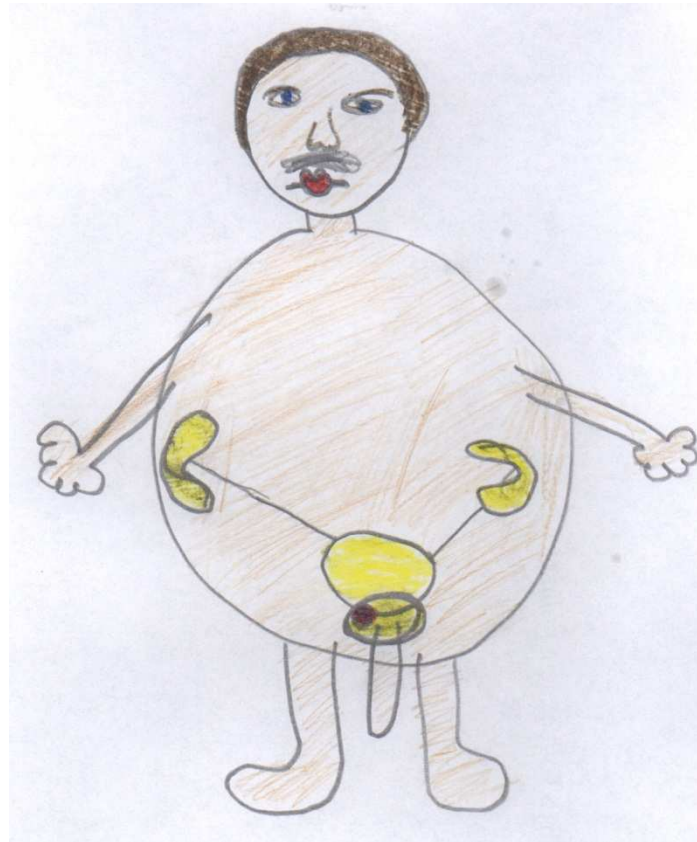


Prostata carcinoma grading



Grading jelentősége

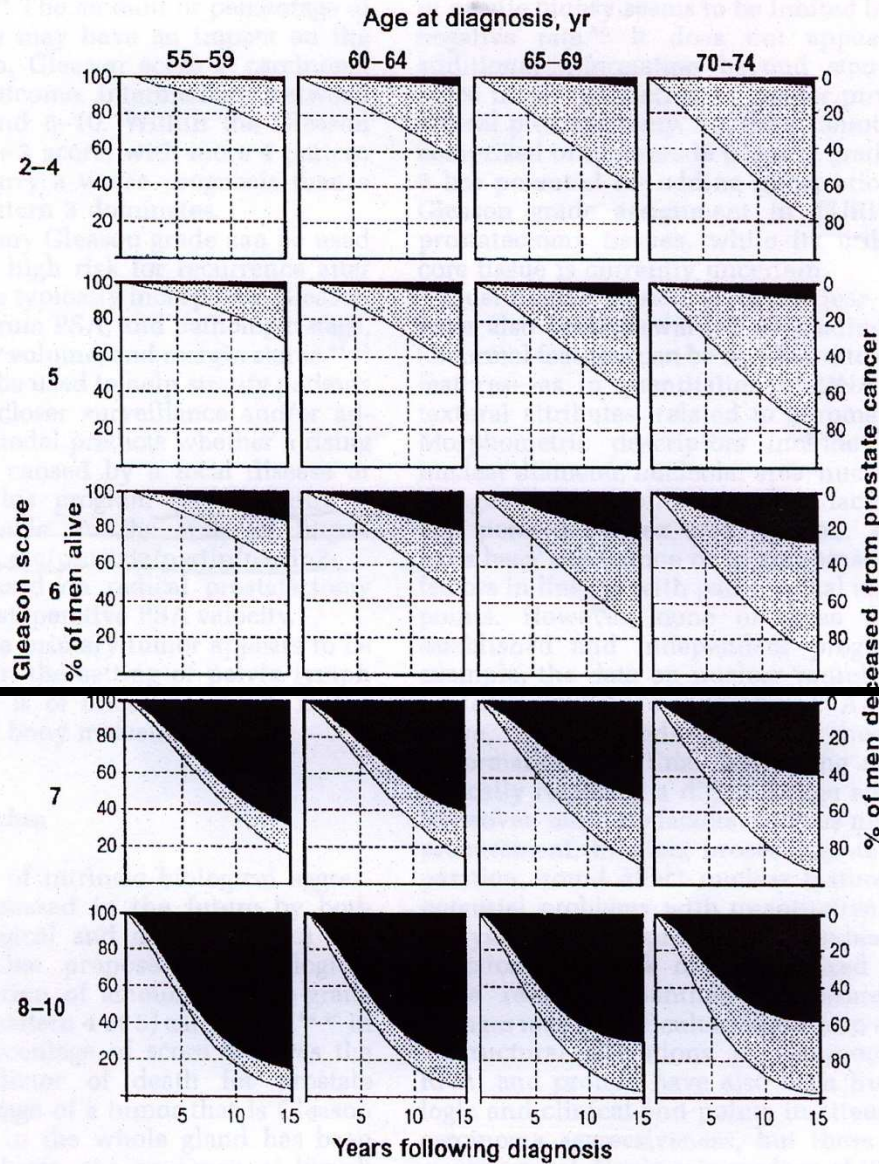
Biológiai viselkedés legfőbb meghatározó
eleme

Grade - recidiva-túlélés

Grade - tumor térfogat

Grade - PSA szint

Grade - stage

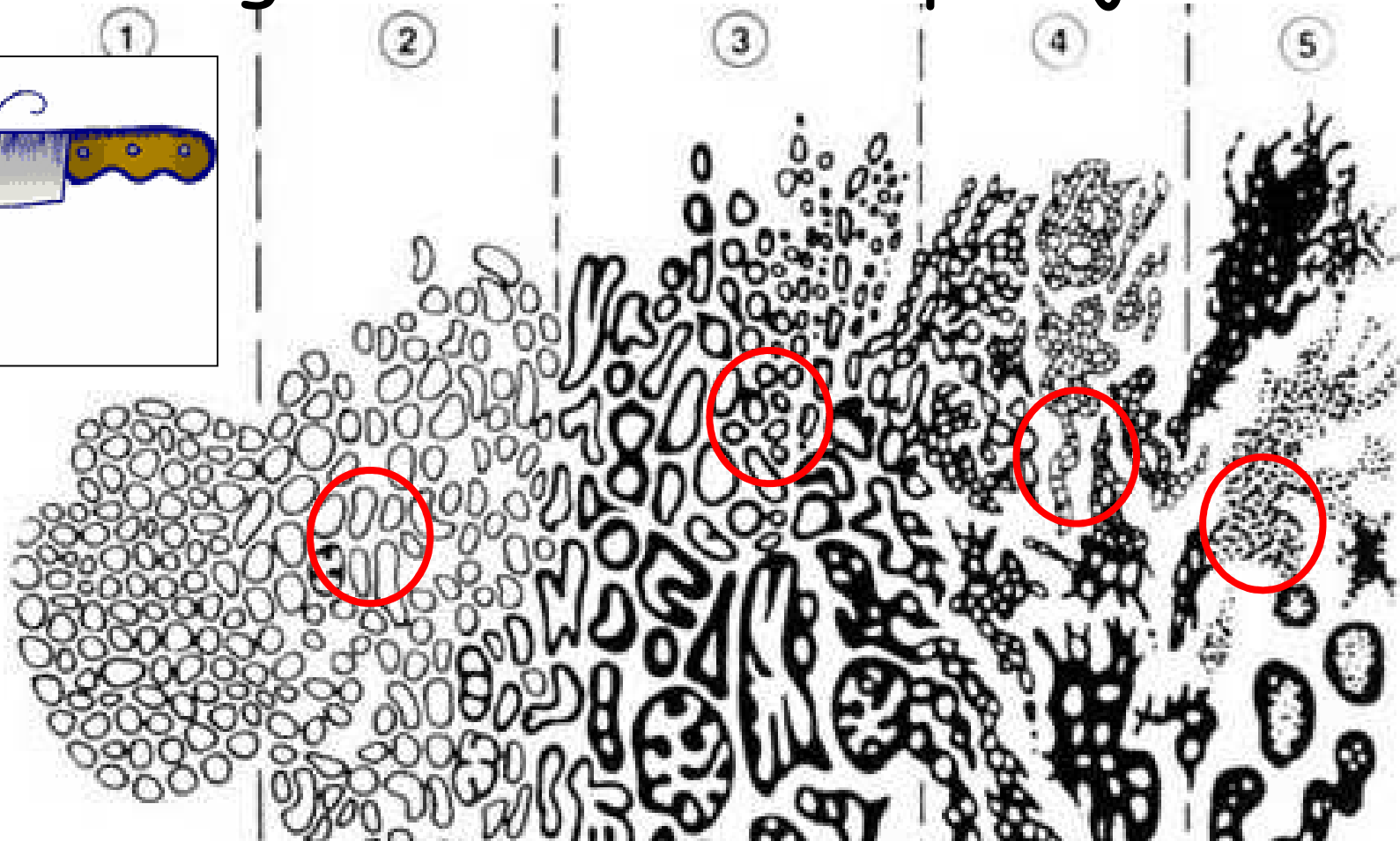
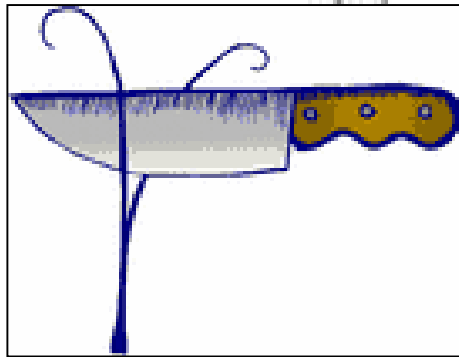


Gleason grading and prognostic factors in carcinoma of the prostate

Peter A Humphrey

Figure 11 Survival (white lower band) and cumulative mortality due to prostate cancer (black upper band) and to other causes (light gray middle band) from 0 to 15 years after diagnosis, stratified by age at diagnosis and Gleason score. The prostate cancer patients were managed conservatively, with either no treatment or treatment with hormonal therapy. (From reference Albertsen *et al.*¹⁹; JAMA, 1998, vol. 280, page 978, with permission from American Medical Association. Copyright 1998, American Medical Association. All rights reserved.)

Gleason grade sarkalatos pontjai



„csak a
mesében”

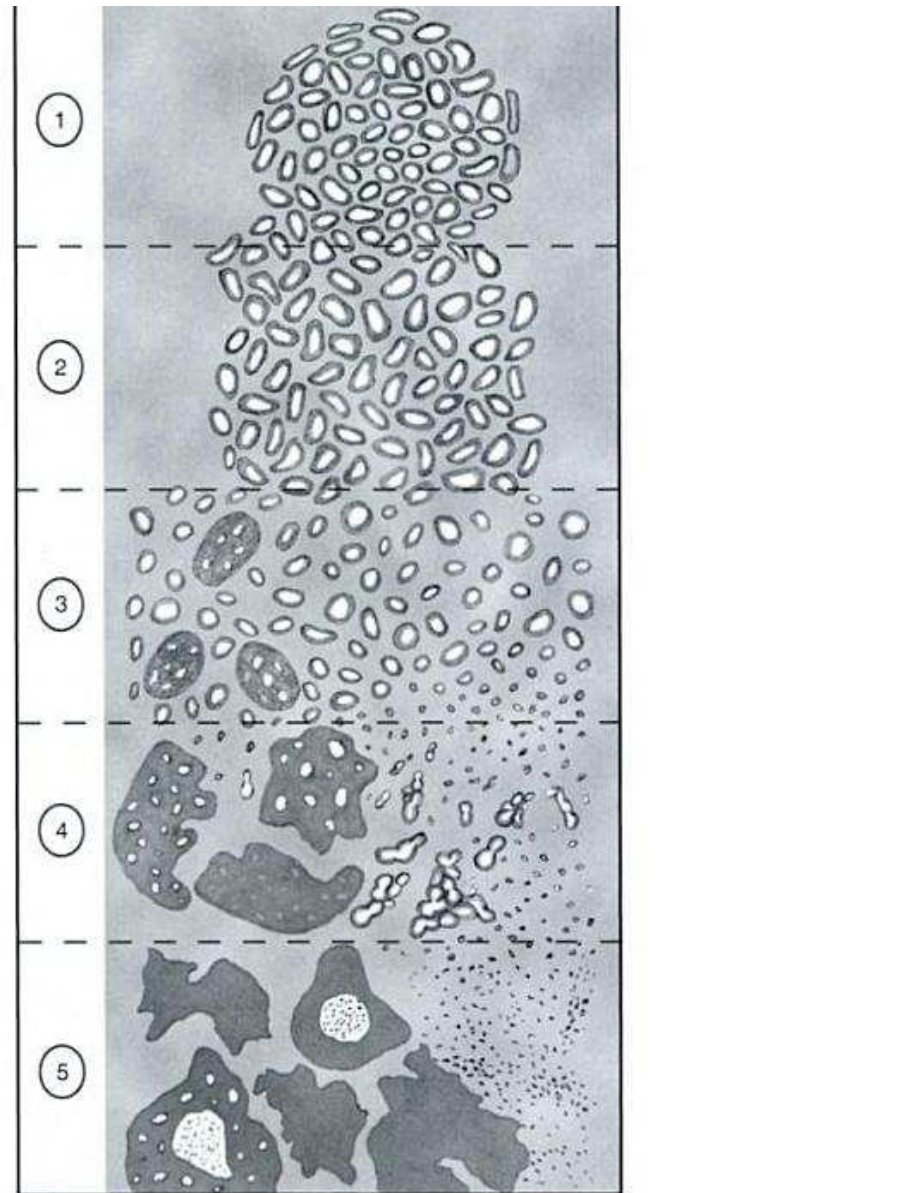
Jól körülírt,
nagy, tág
mirigy-
lumenek

Rosszul
körülírt,
szűkebb
mirigy-
lumenek

Mirigy-
fúzió

Nincs
mirigy

**EZ AZ ÁBRA MÁR
TÚLHALADOTT!**

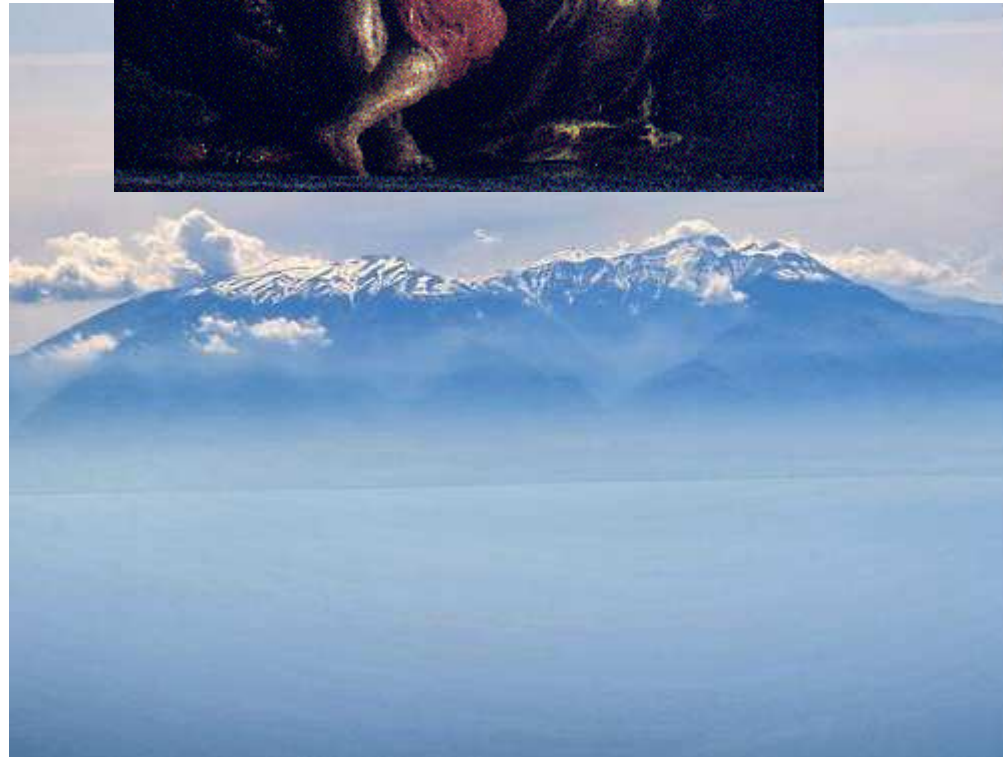
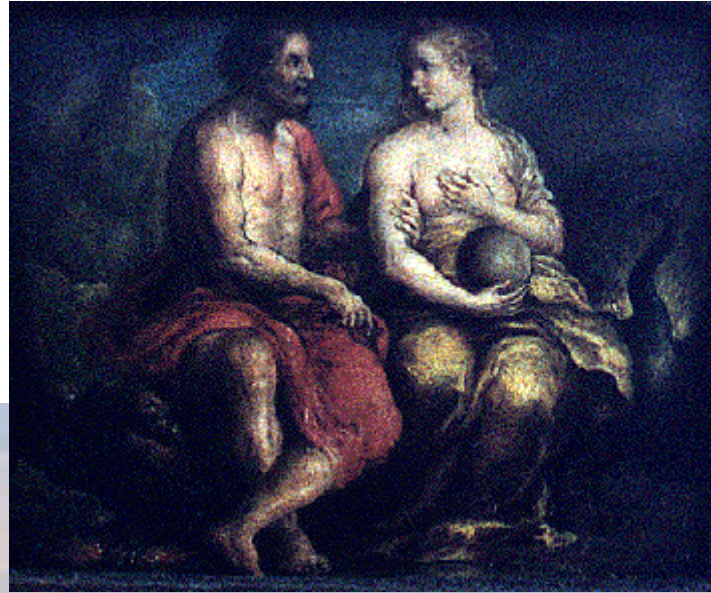


