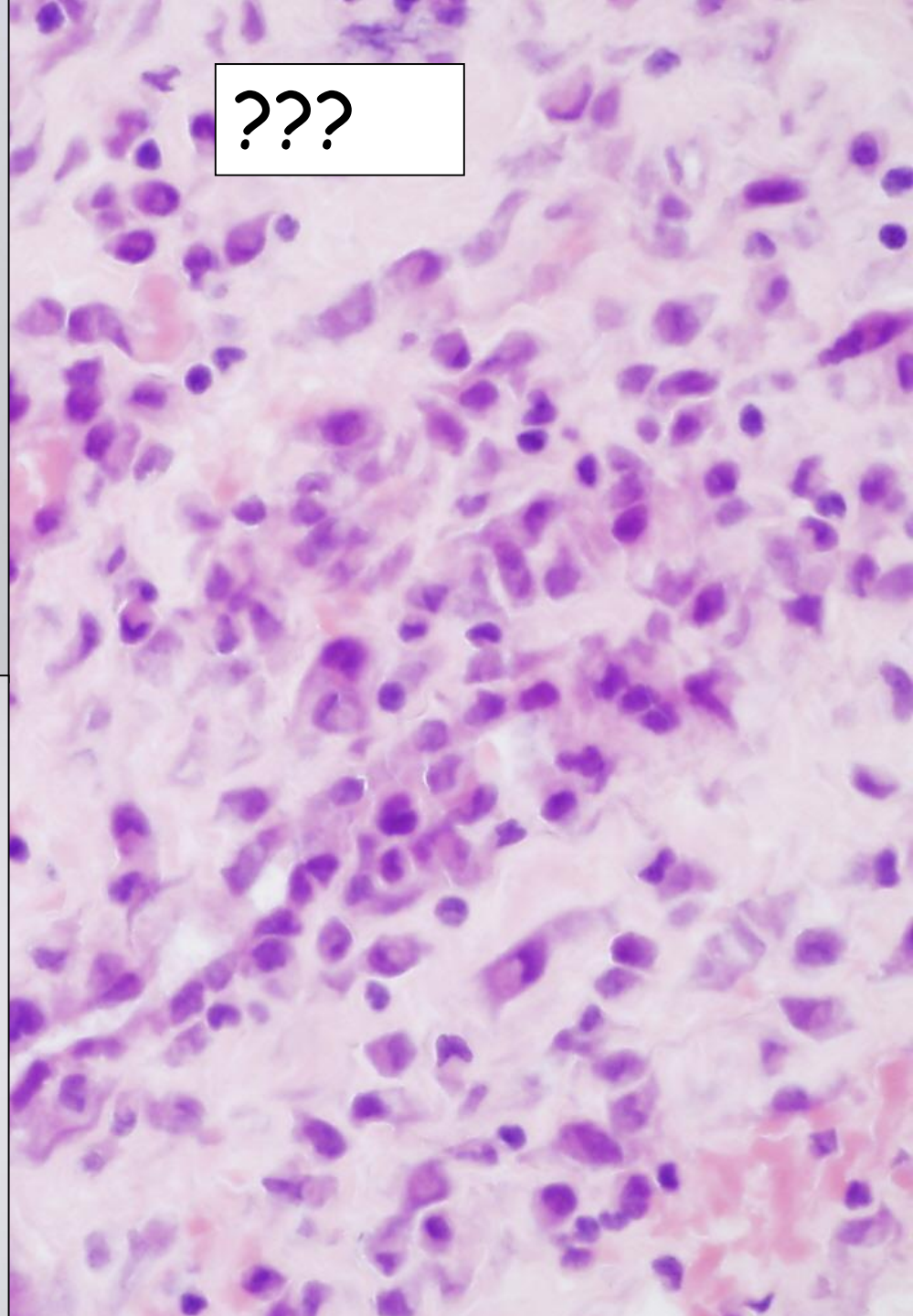
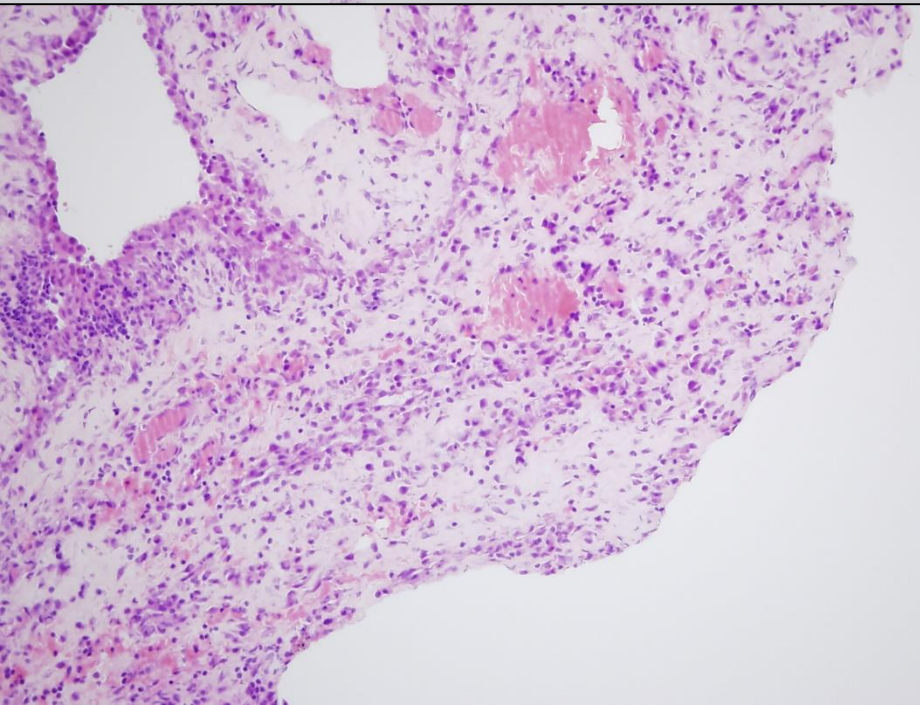
T.M. 2.



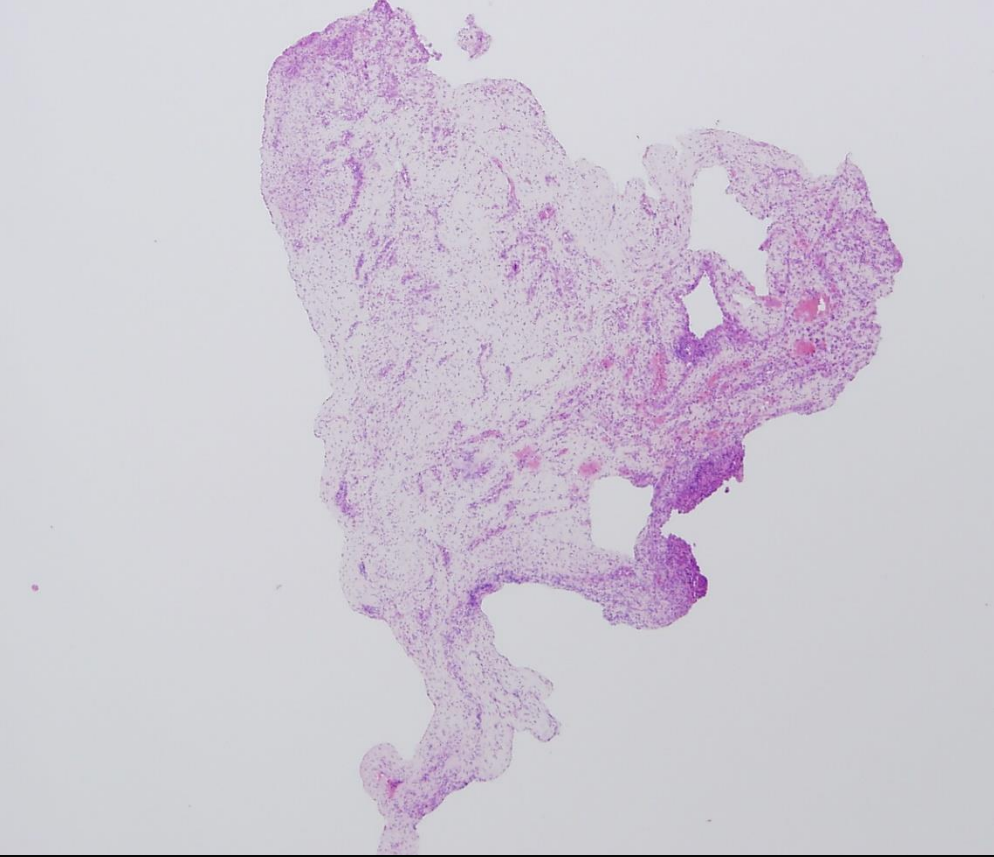




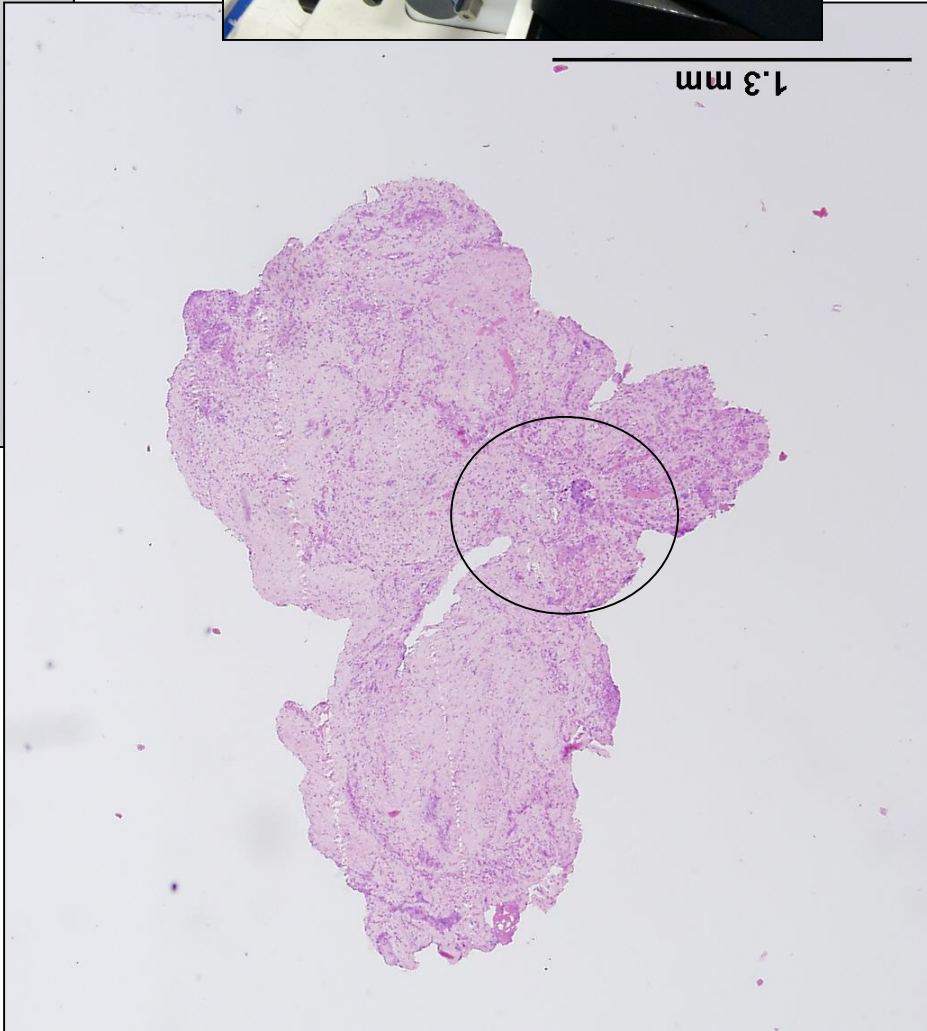
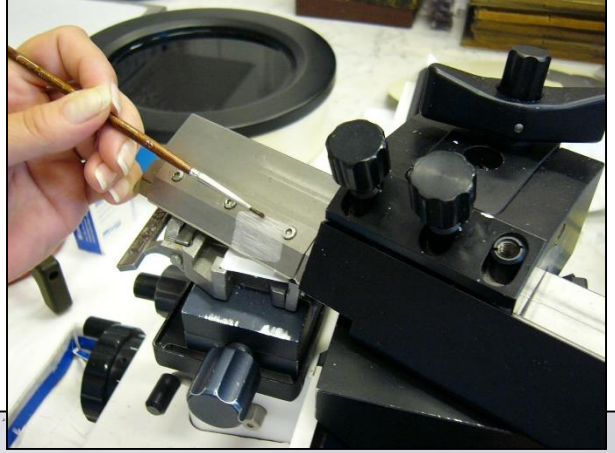
N.S. 54 éves nő
(orvos)
Fél éve hasi
panaszok
Laparoscopos
biopszia
(1 mm-es)