Brumby

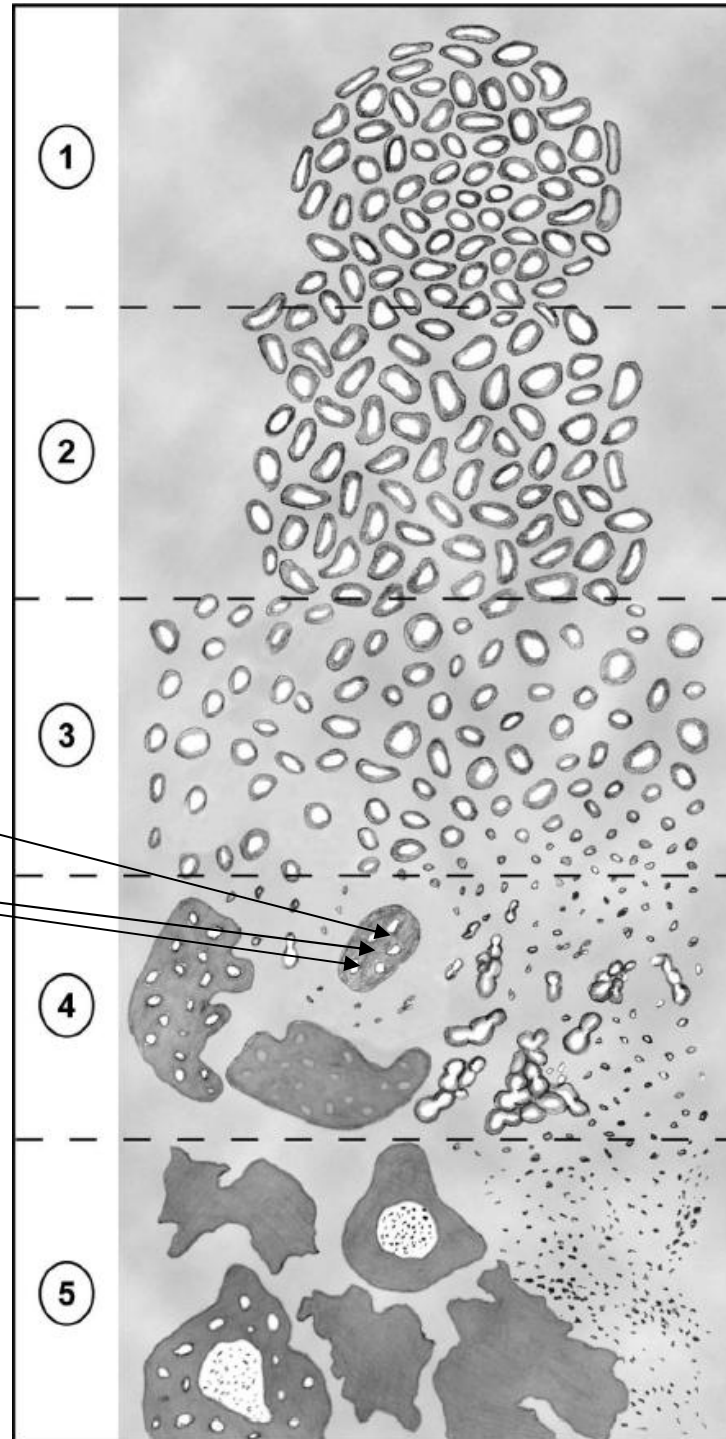
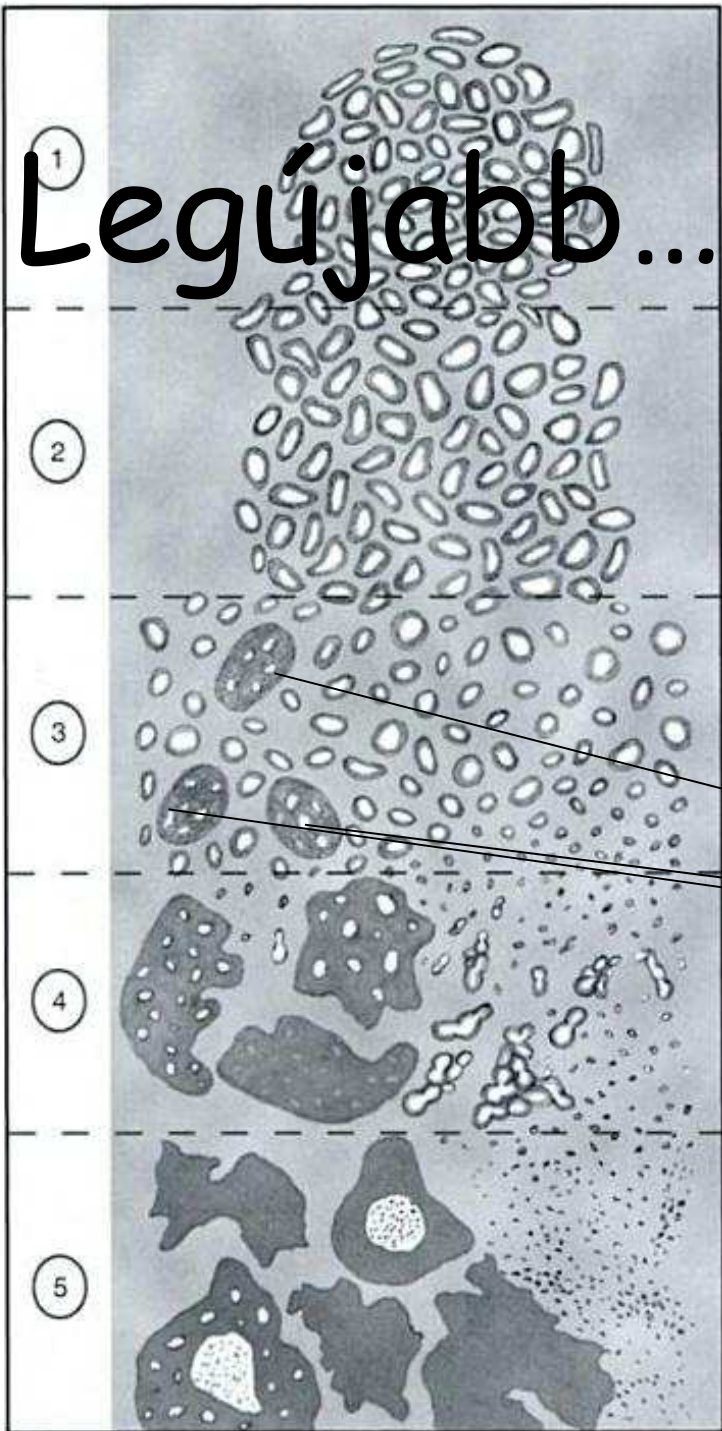
Ez is....

FIGURE 17.1. Modified Gleason grading system. Similar to the modified Gleason grading system categorizes prostate adenocarcinoma into five patterns (patterns 1-5) based on the architectural differentiation with several modifications. Notably, the definition of cribriform pattern 3 is much stricter. Poorly formed glands with ill-defined lumina are graded as pattern 4.

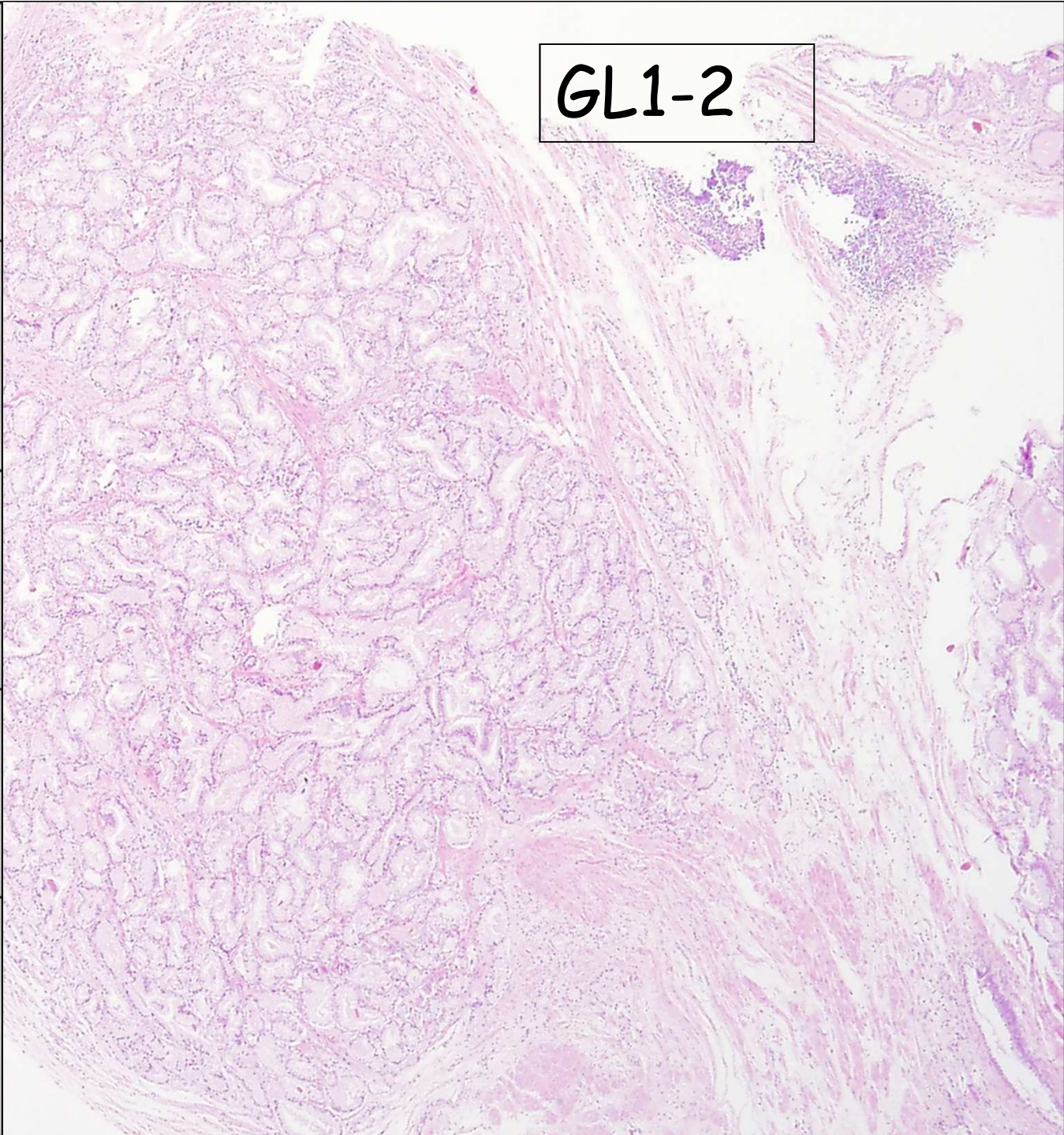
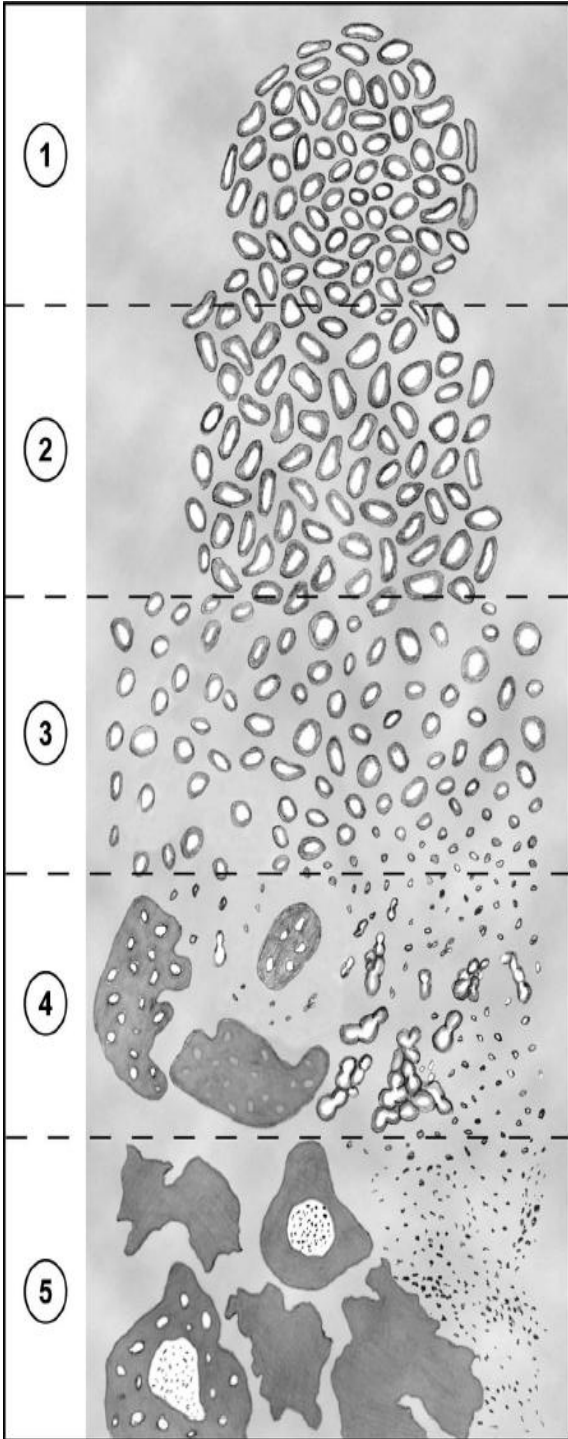
Olympos

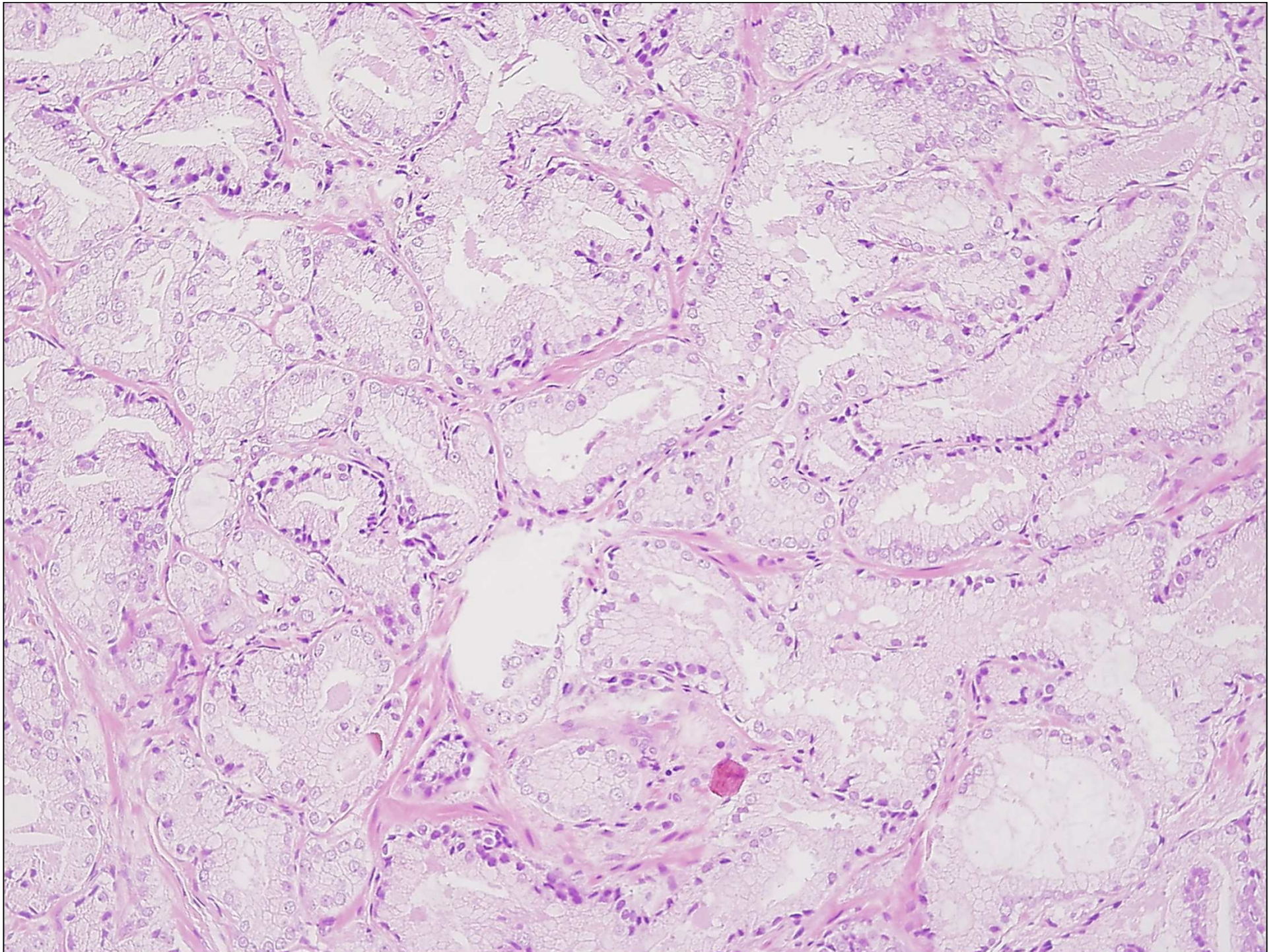


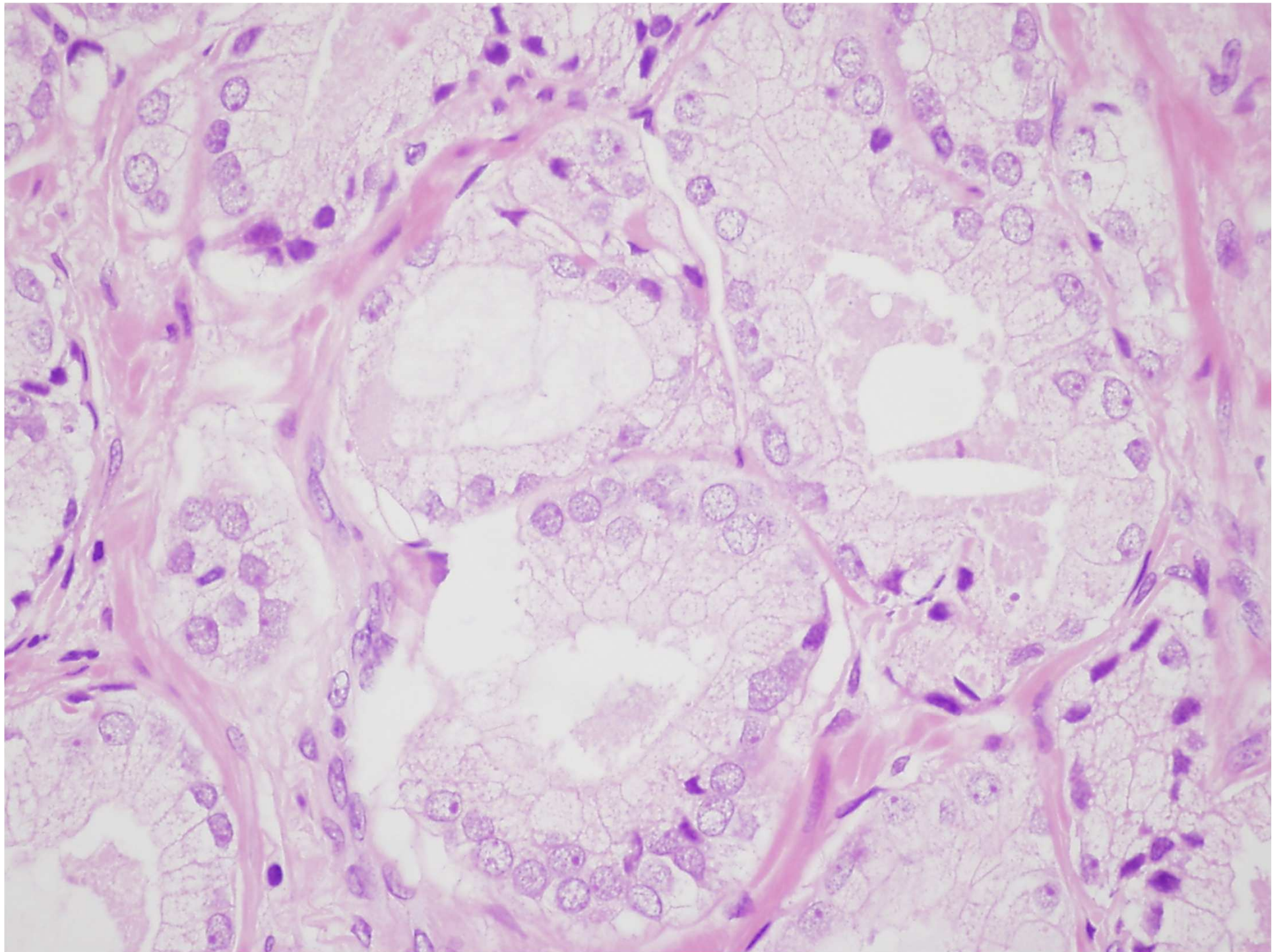
Legújabb.....



GL1-2

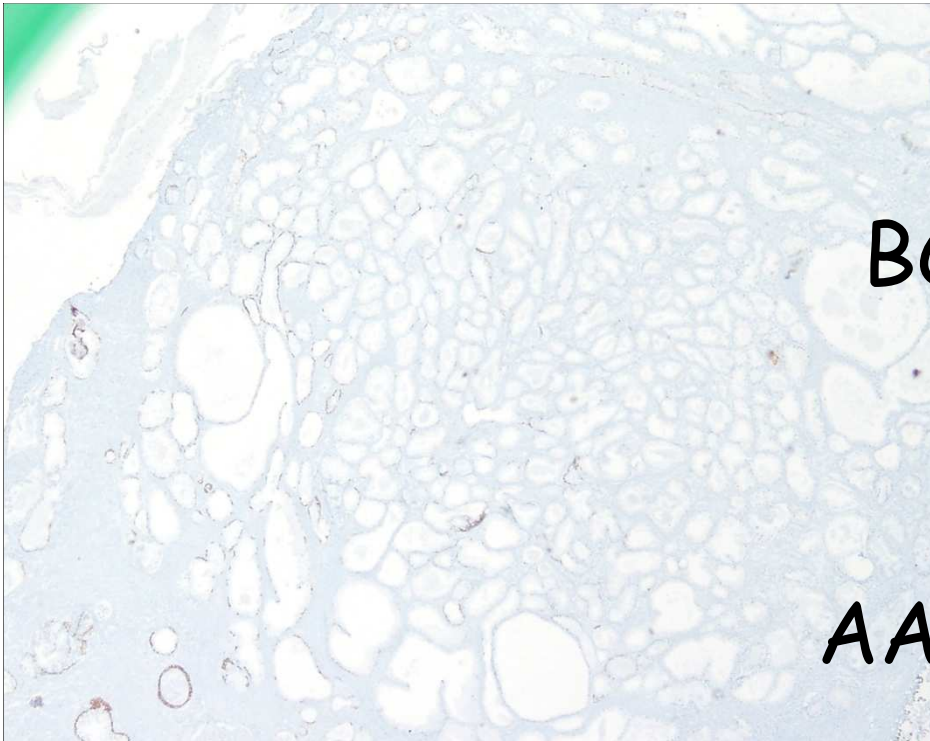






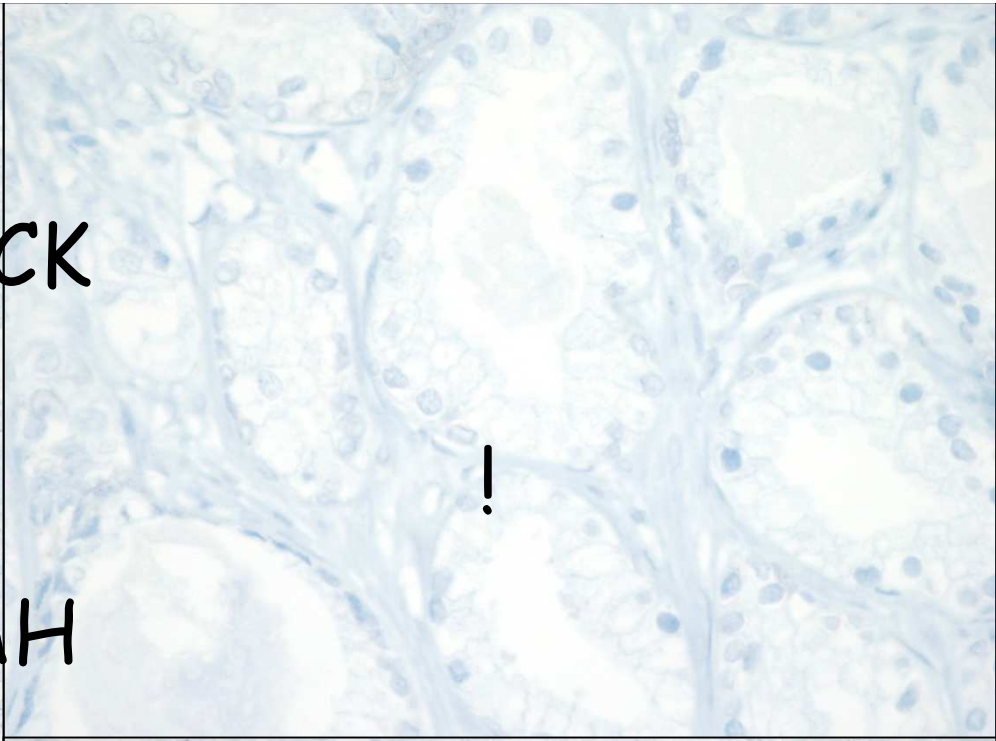


VIGYÁZAT!!!!

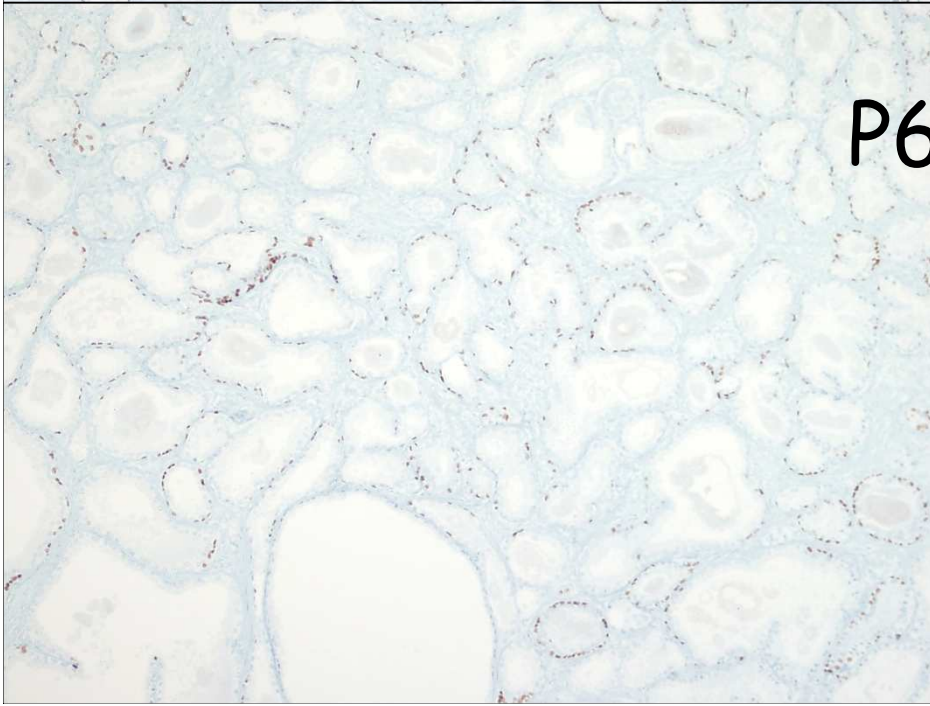


BCK

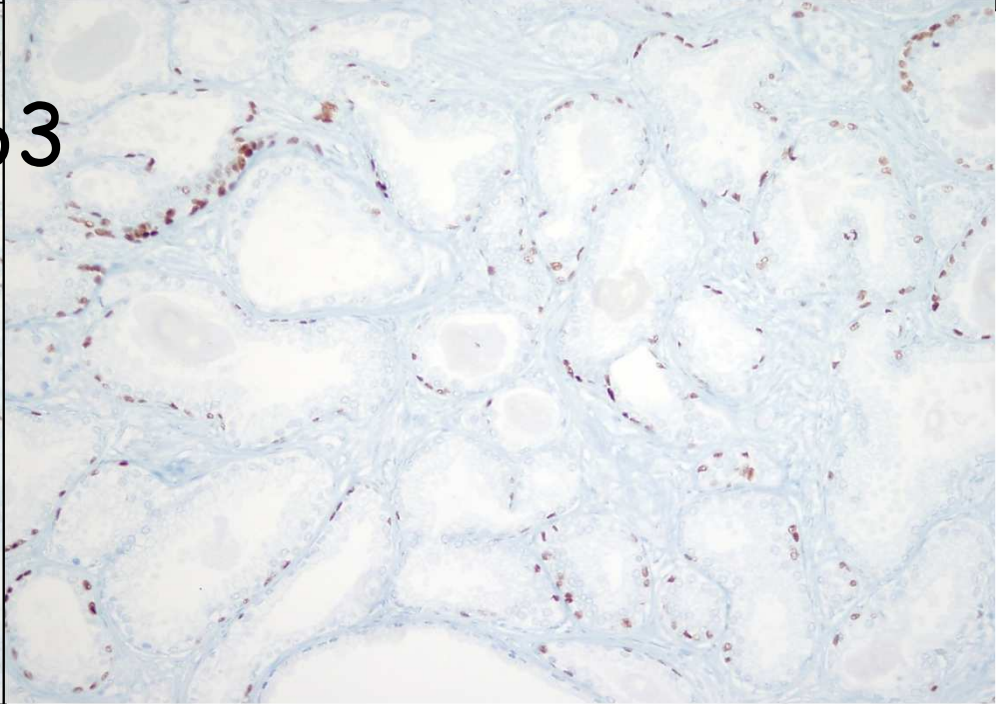
AAH



!



P63



Adenosis (AAH) G1-2 PrCC

LPF

Lobuláris növekedés

Non-uniform mirigyek

HPF

Macronucleolus Ø

Corpus amylaceus van

Halvány, világos cpl

Kékes mucinosus secr. Ø

Basal sejtek vannak

BCK + $\geq 10\%$

LPF

Inkább infiltratív szél

Inkább uniform mirigyek

HPF

Macronucleolus van

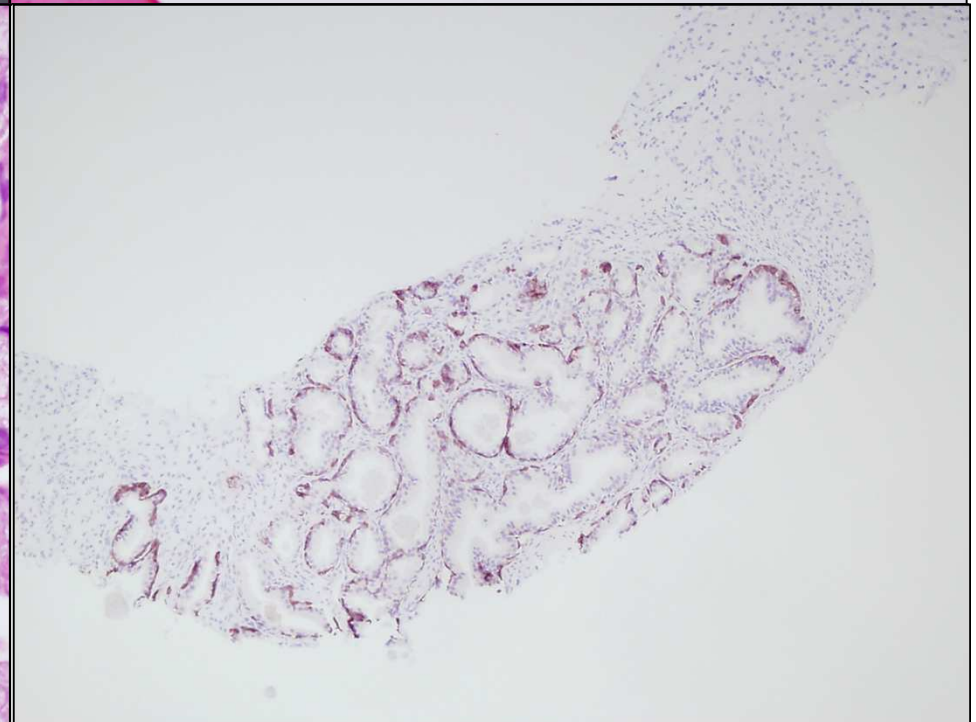
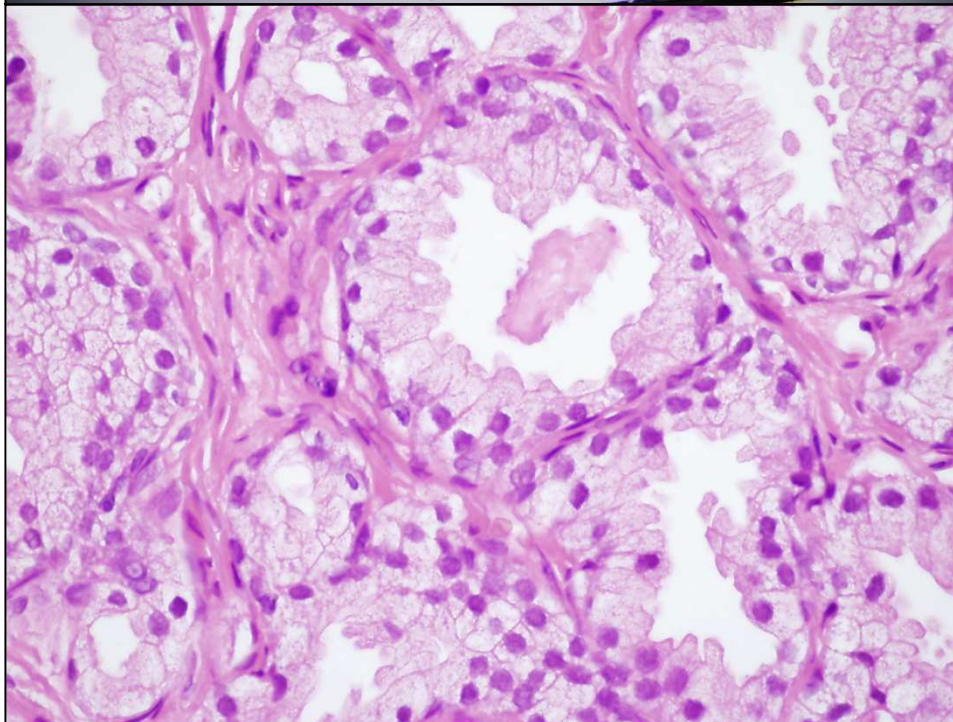
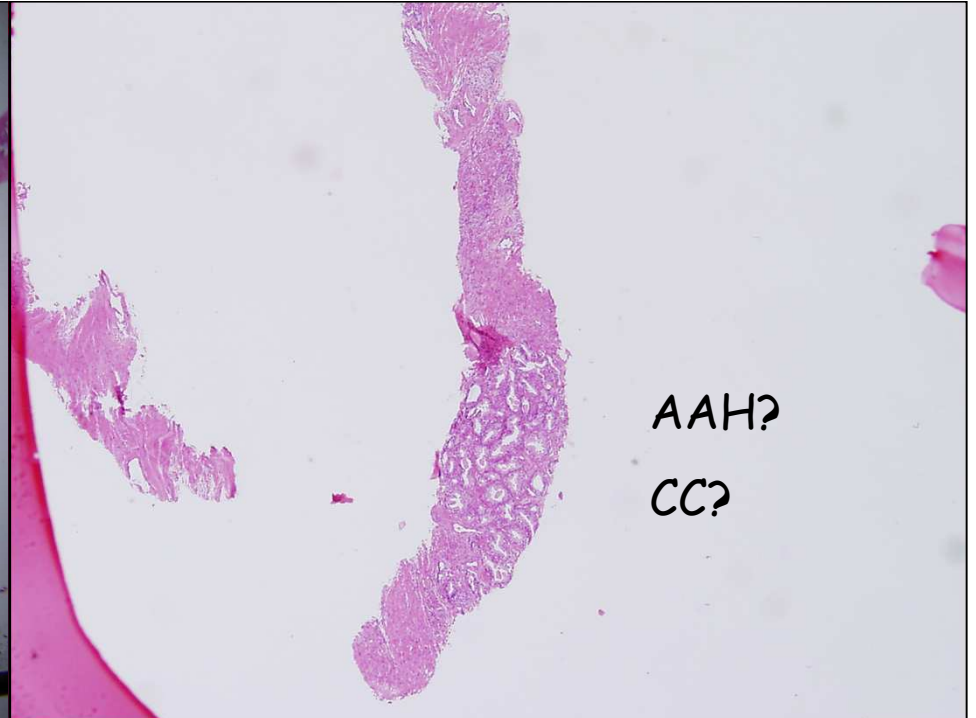
Corpus amylaceus Ø

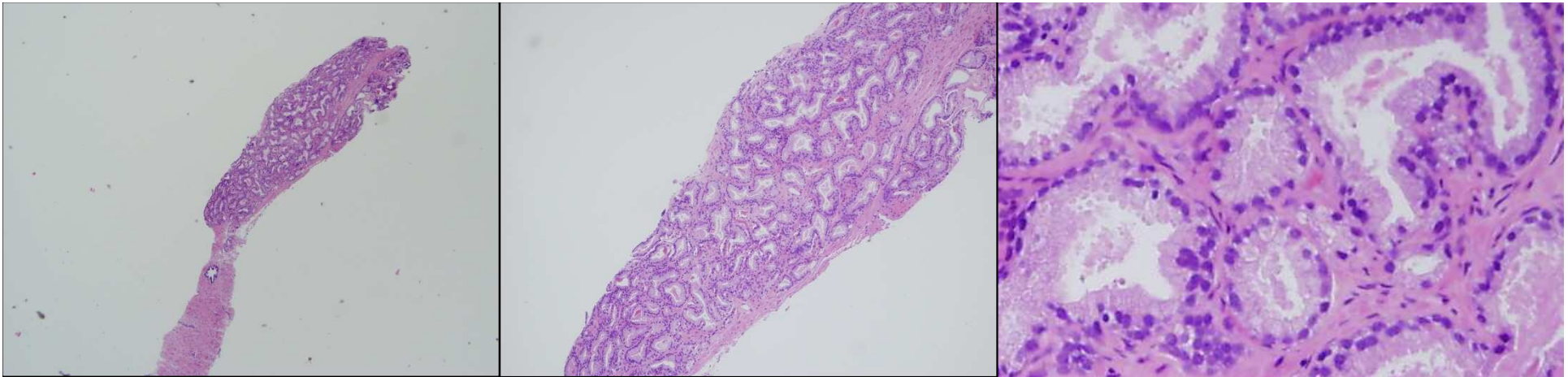
Amphophil cpl

Kékes mucinosus secr.