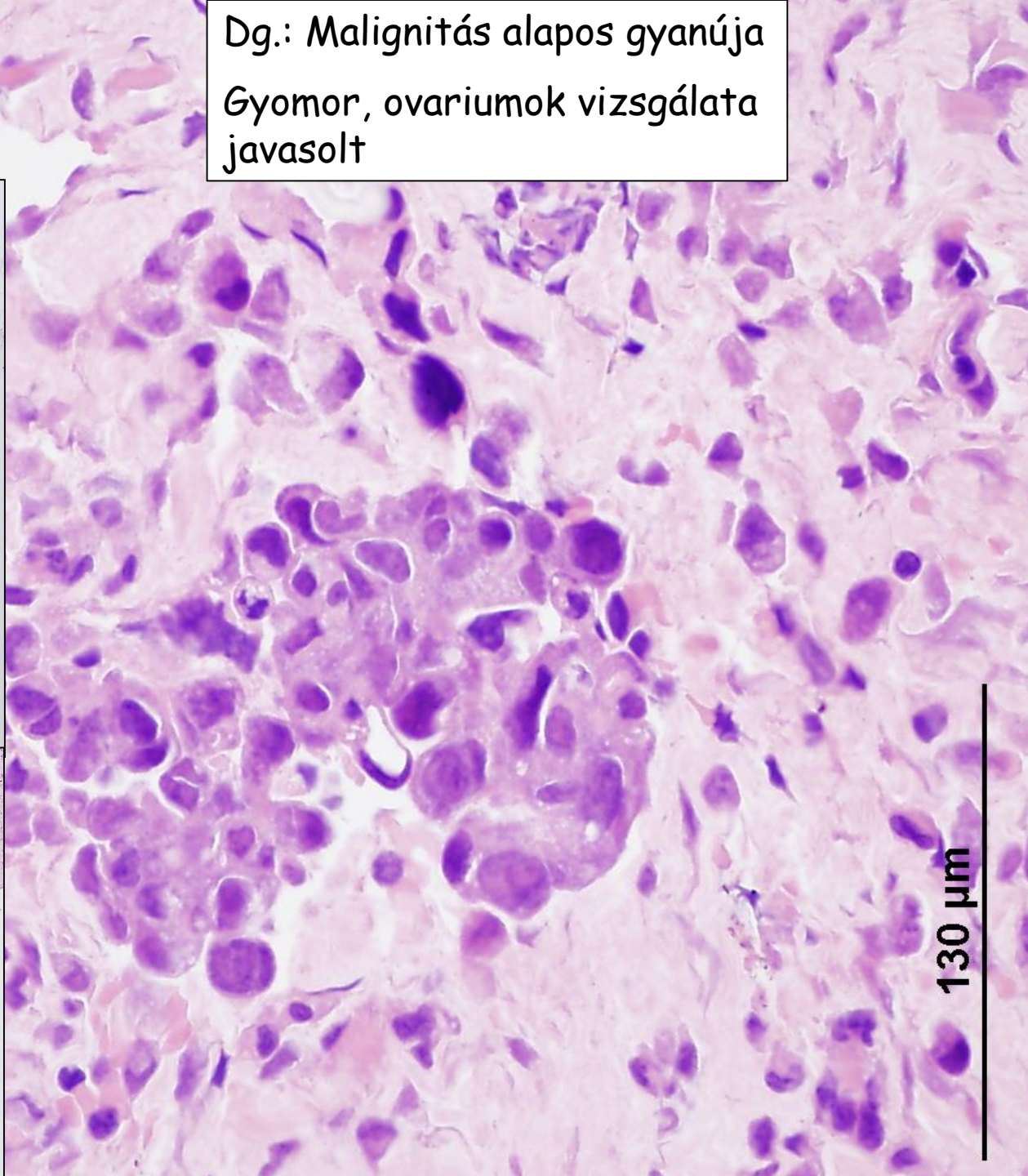
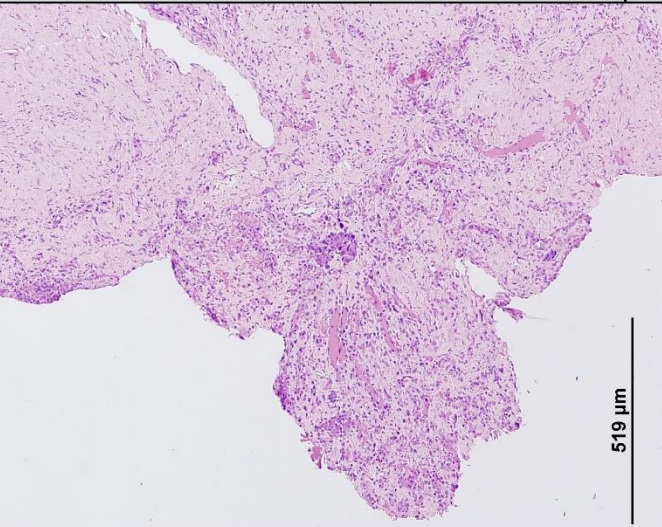
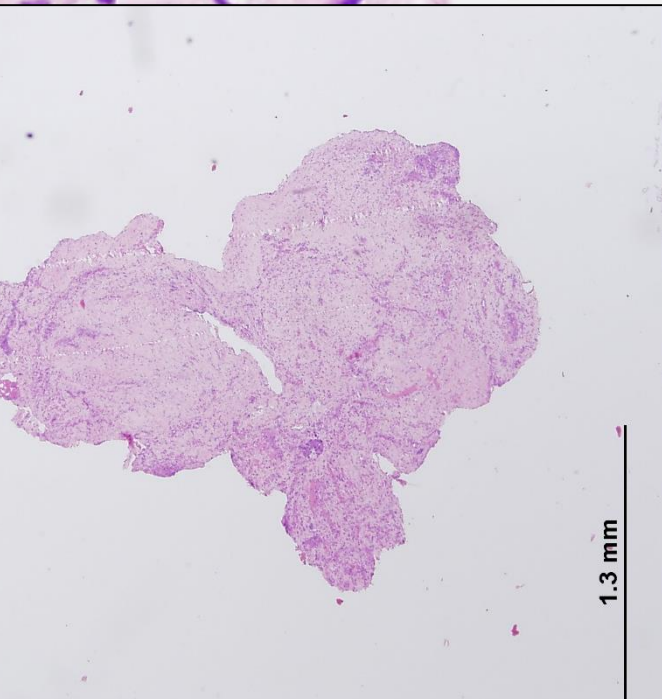
???

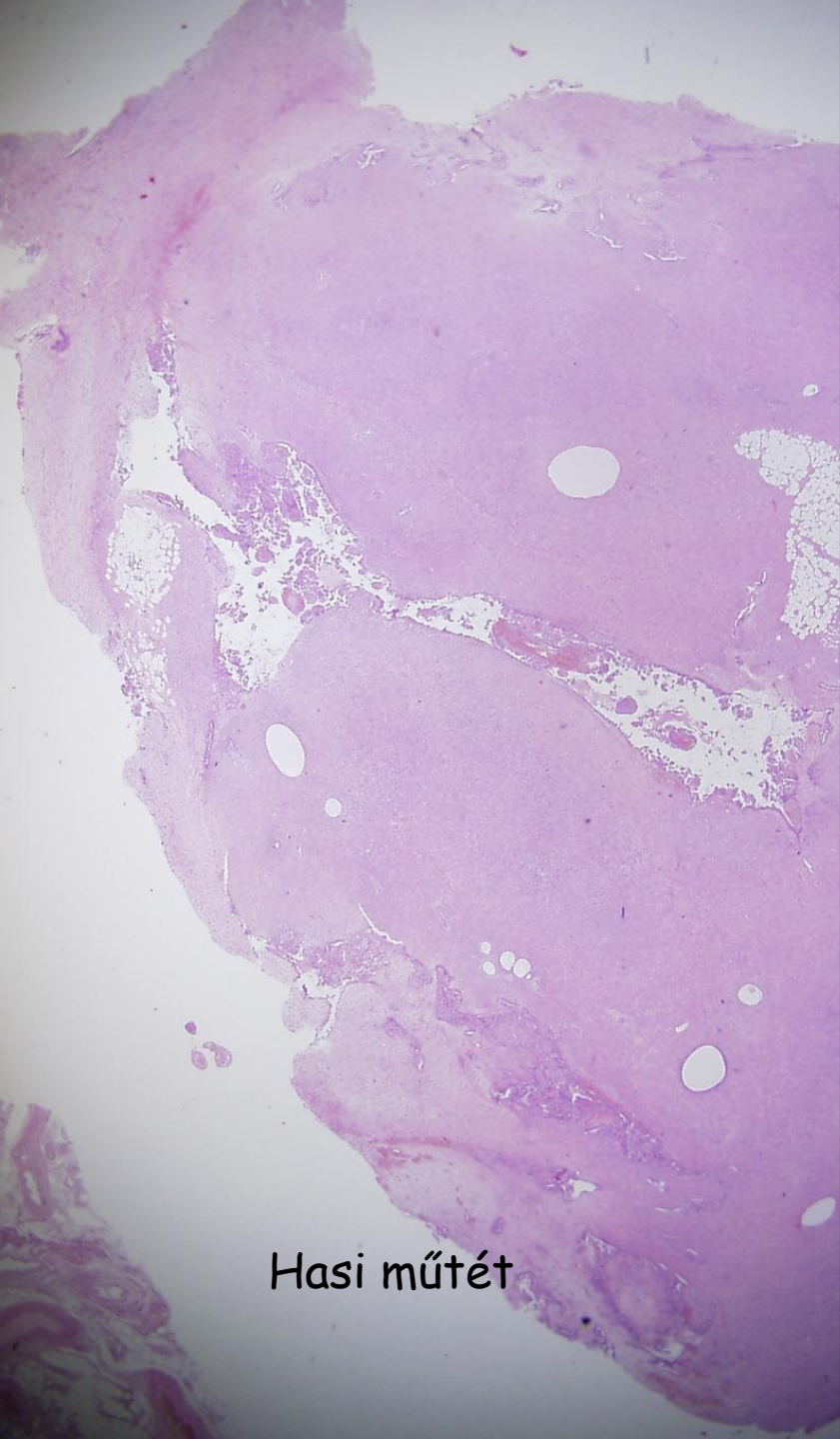


TM

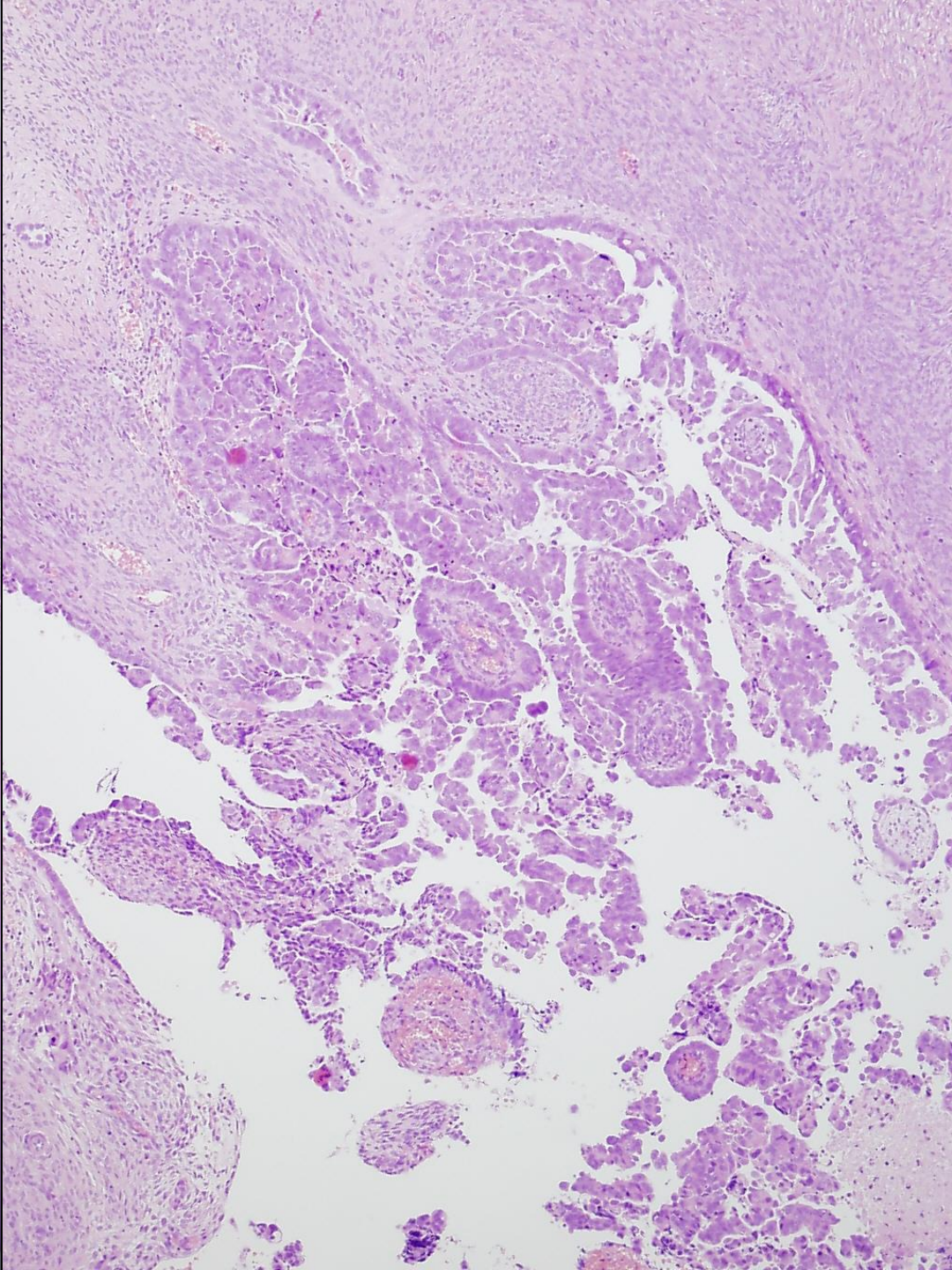


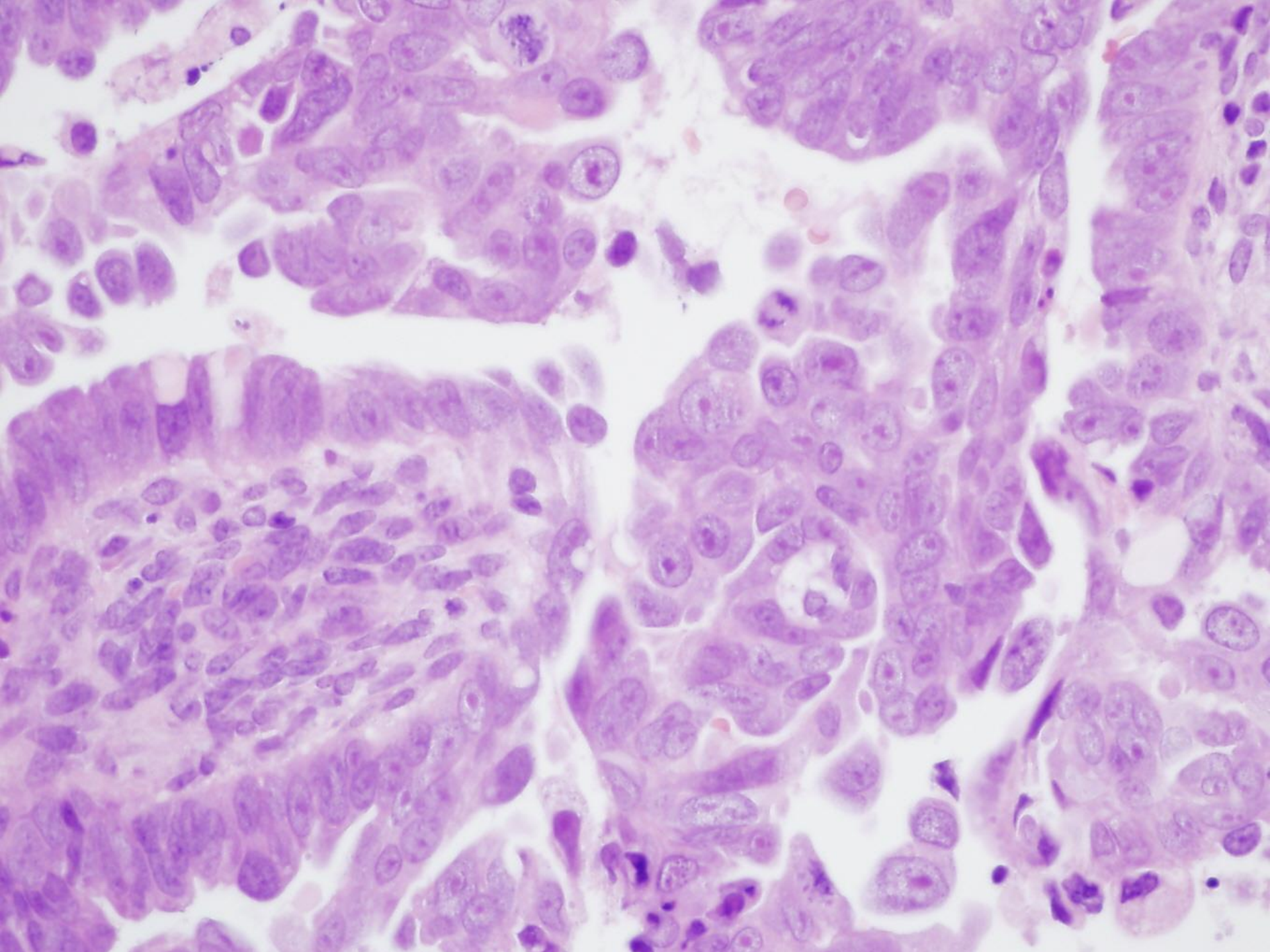
Dg.: Malignitás alapos gyanúja
Gyomor, ovariumok vizsgálata
javasolt