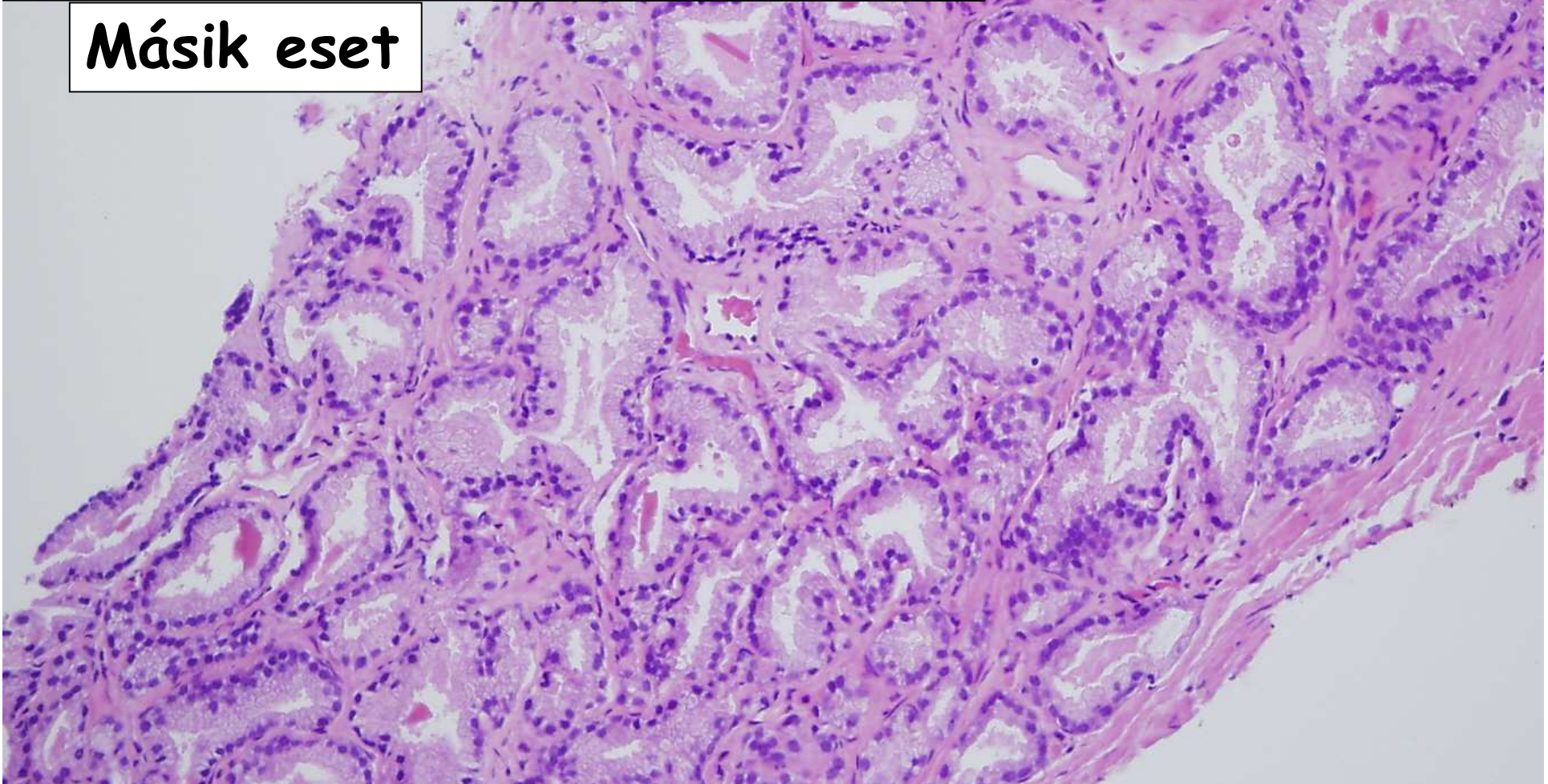
Basal sejtek Ø

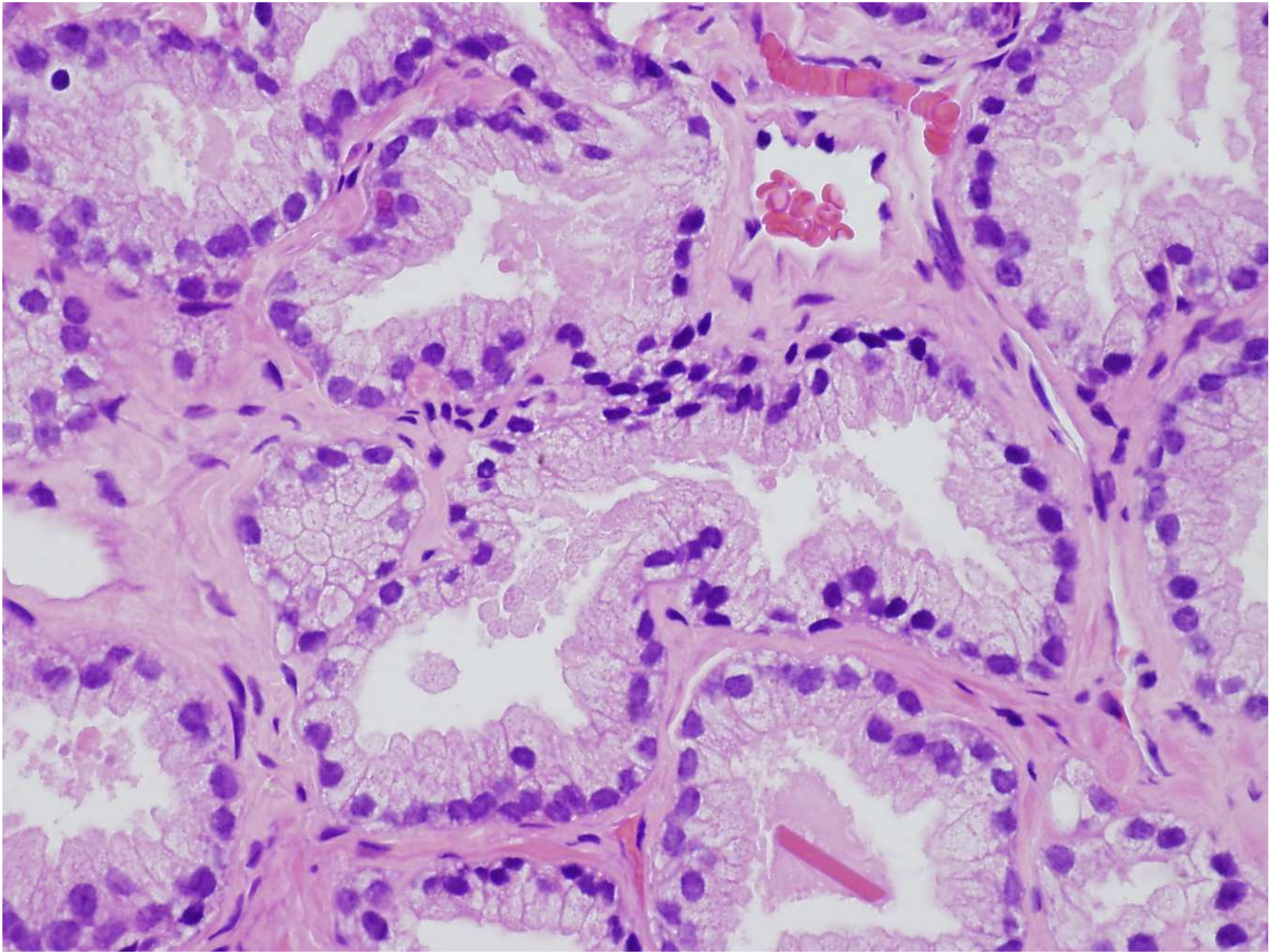
BCK Ø

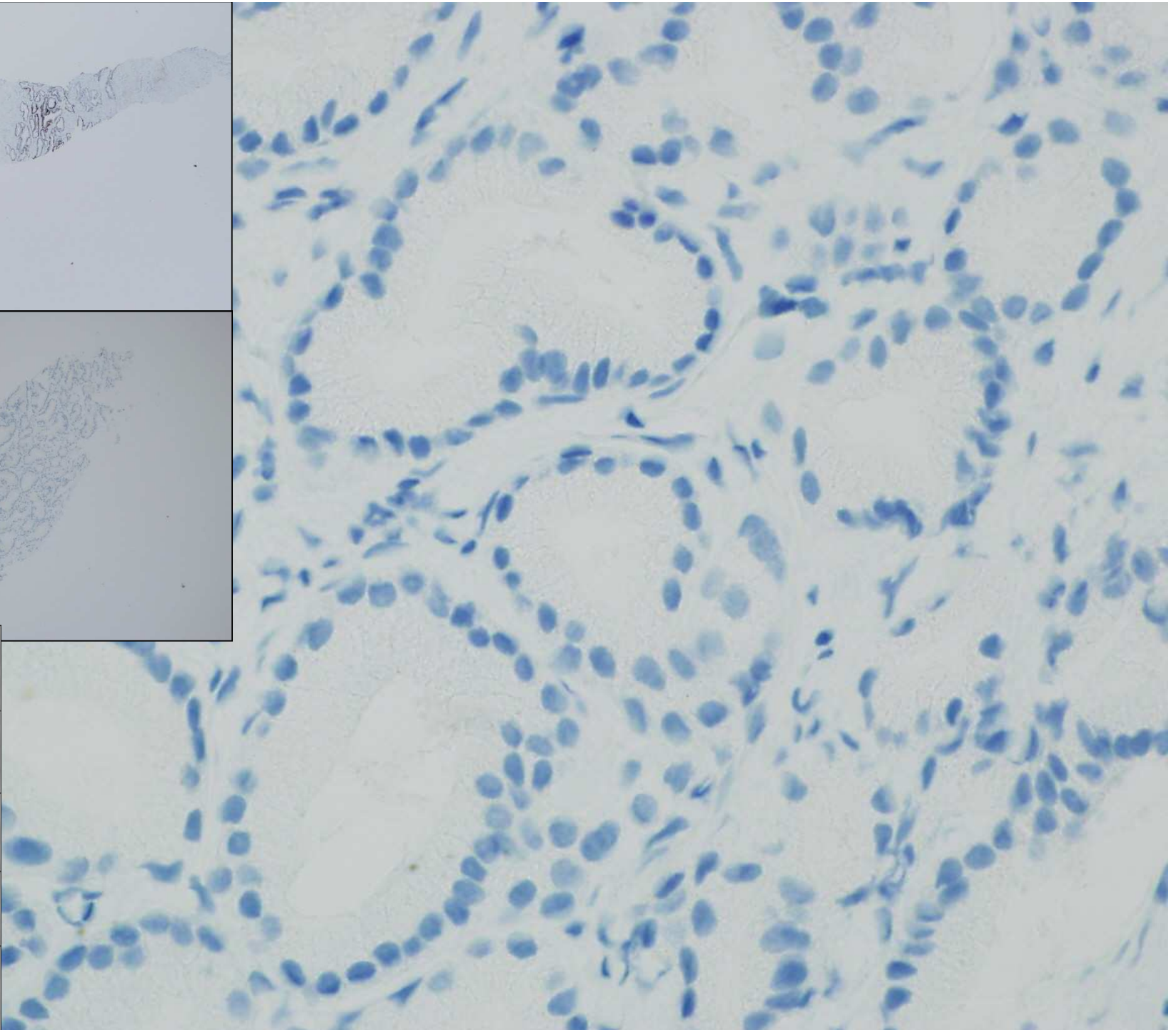
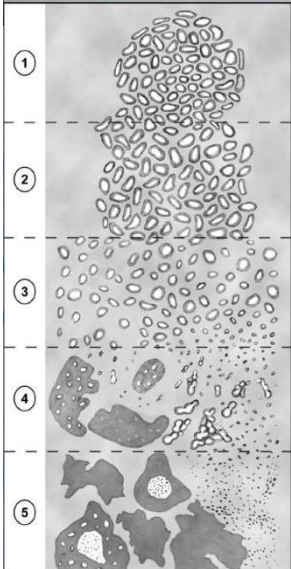




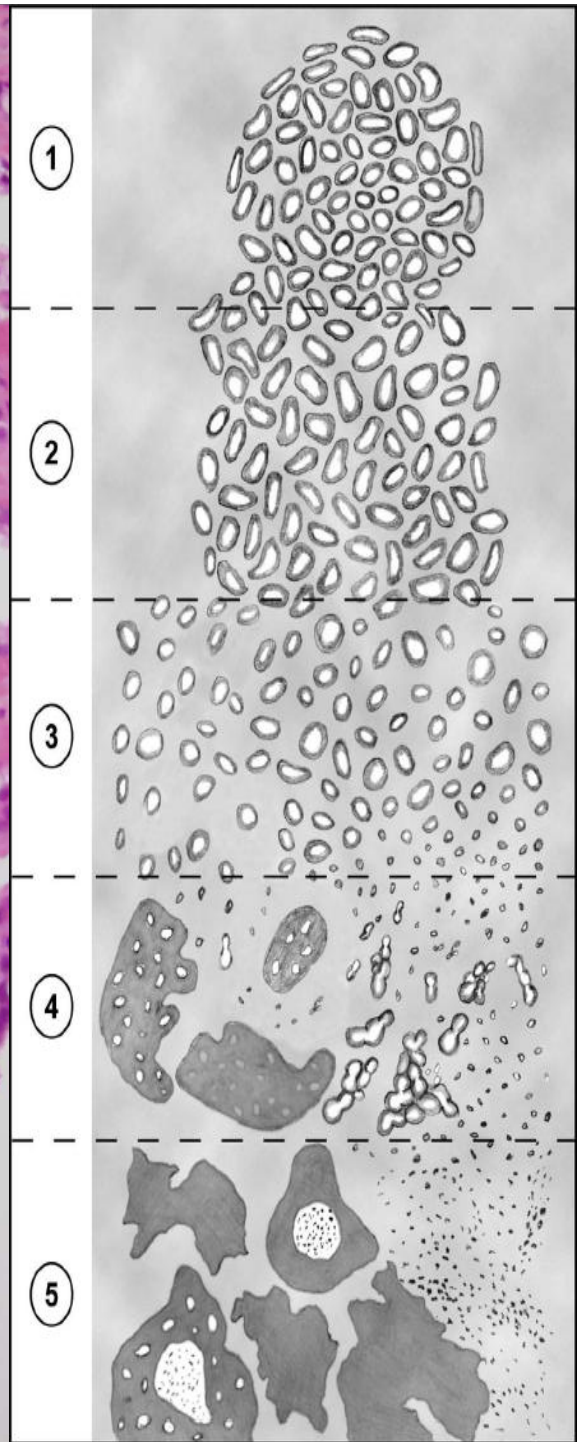
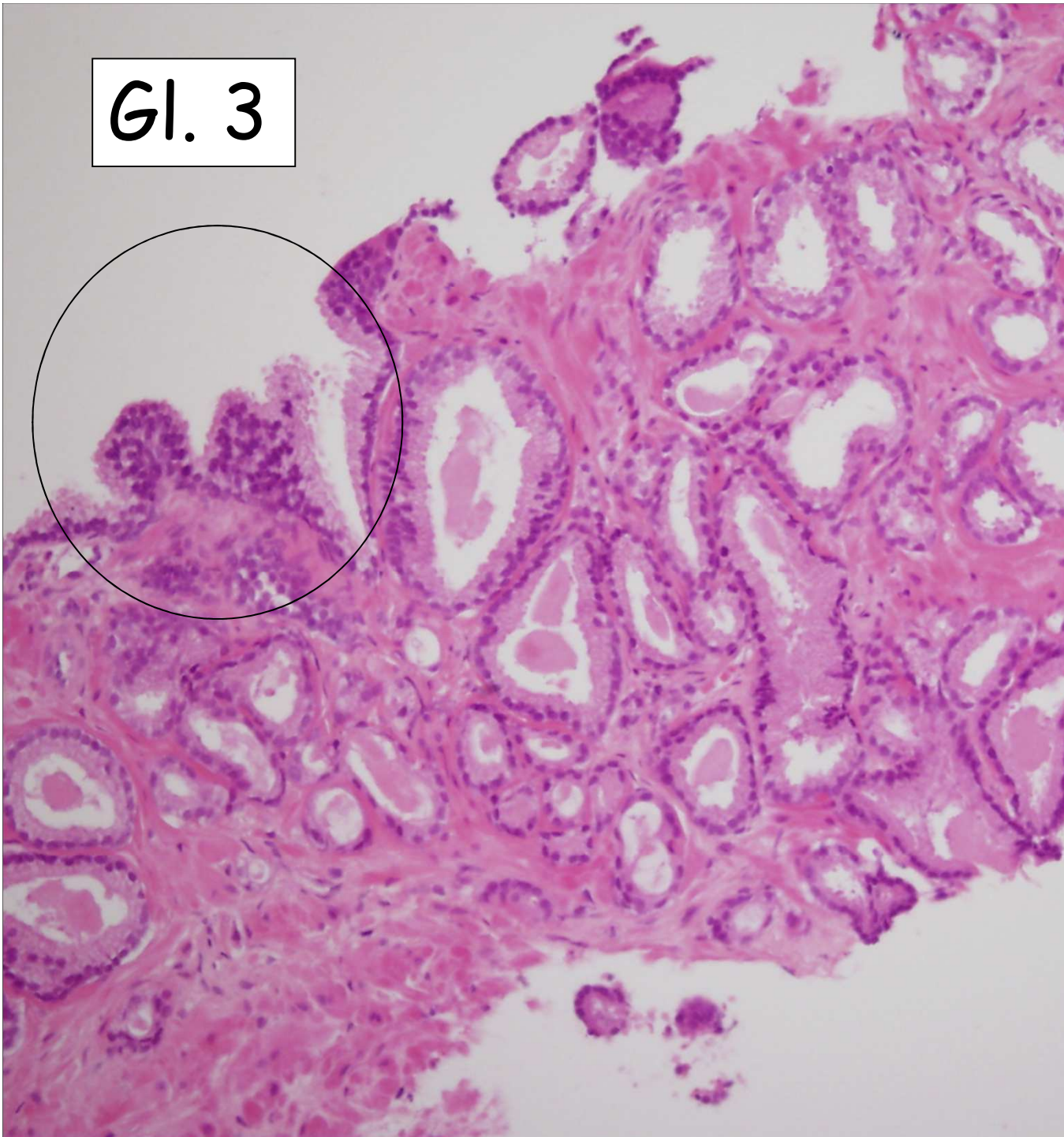
Másik eset