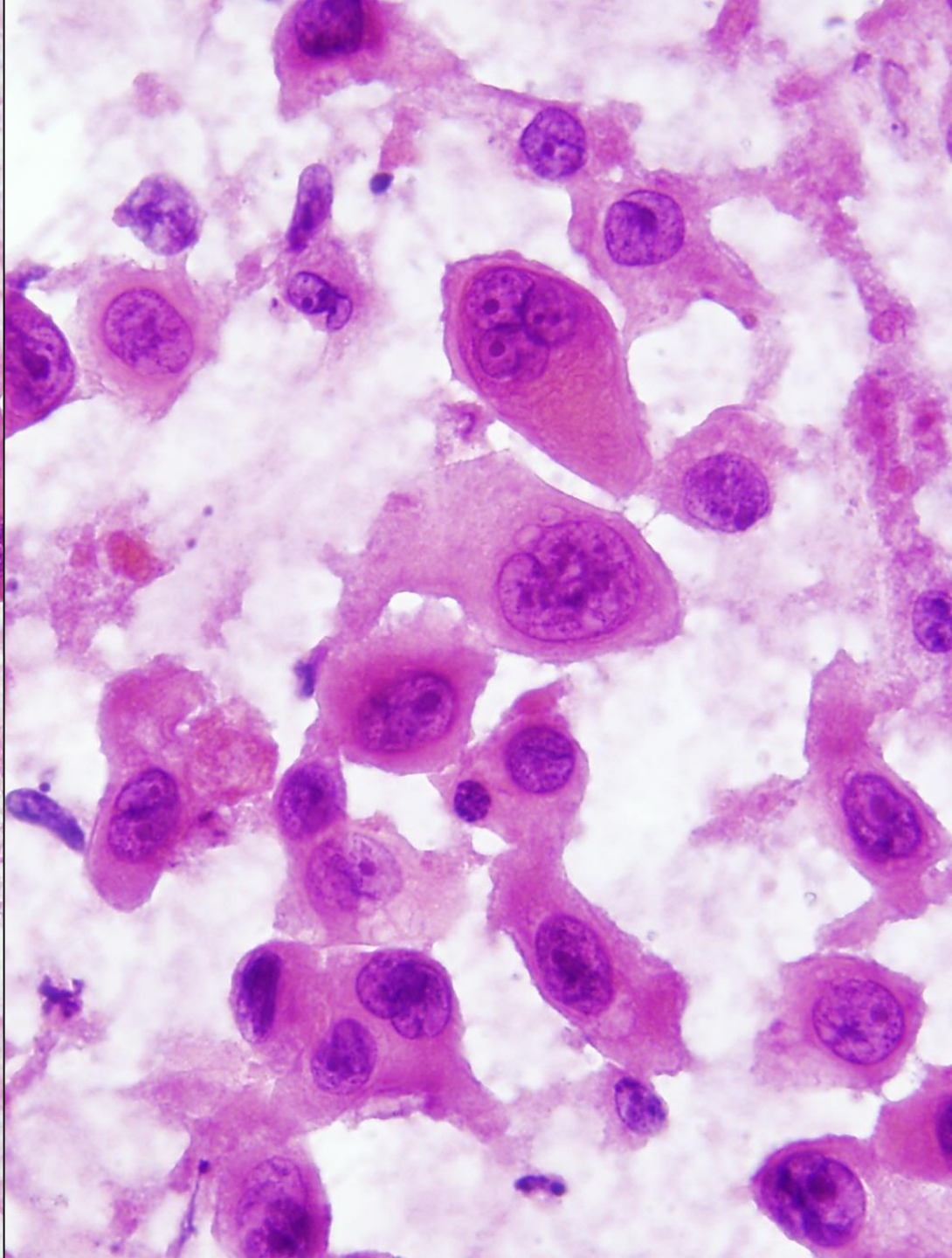
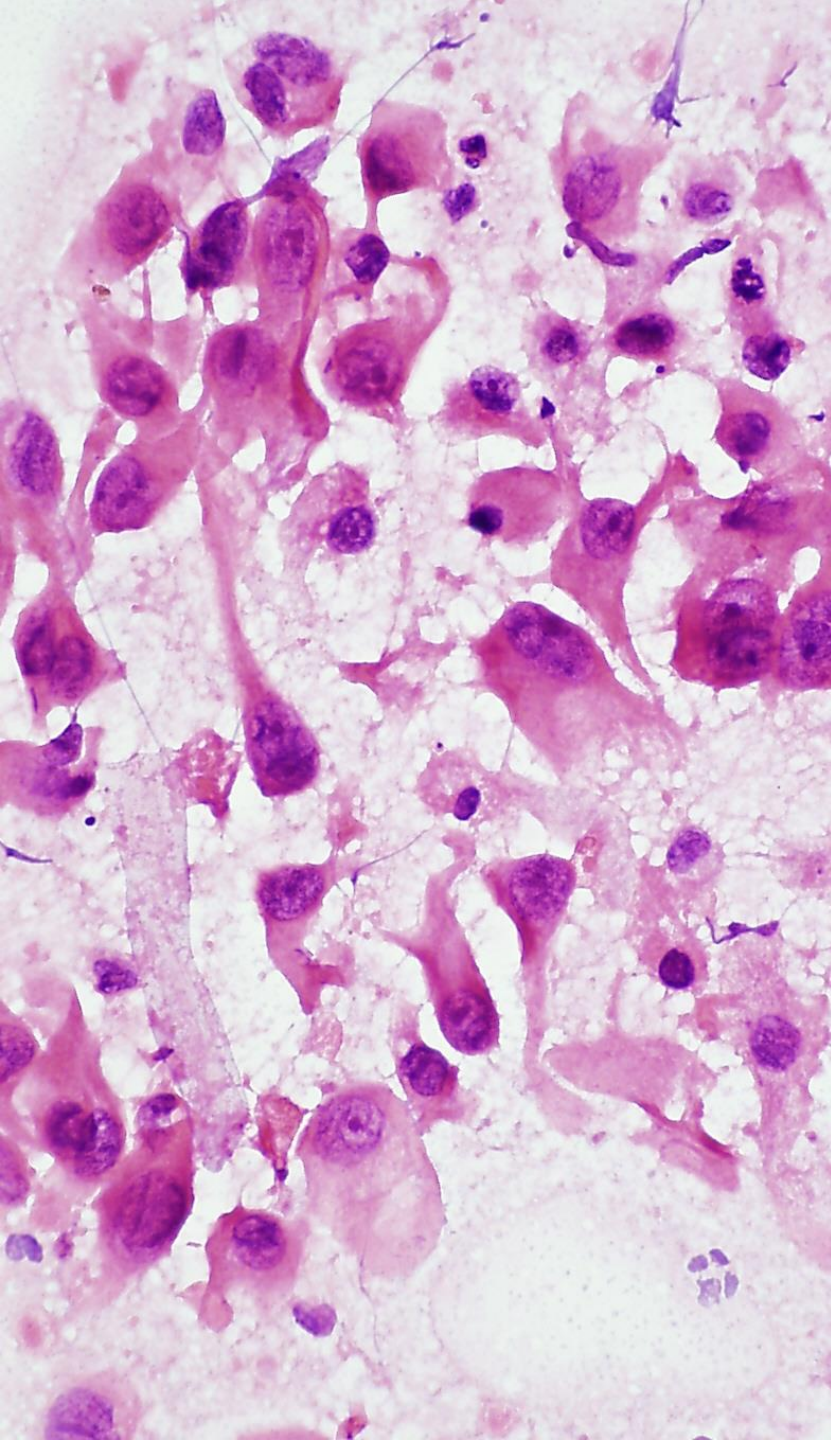
Hasi műtét

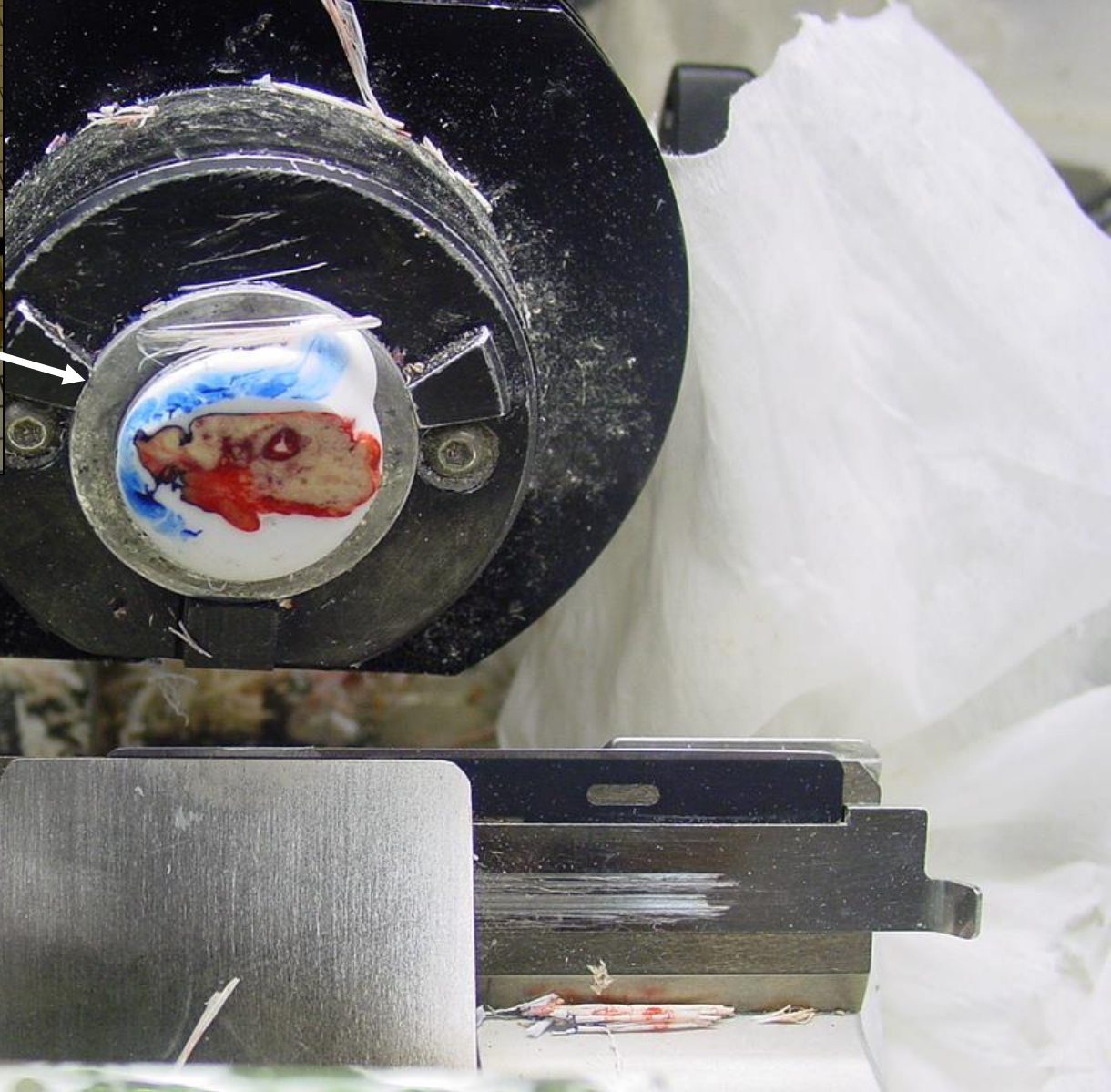




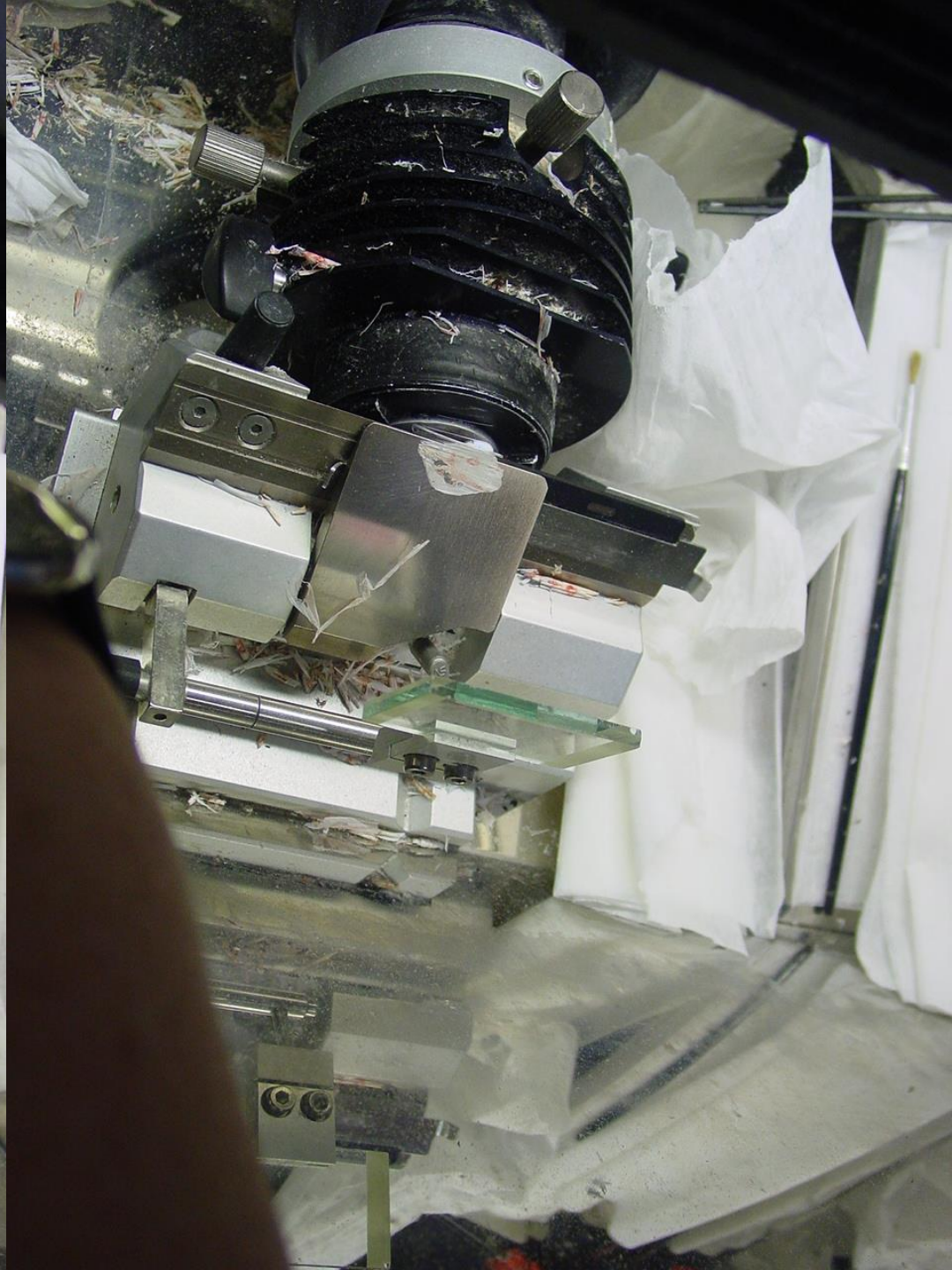


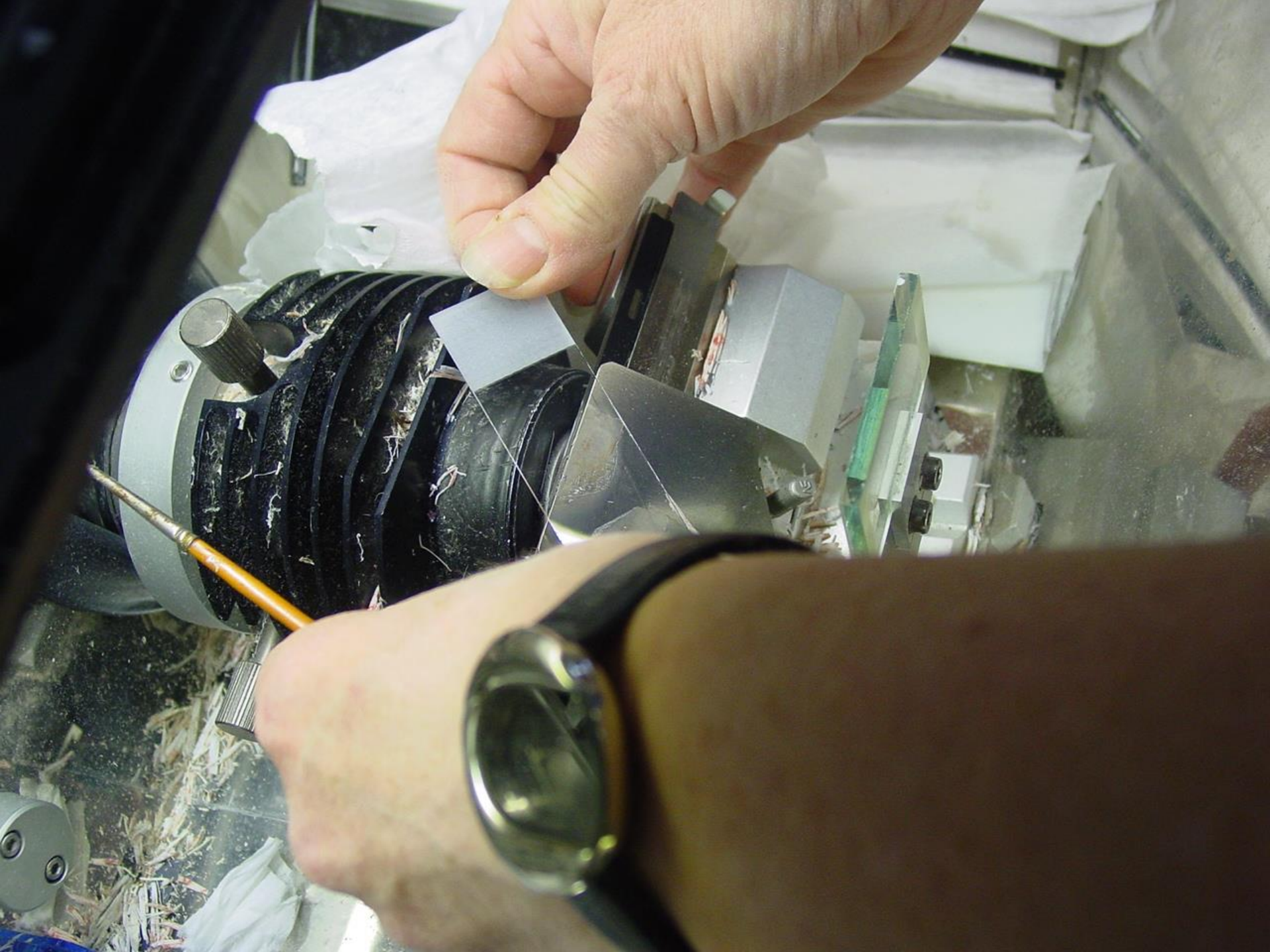
Fagyasztásos vizsgálat
(Intraoperatív)





Fagyasztásos vizsgálat
(Intraoperatív)





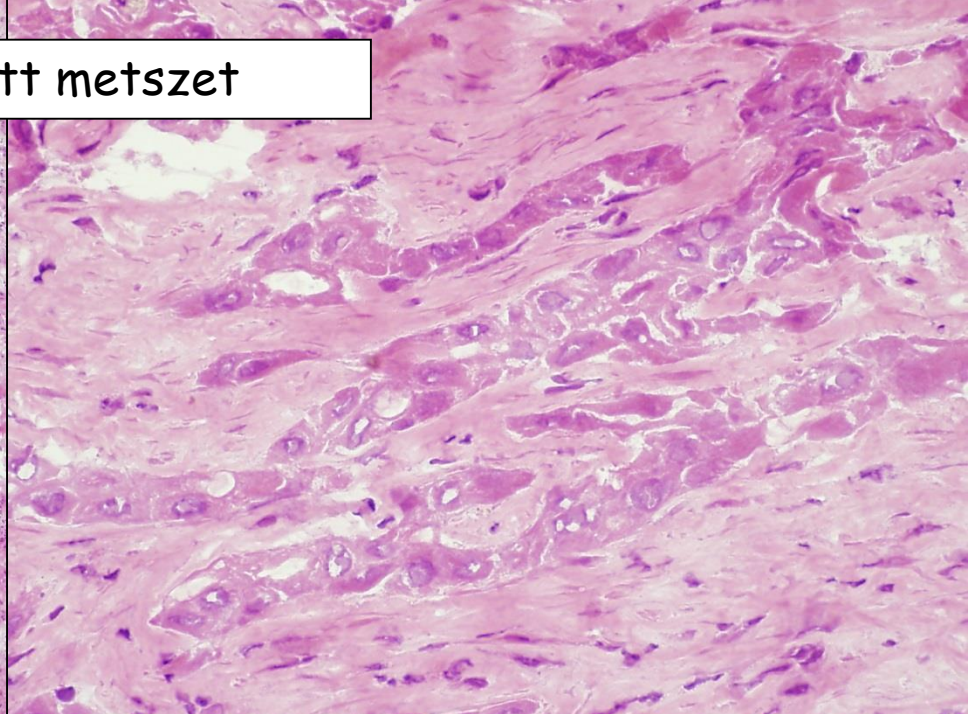
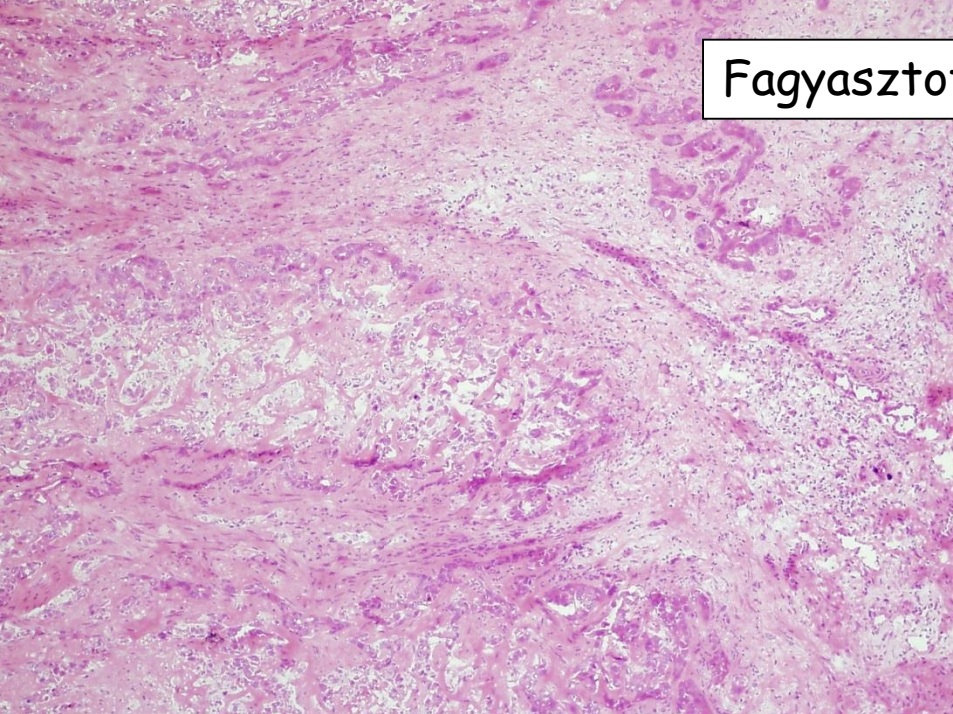
11/05/09
Form