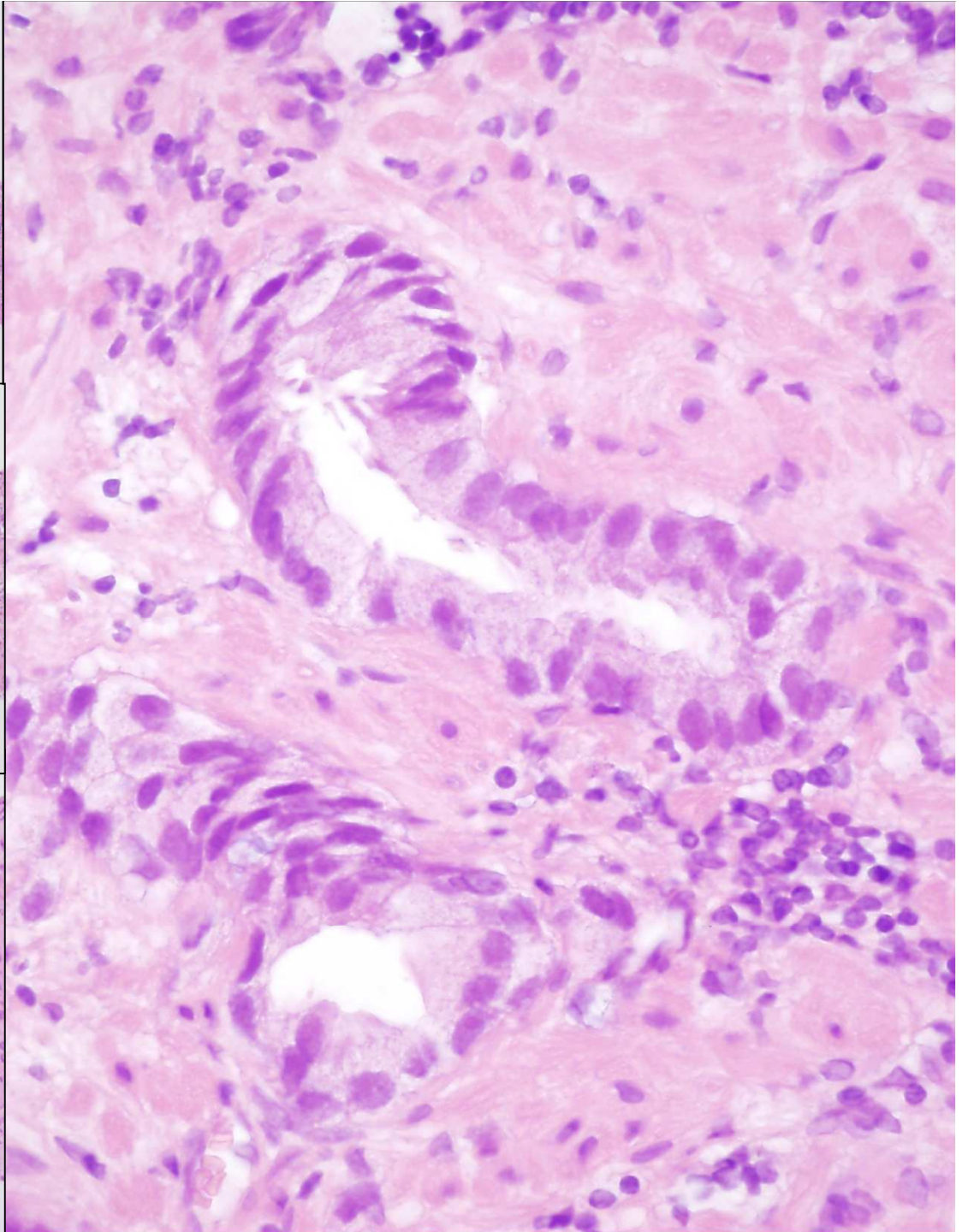
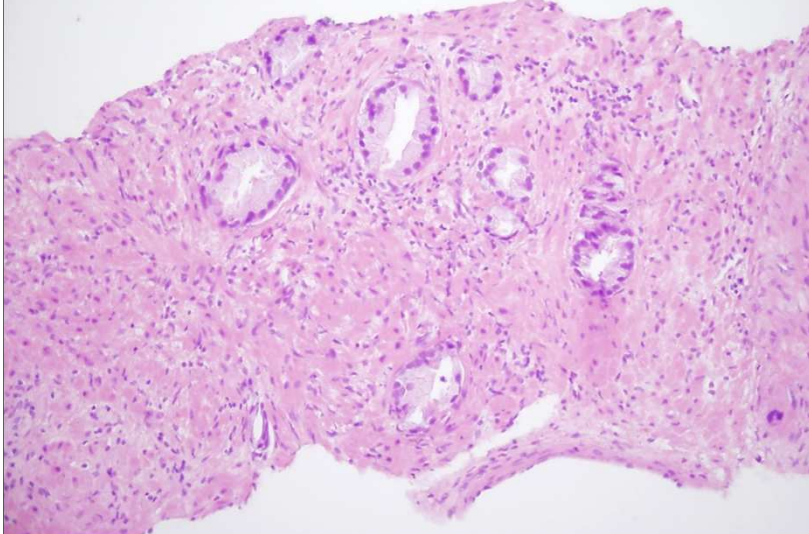
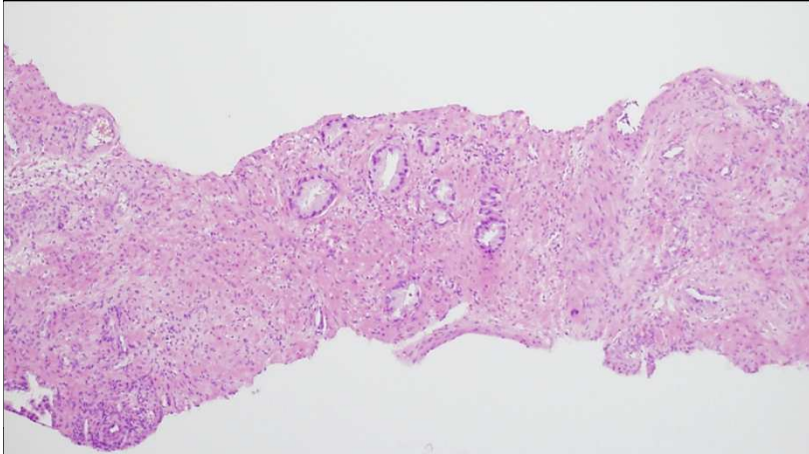
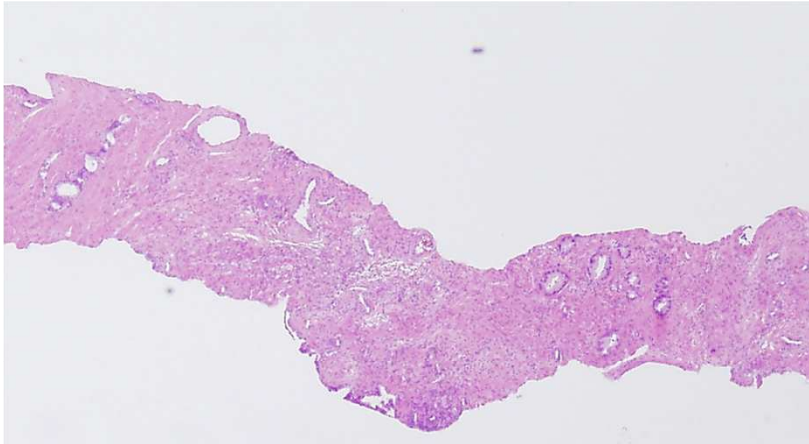


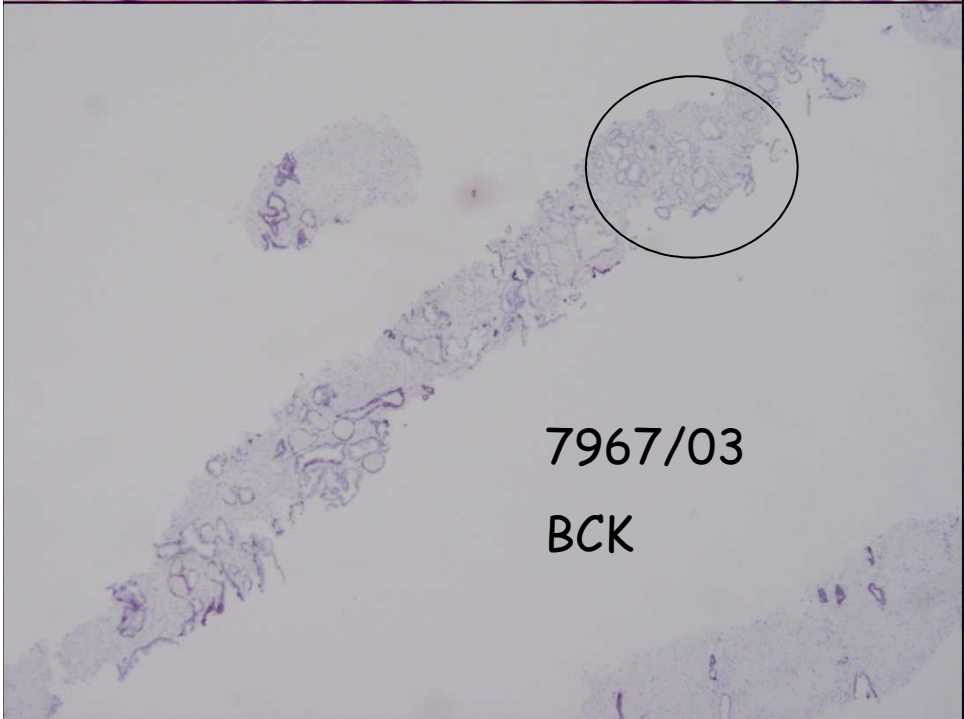
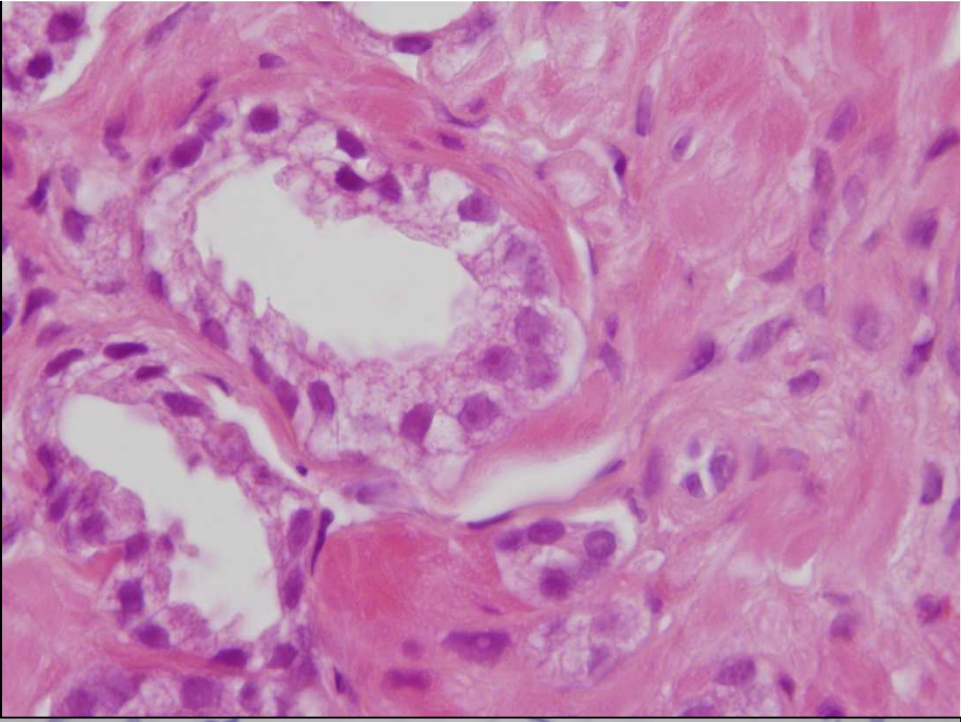
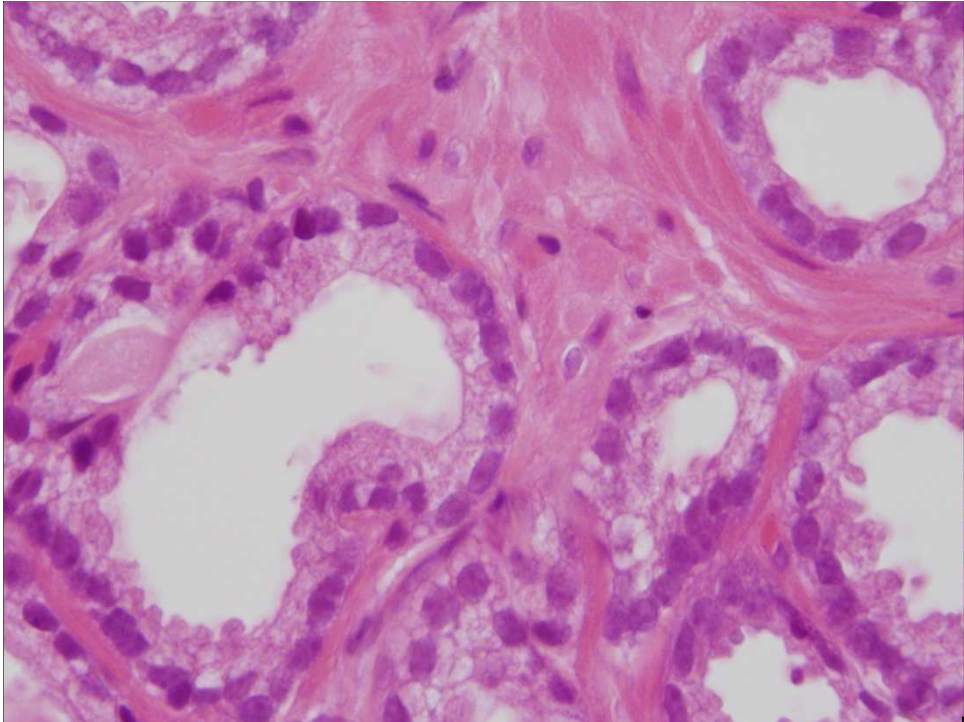