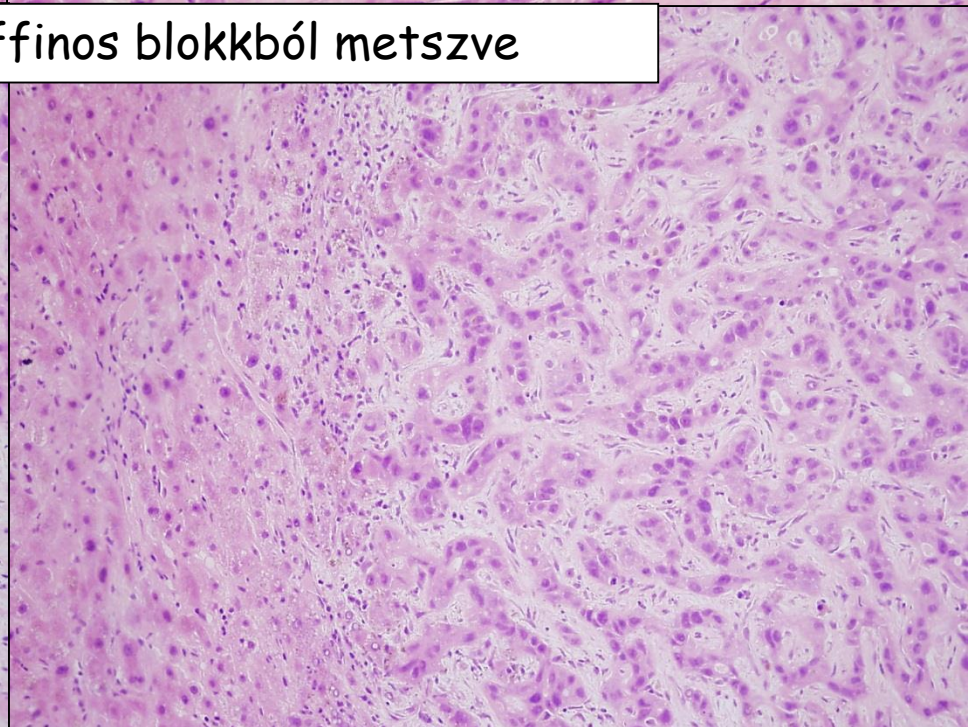
11/05/09



Fagyasztott metszet



Ugyanaz az anyag, paraffinos blokkból metszve



A patológus lelete.....

Óvatos



Vakmerő



A rossz patológus sosem téved!



D i a g n ó z i s :

T-SNOMED: Prostata

7710

1.) BNO: INFILTRATIO TUMOROSA (T-KOD ÁLTAL JELÖLT HELYEN)

C-76.8

M-SNOMED: Adenocarcinoma

8140.3

Vélemény:

A szöveti kép, valamint a kiegészítő IH reakciók eredménye alapján egyértelműen tumor jelenléte igazolható a mintában. A PSA, PSAP negativitás, valamint a morphologia arra utal, hogy a prostata állományának másodlagos tumoros infiltratioja a laesio, első helyen colorectalis adenocarcinoma lehetősége merül fel.

.....
Dr. Csáky Eszter



Képkeltő :

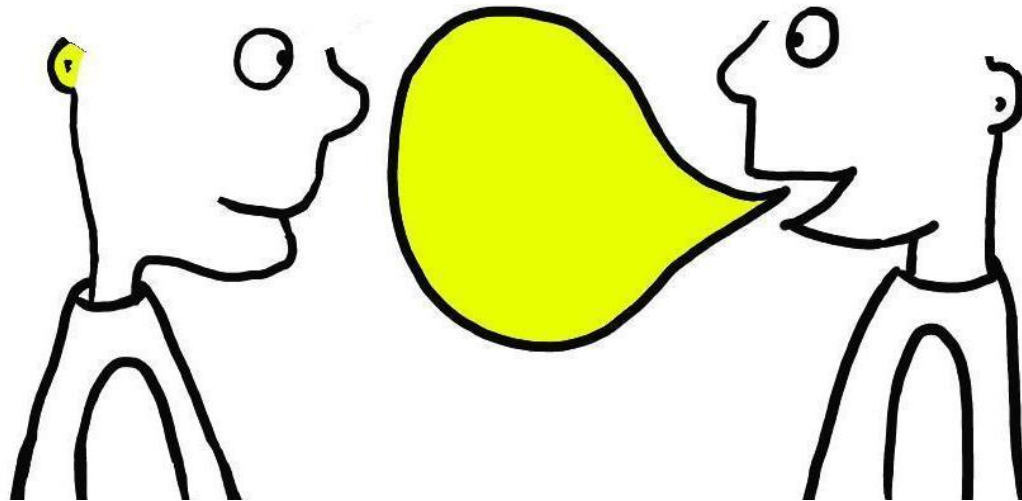
Megelőző kezelések:

További kezeléséről szóló döntés:
Hormon / Castr.

Kezelés helye:

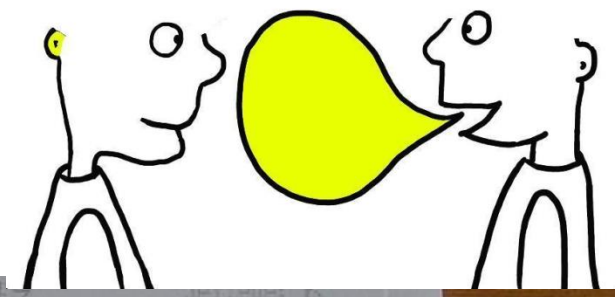
Kezelés végző orvos:

A klinikus/pathológus párbeszéd szerepe



Beküldő: Semmelweis Egyetem I. sz. Gyermekklinika 01400501

Kérőlapok kitöltésének jelentősége

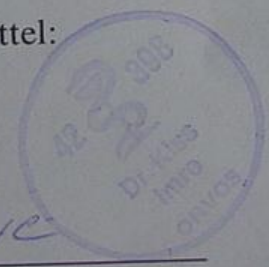


Felvétel ideje: 2003.02.13. 07:40

Beküldött anyag: I. Elküldött jelmondat
akinek a betegsége a gyomor- és bélrendszerrel kapcsolatos.

Klinikai adatok: II. Előzetes anamnézis
III. a mikroscopos vizsgálat
IV. a bakteriális vizsgálat

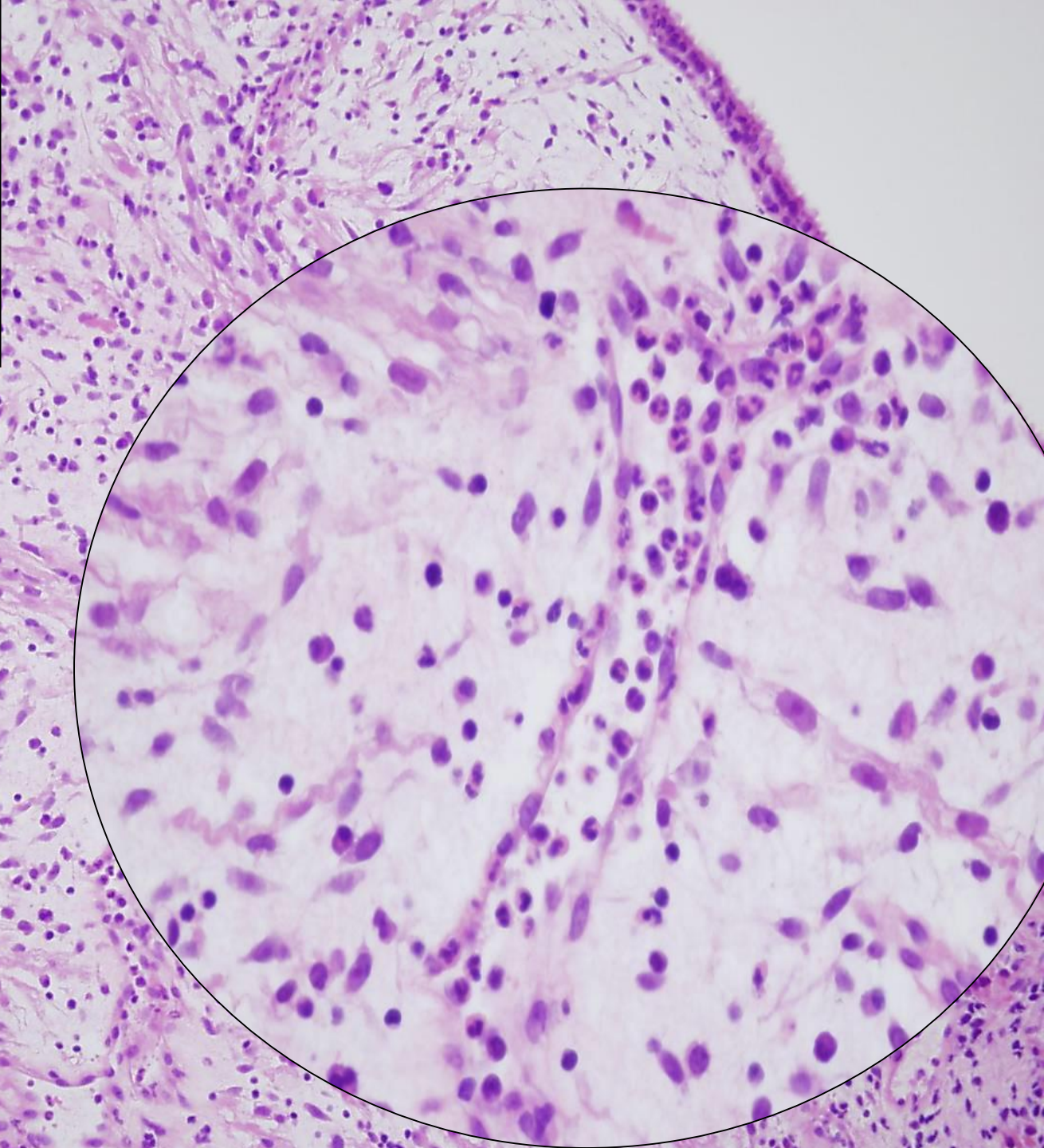
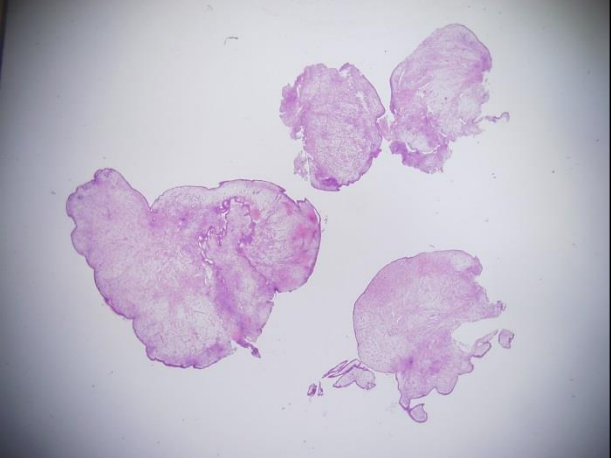
Köszönettel:



Dr. Kiss László

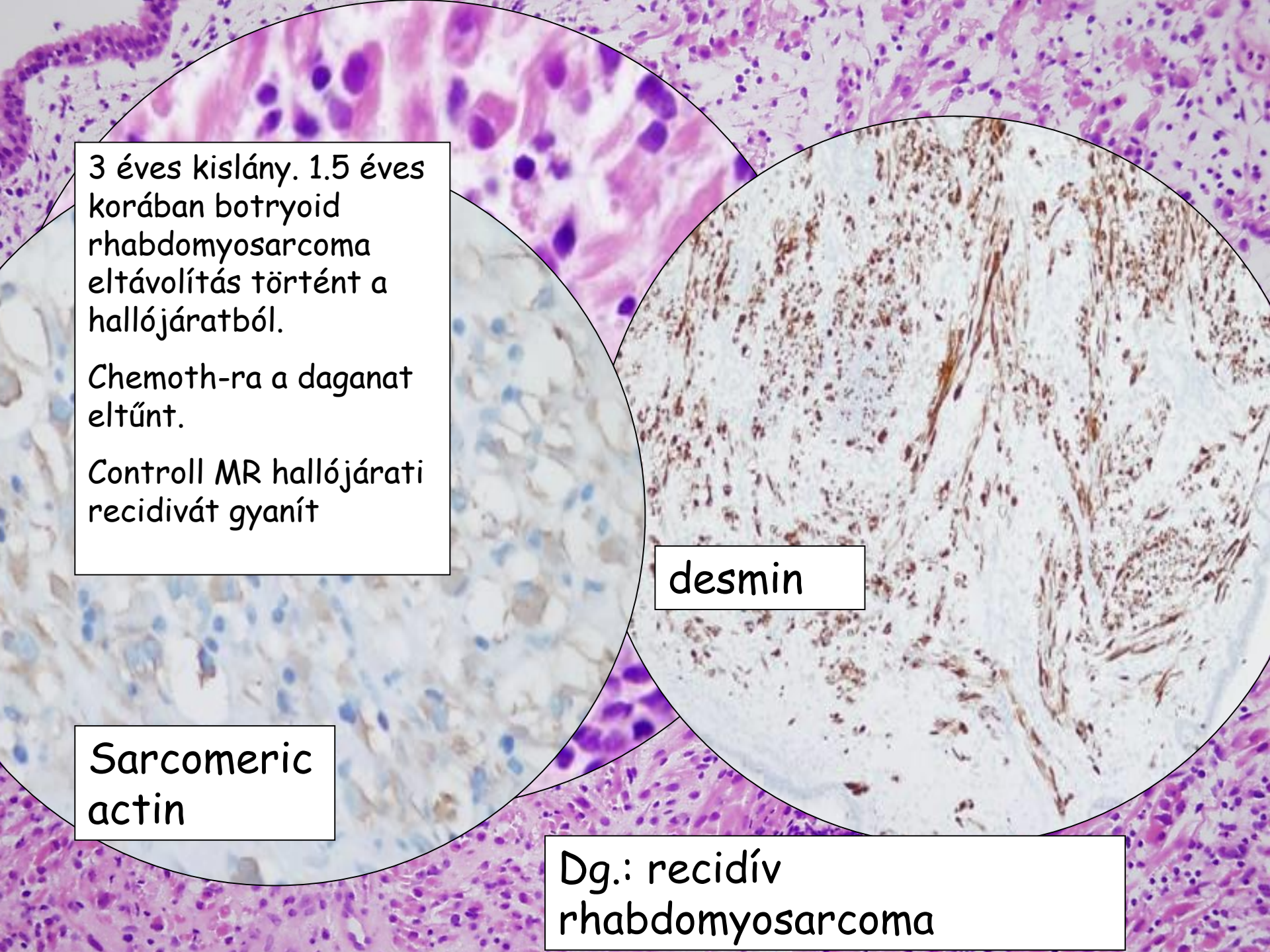
orvos neve

Dátum: 2003.02.13.



3 éves kislány

Tumor a
hallójáratban



3 éves kislány. 1.5 éves
korában botryoid
rhabdomyosarcoma
eltávolítás történt a
hallójáratból.

Chemoth-ra a daganat
eltűnt.

Controll MR hallójárat
recidivát gyanít

Sarcomeric
actin

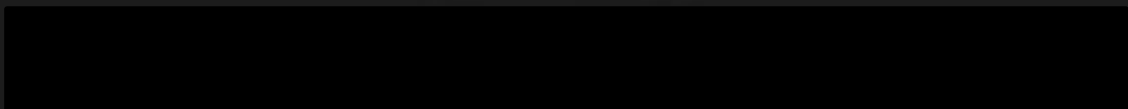
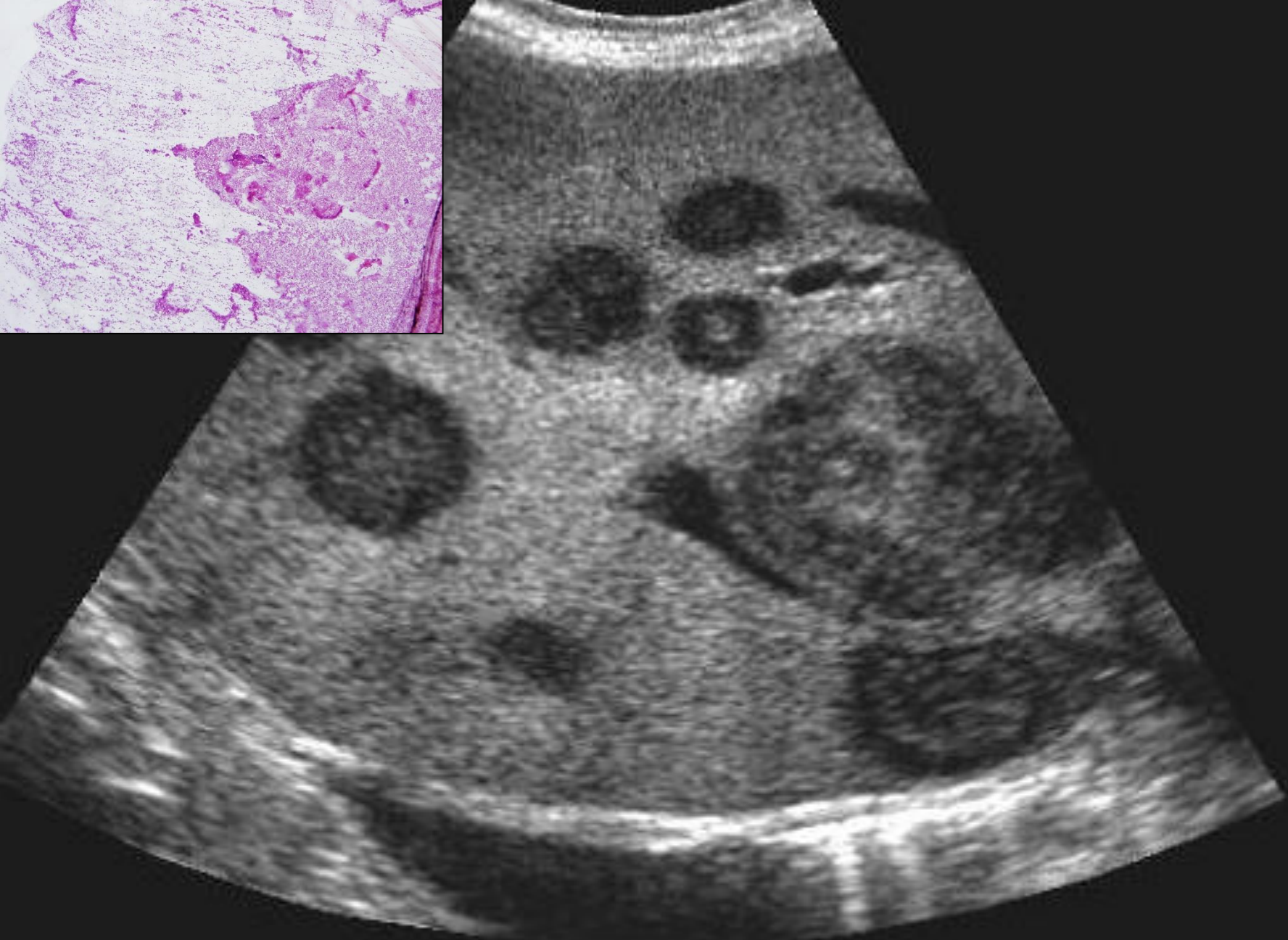
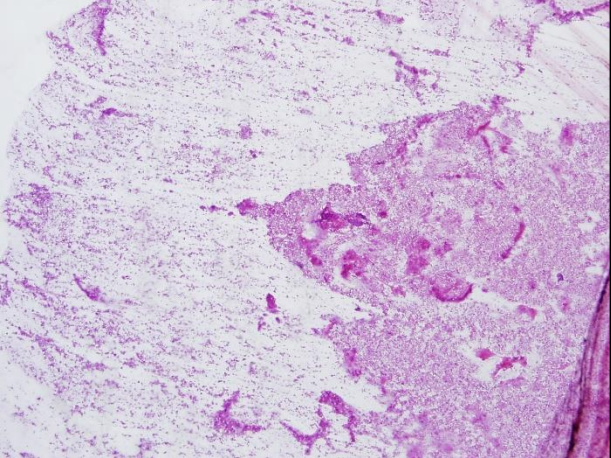
desmin