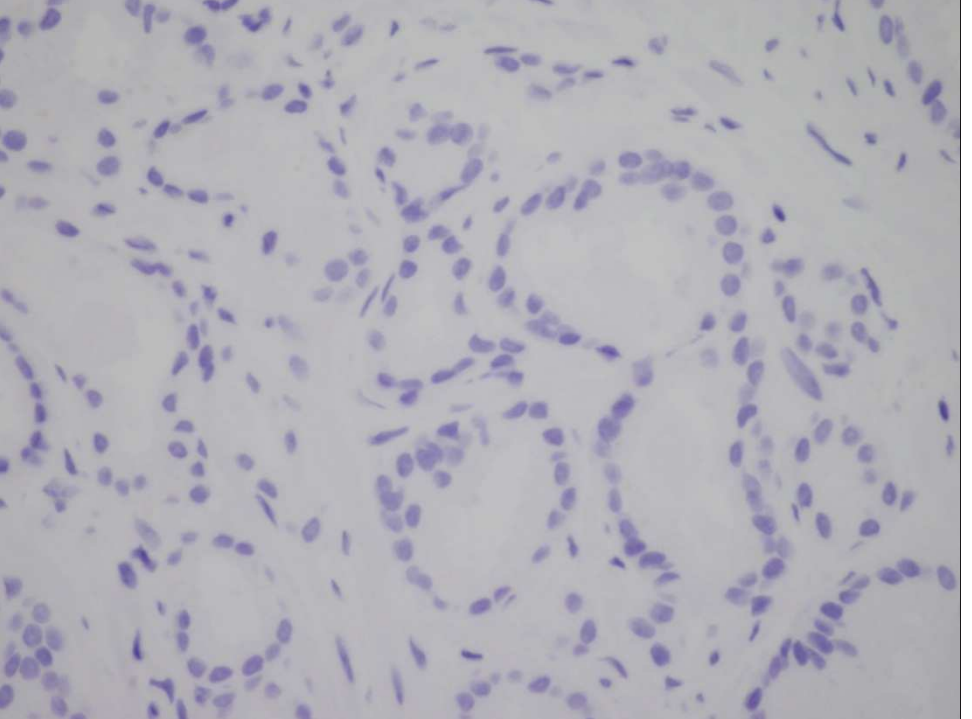
Gl. 3

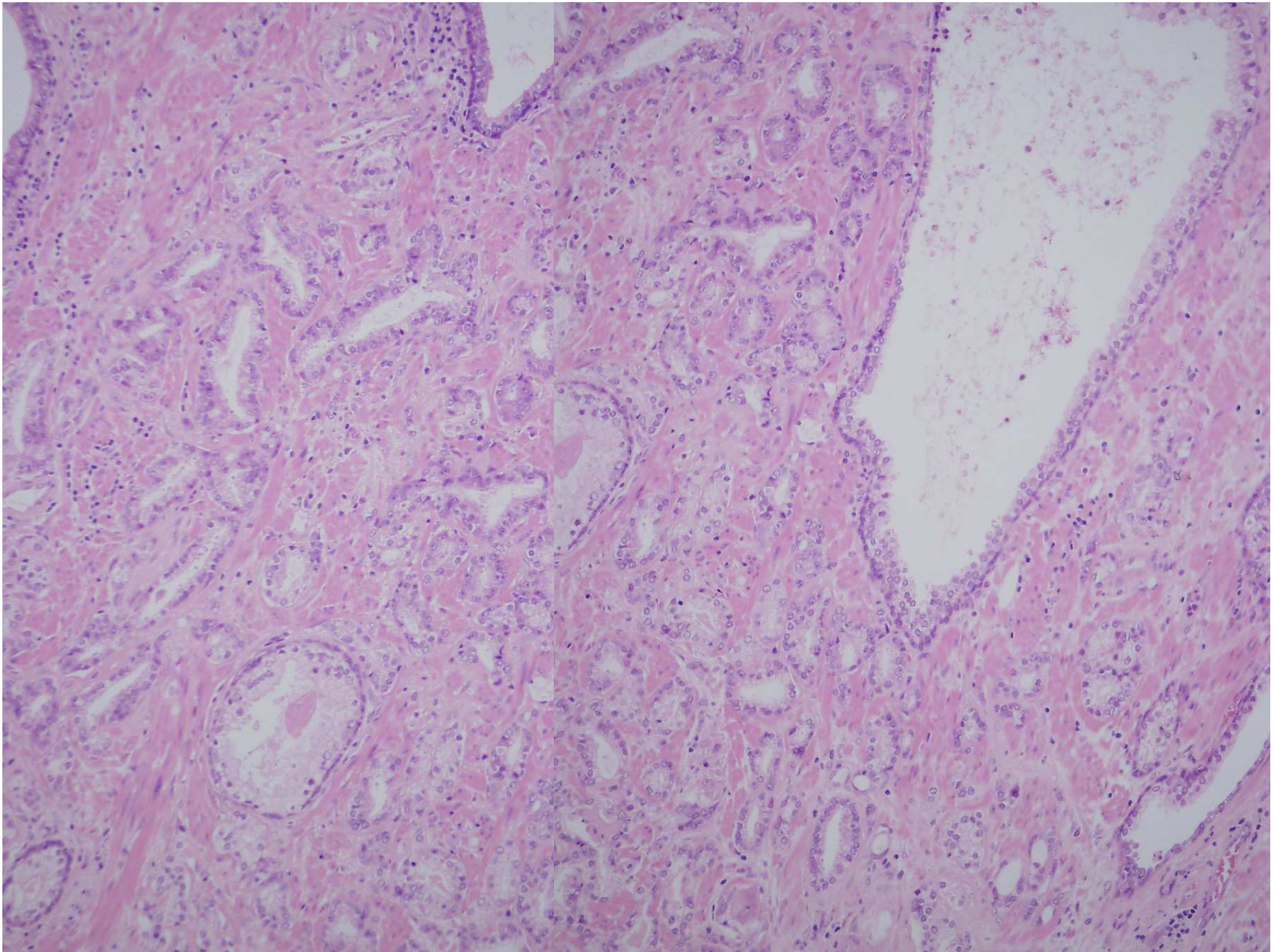


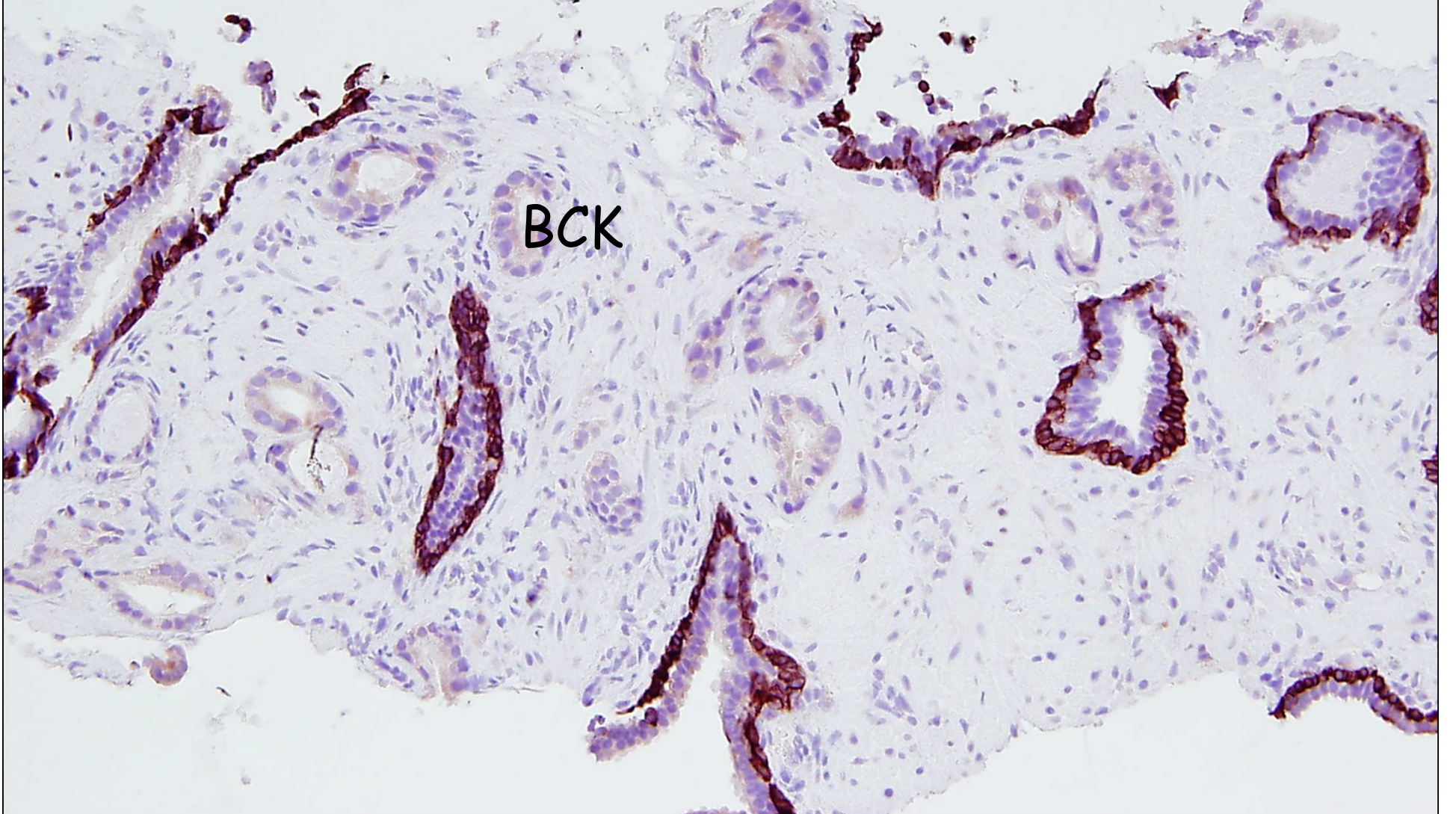
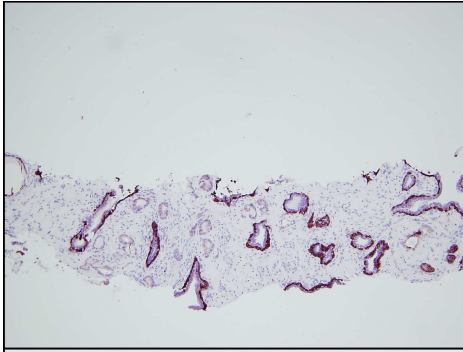


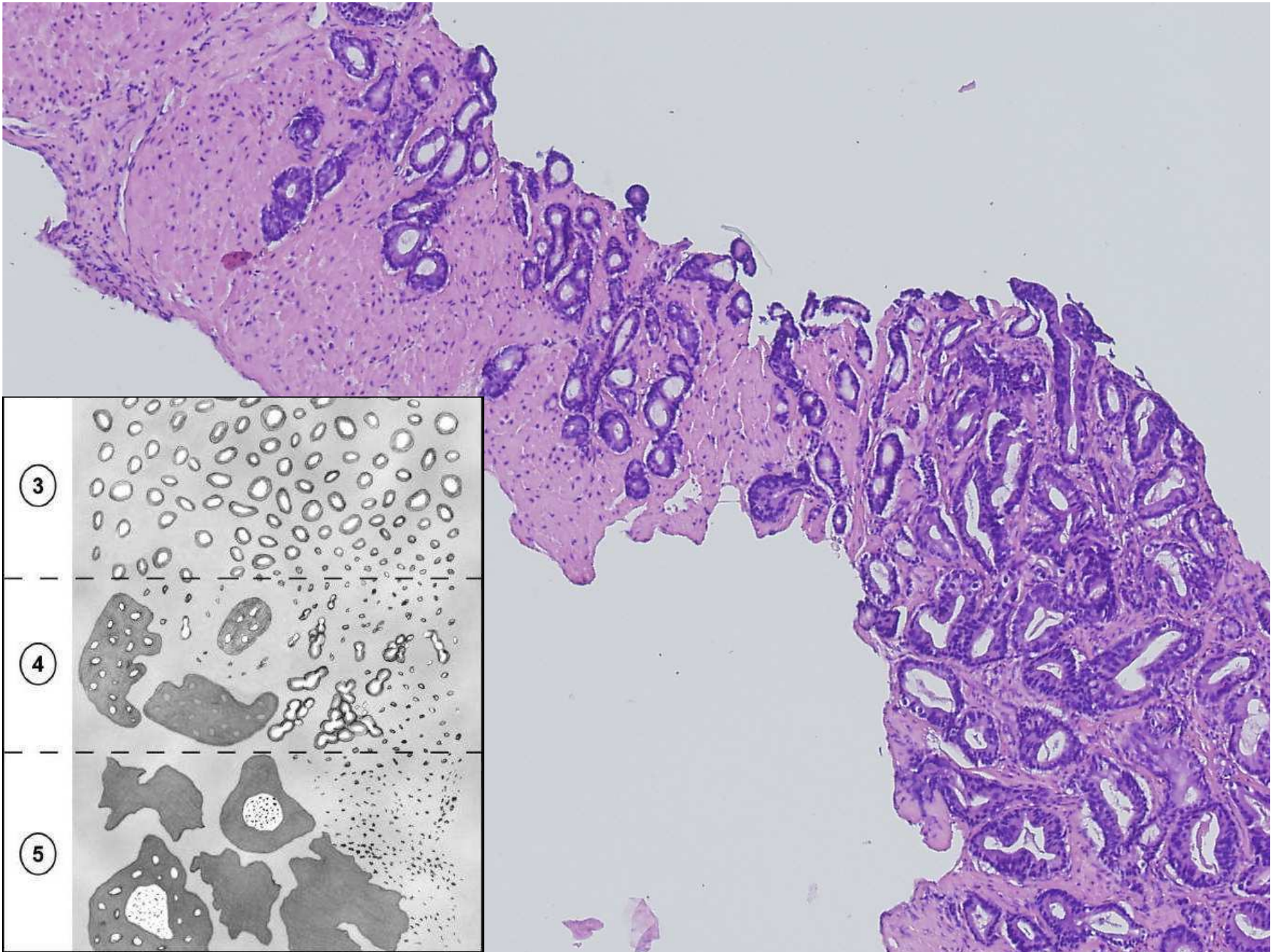


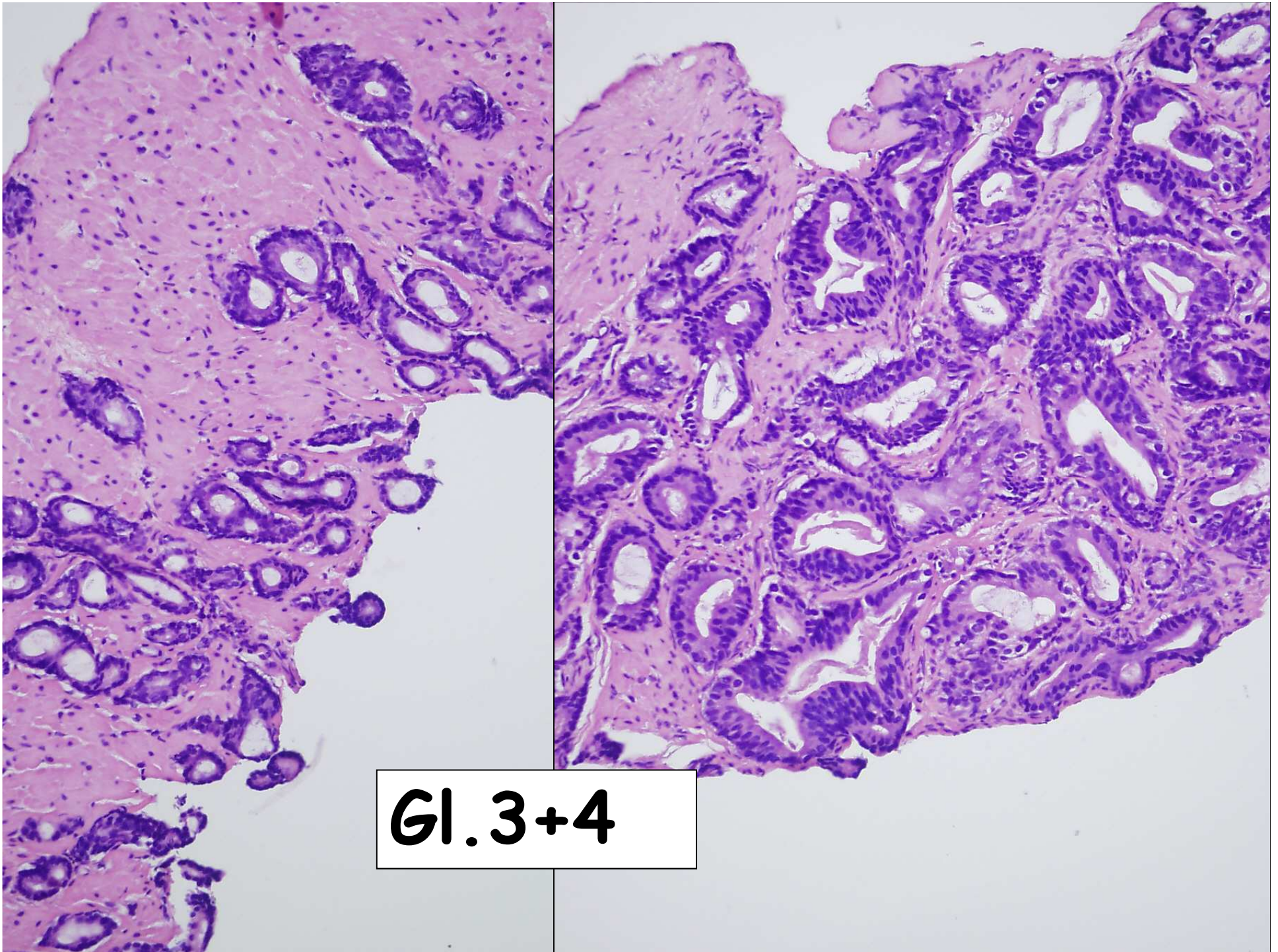
7967/03
BCK



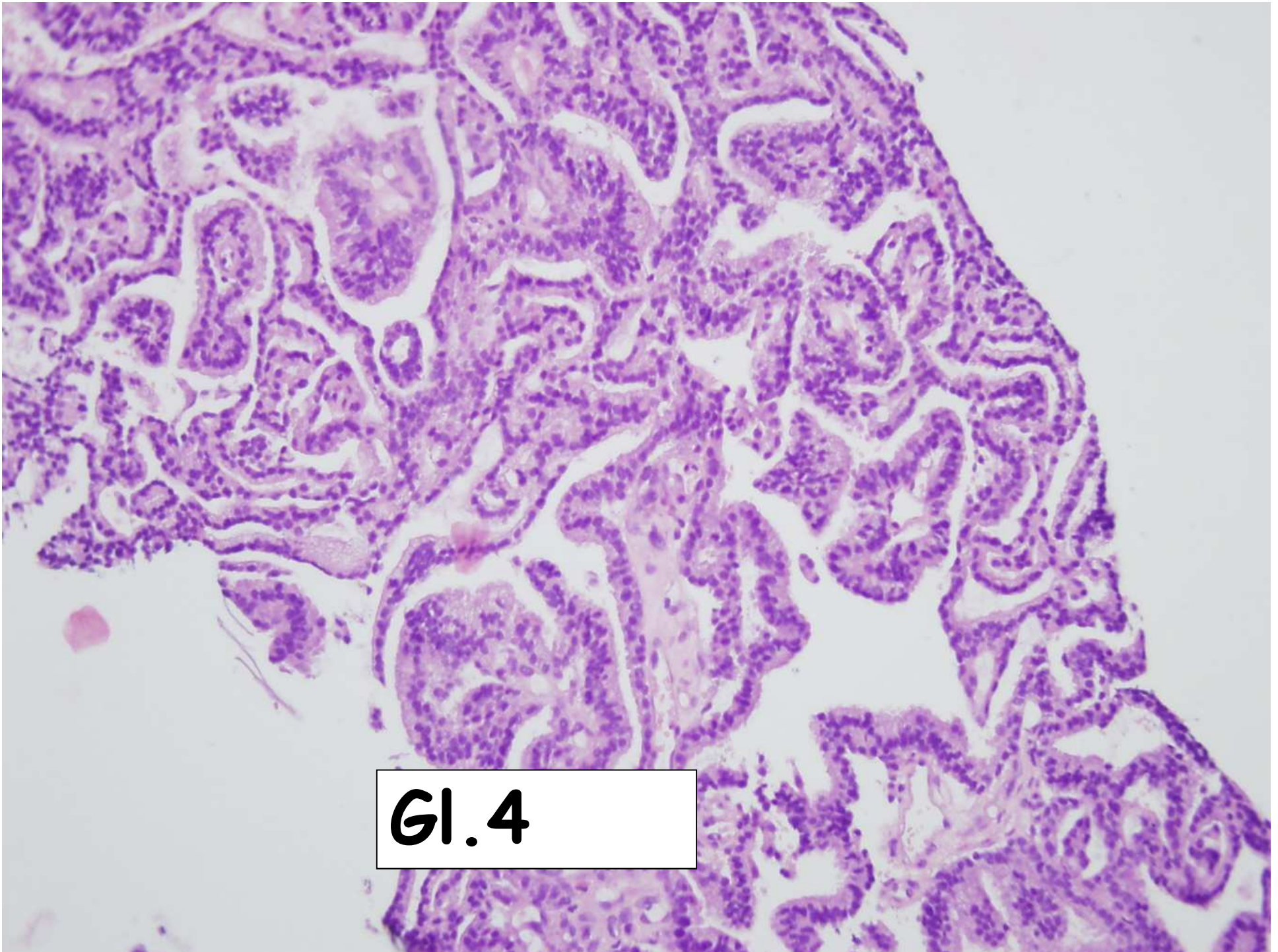




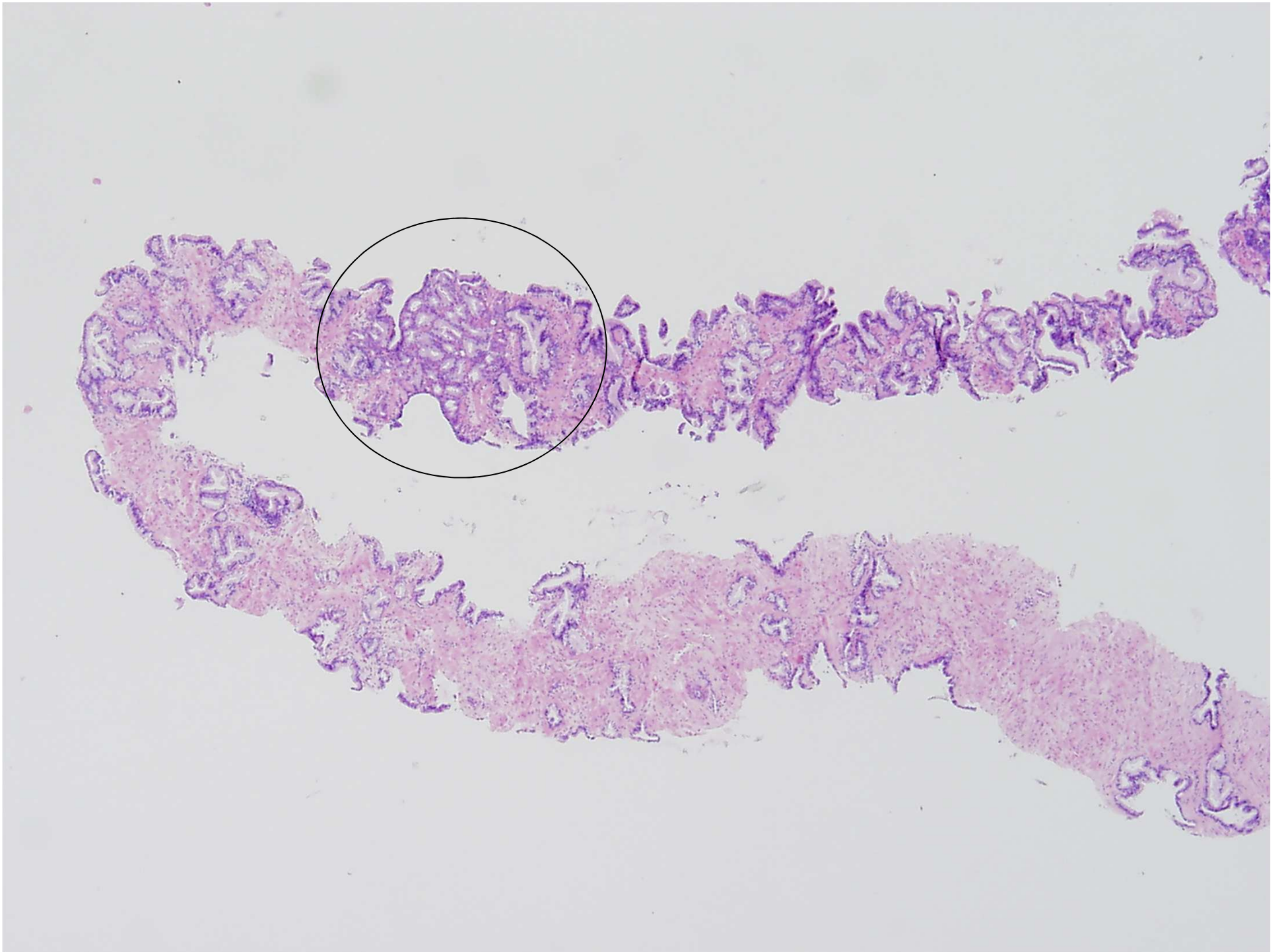


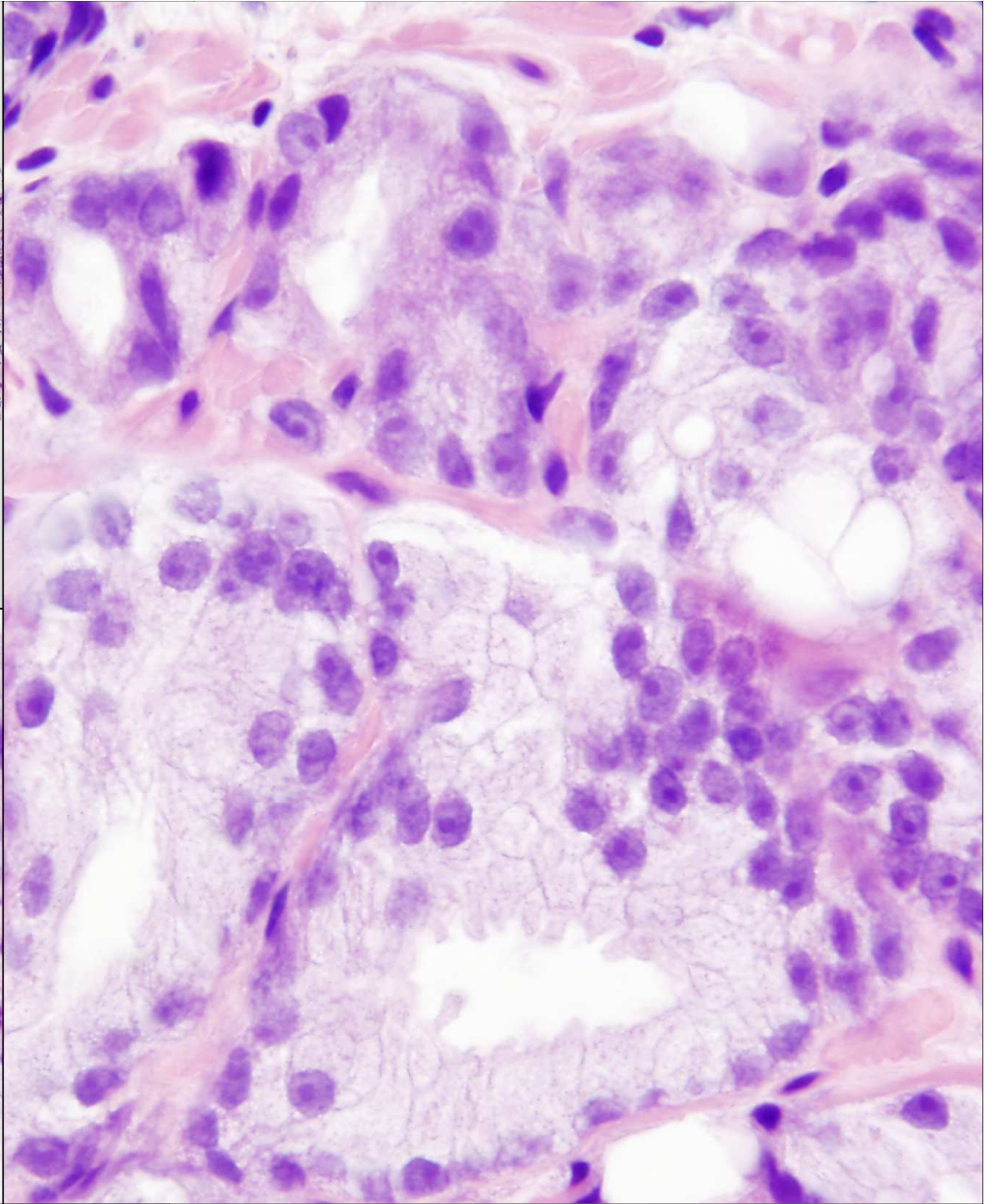
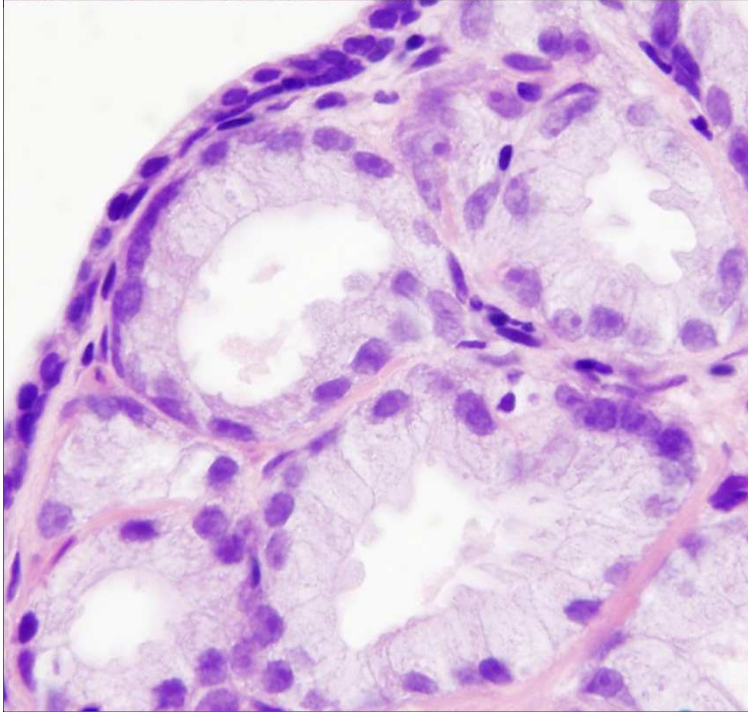
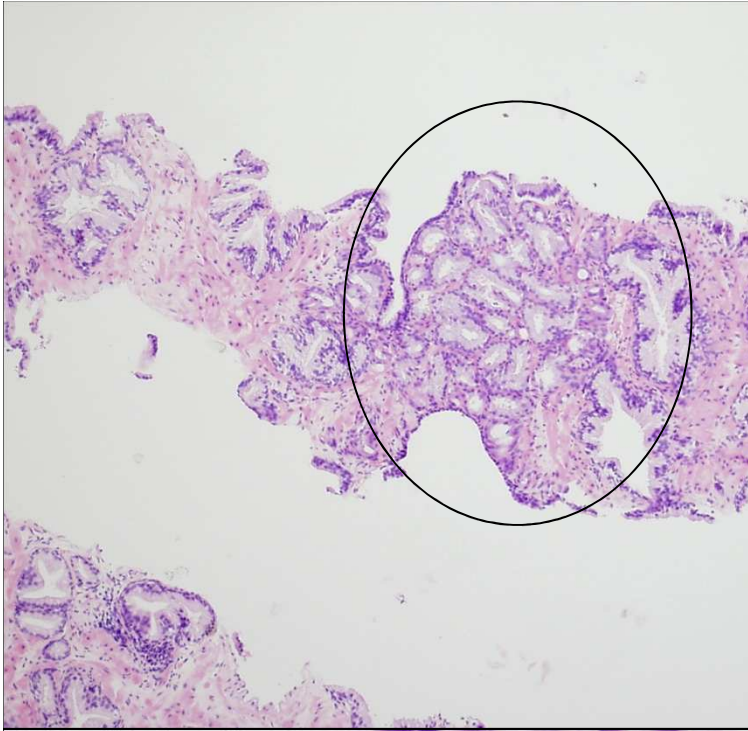


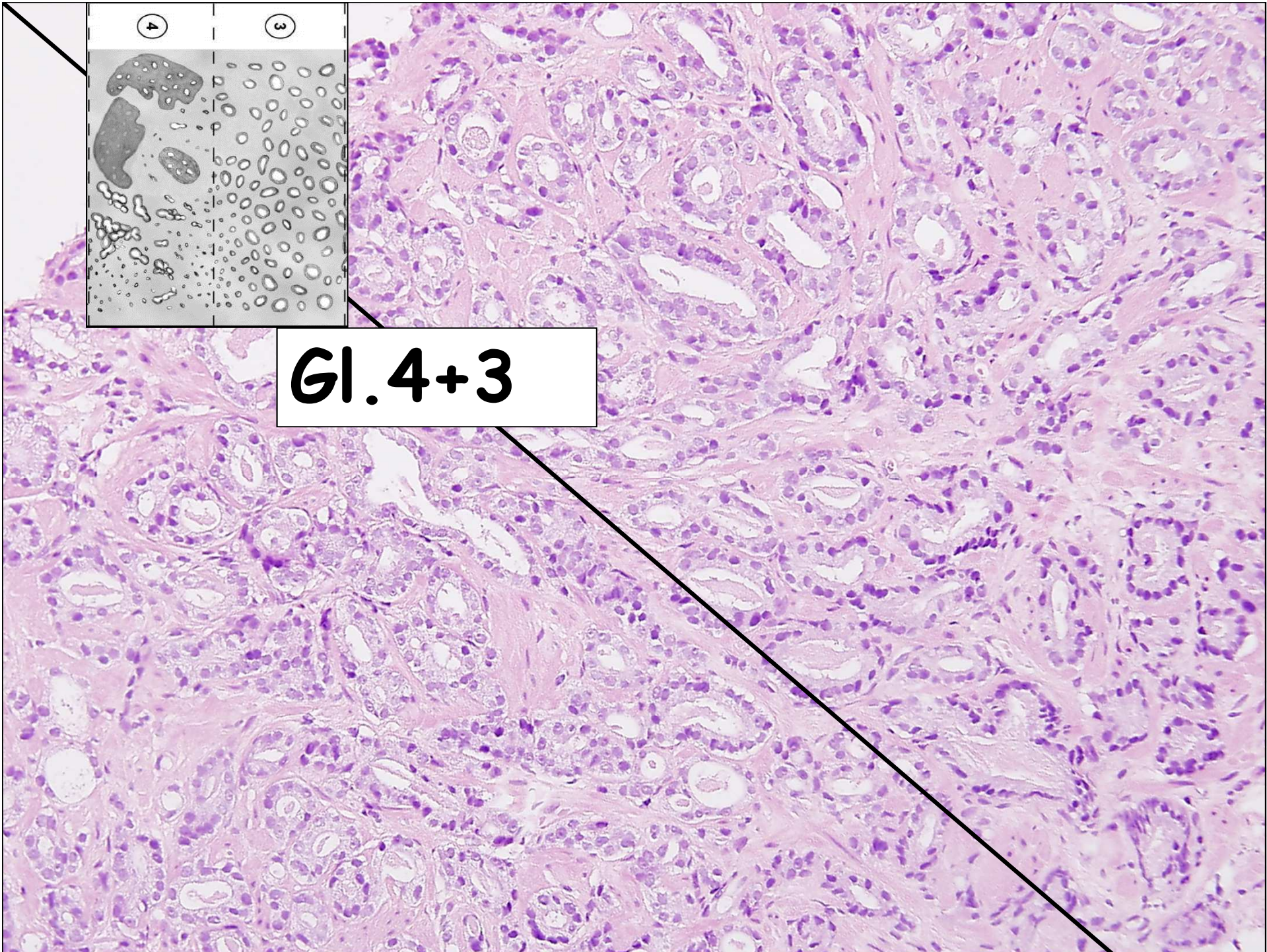
Gl. 3+4



GI.4







G1.4+3

G13?4?