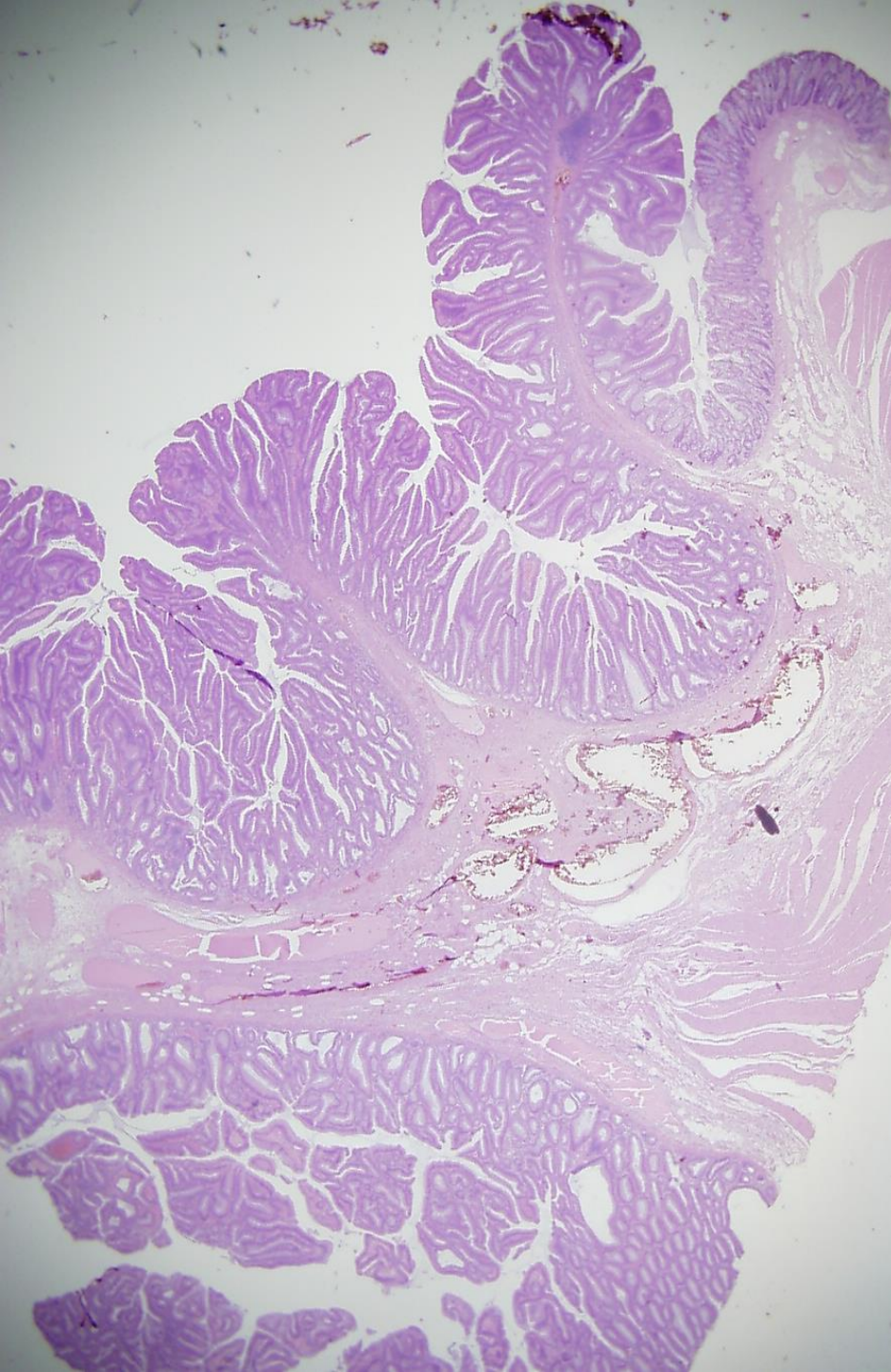
Dg.: recidív
rhabdomyosarcoma

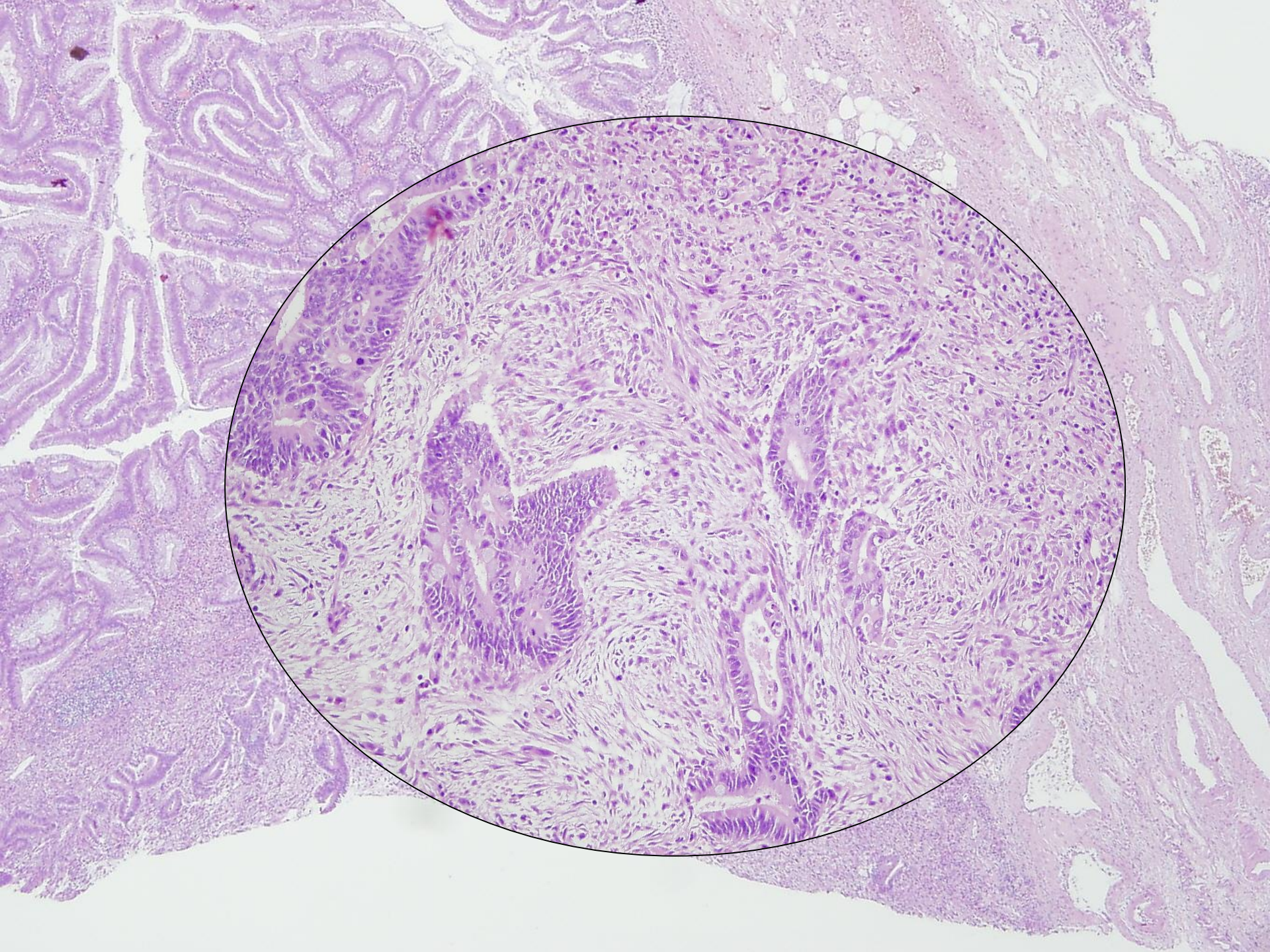


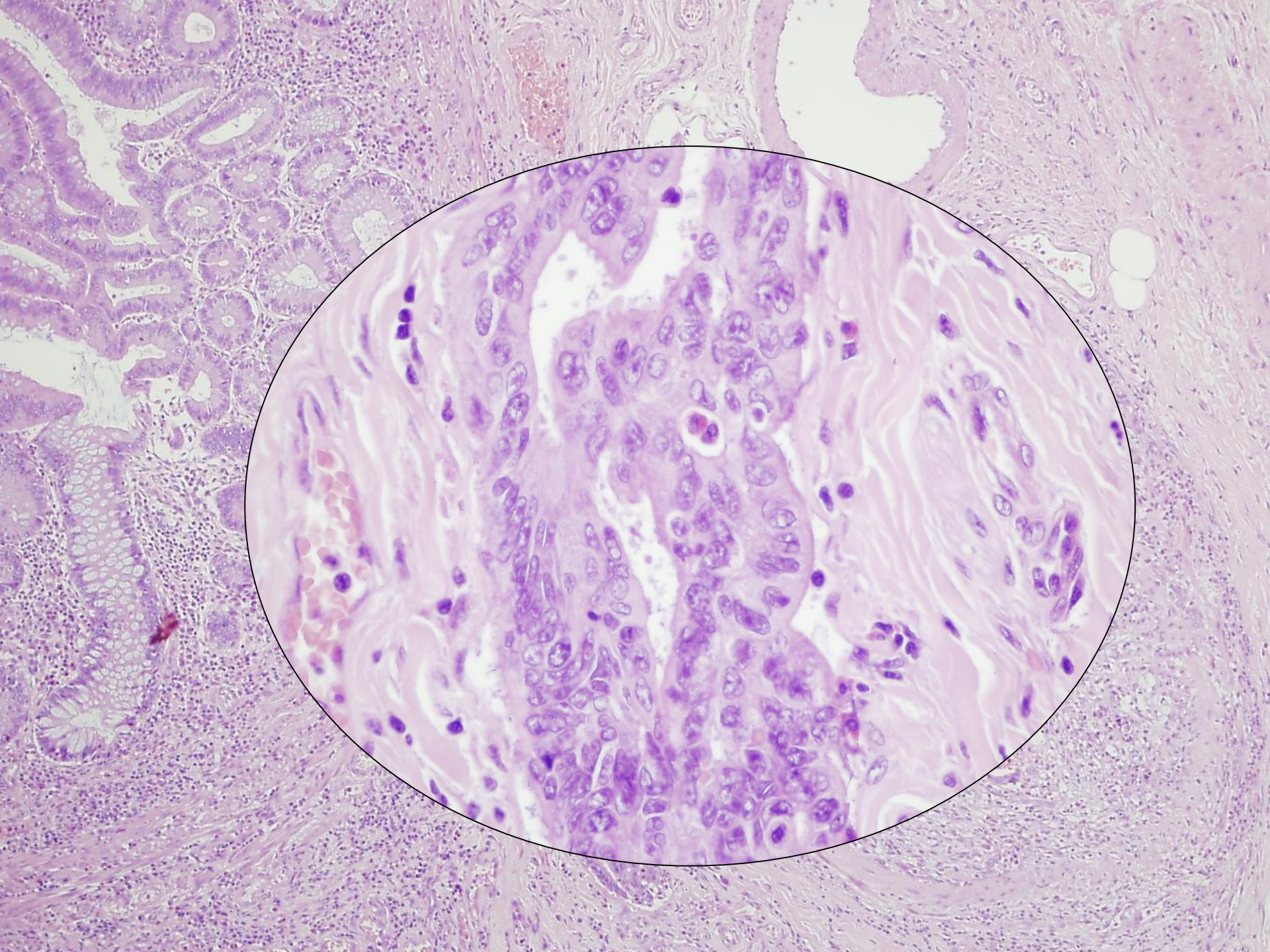
Mitől retteg minden
patológus?











„Klinikopathológia”

Összevetjük

a mikroszkópos képet

a rendelkezésre álló
klinikai adatokkal

(kor, nem,
anamnézis, radiológiai lelet,
makroszkópia, stb.)



TEAMWORK