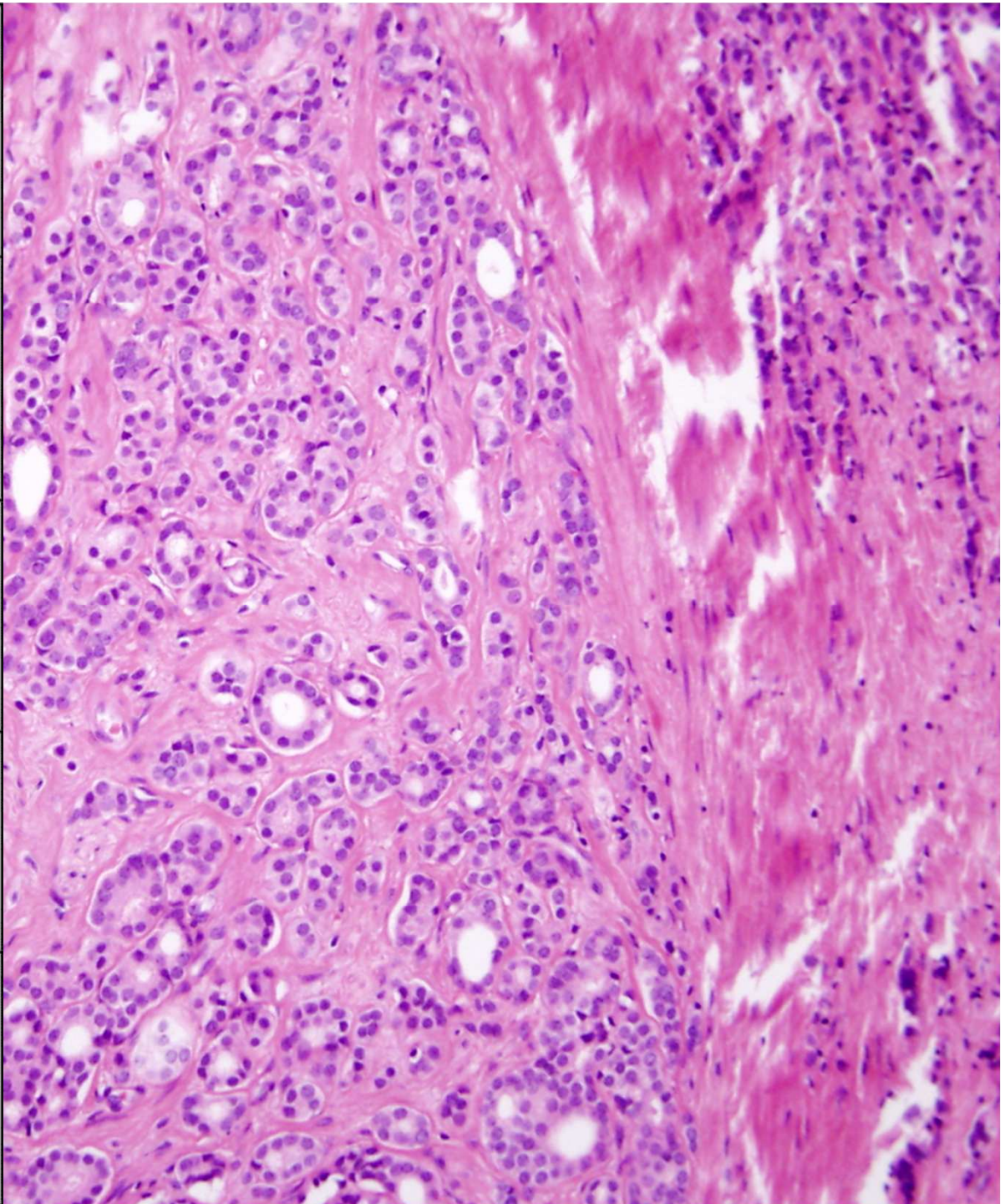
①

②

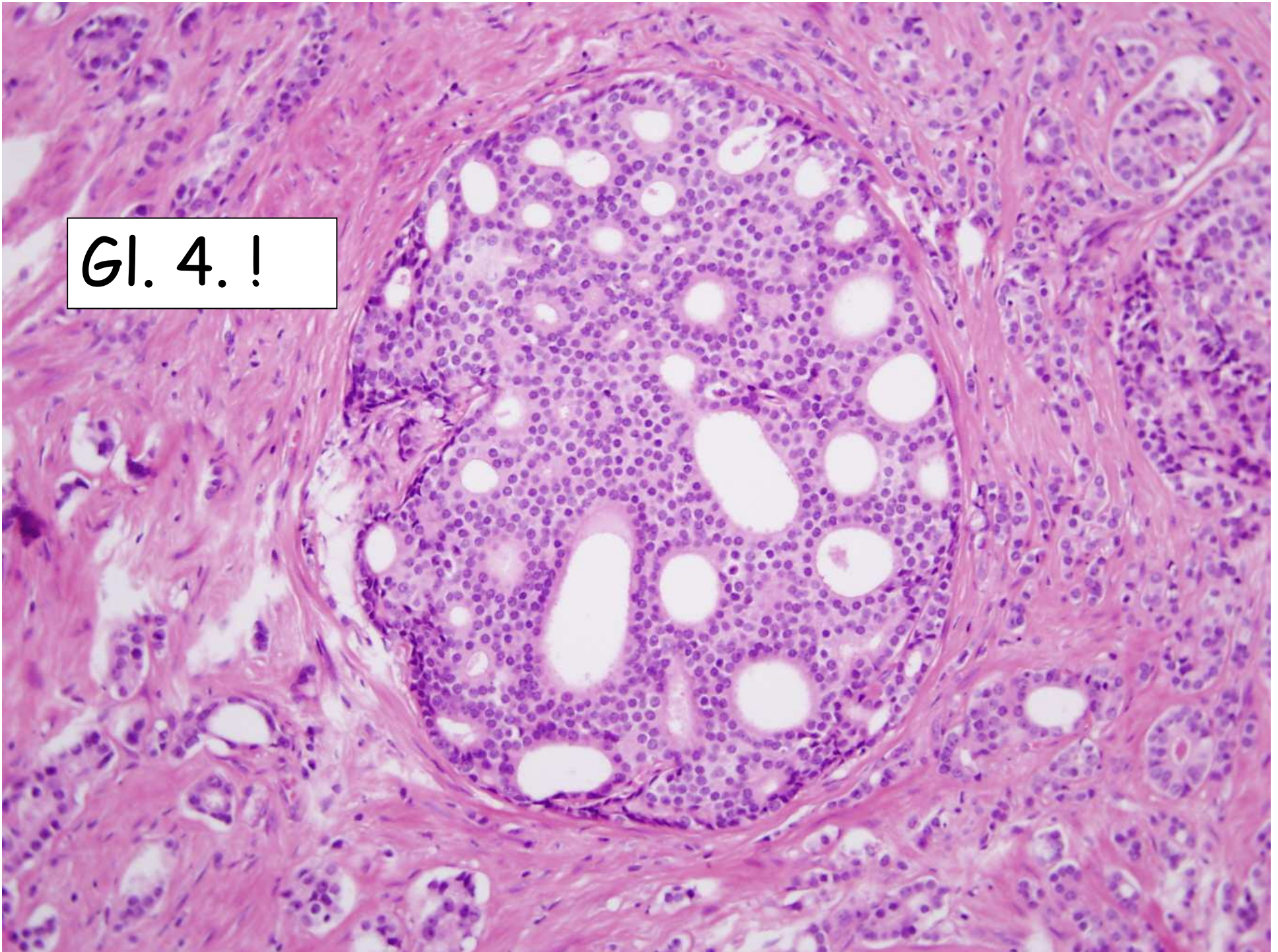
③

④

⑤



Gl. 4.!

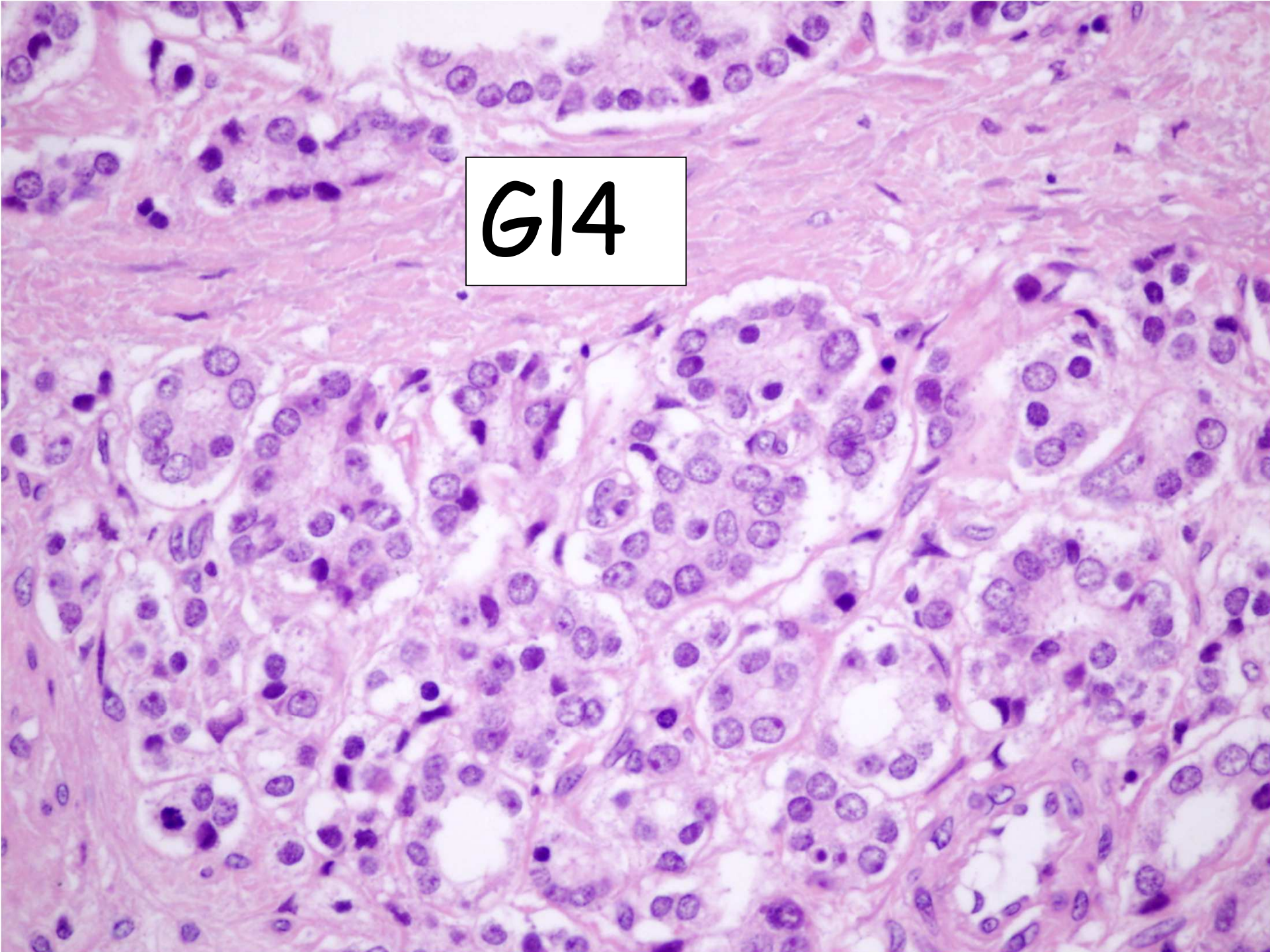




Gl. 4
Cribriform

This histological image displays prostate tissue with a cribriform pattern, characteristic of Gleason grade 4 adenocarcinoma. The glandular structures are highly irregular and fused, forming a sieve-like appearance with multiple lumens. The epithelial cells lining these glands are densely packed and show significant nuclear atypia, including enlarged nuclei and prominent nucleoli. The surrounding stroma is fibrous and contains scattered inflammatory cells. The overall architecture is highly disorganized, indicating a high-grade malignancy.

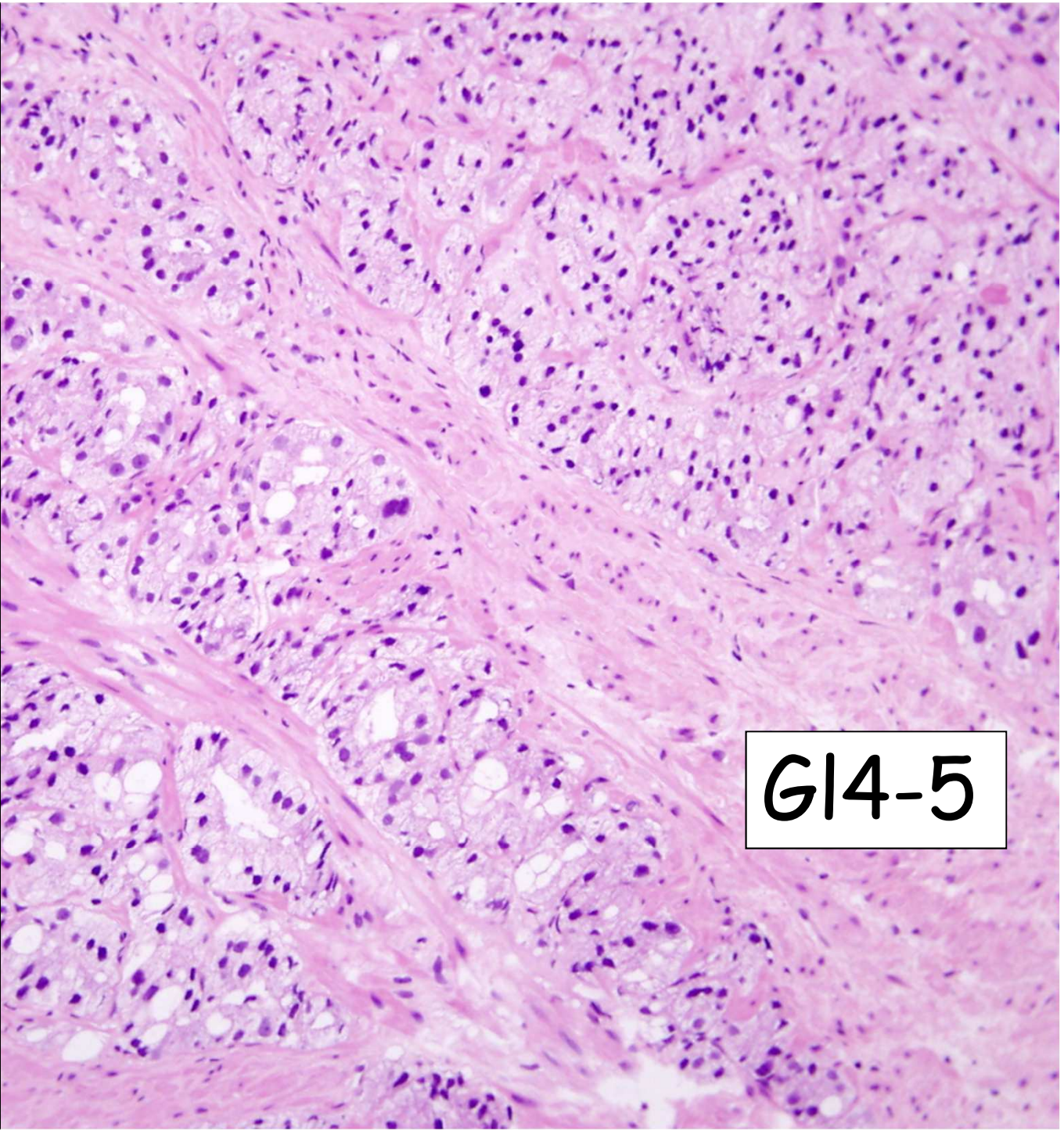
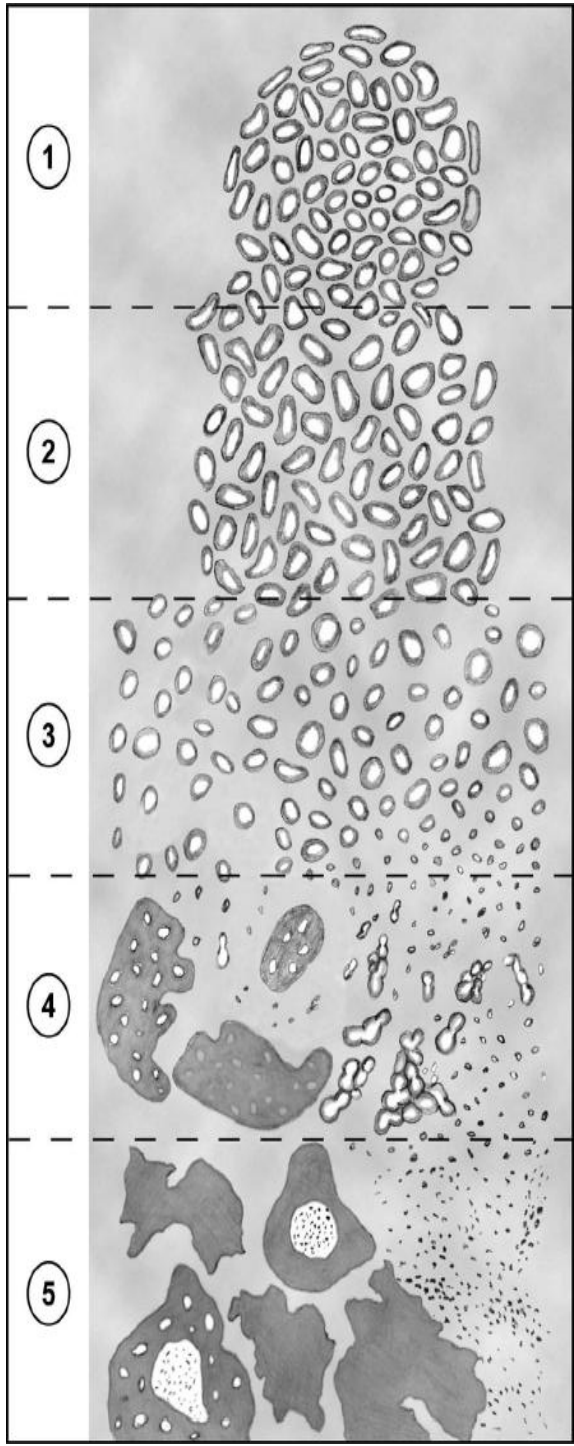
G14





GI.4

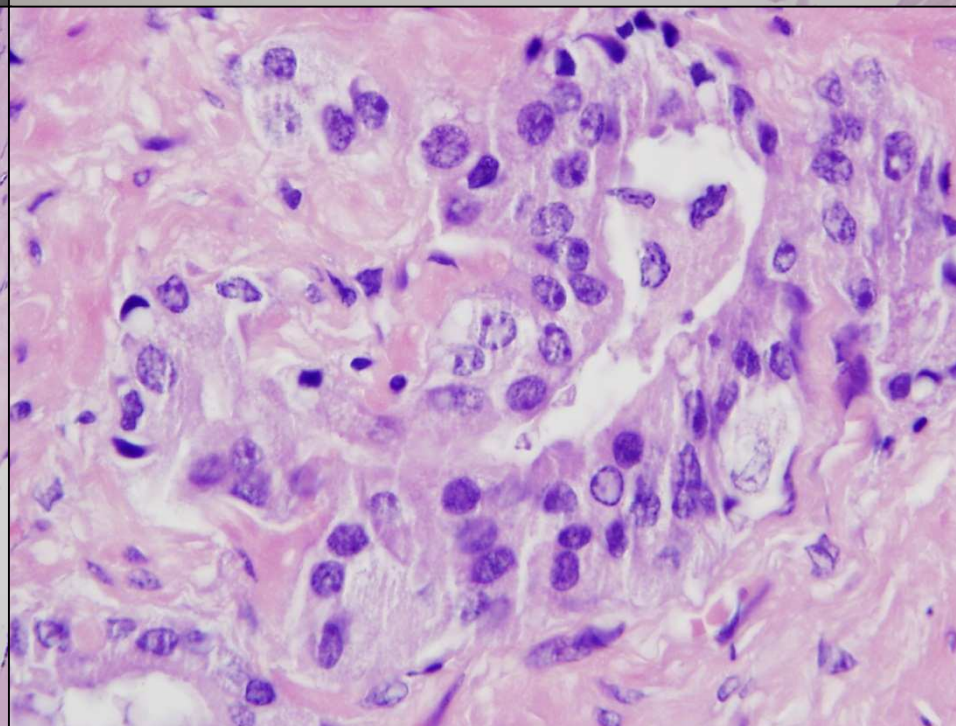
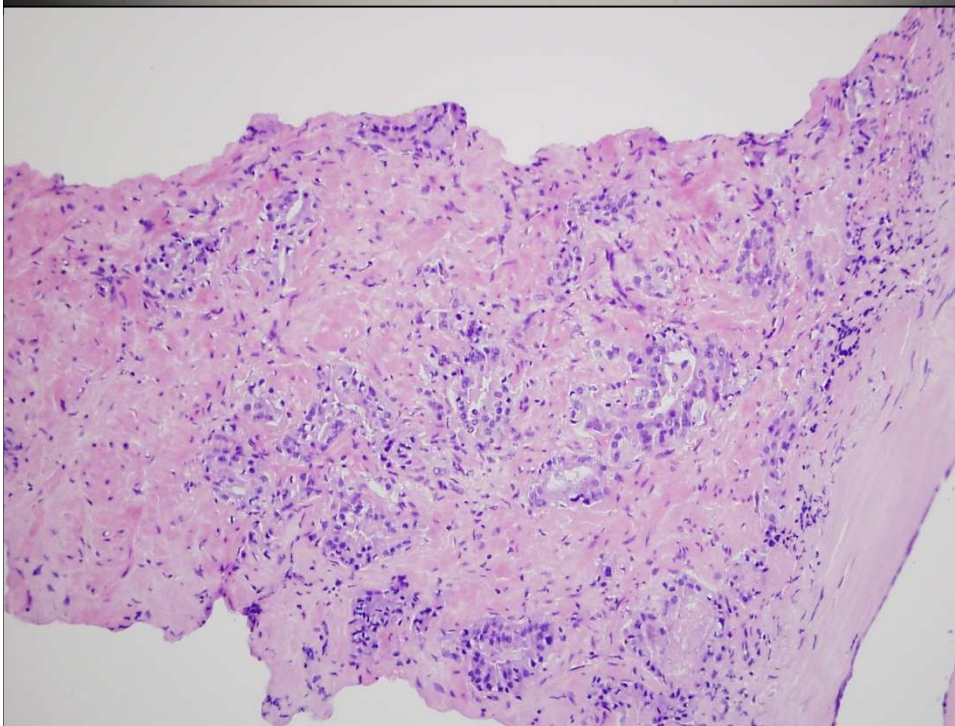
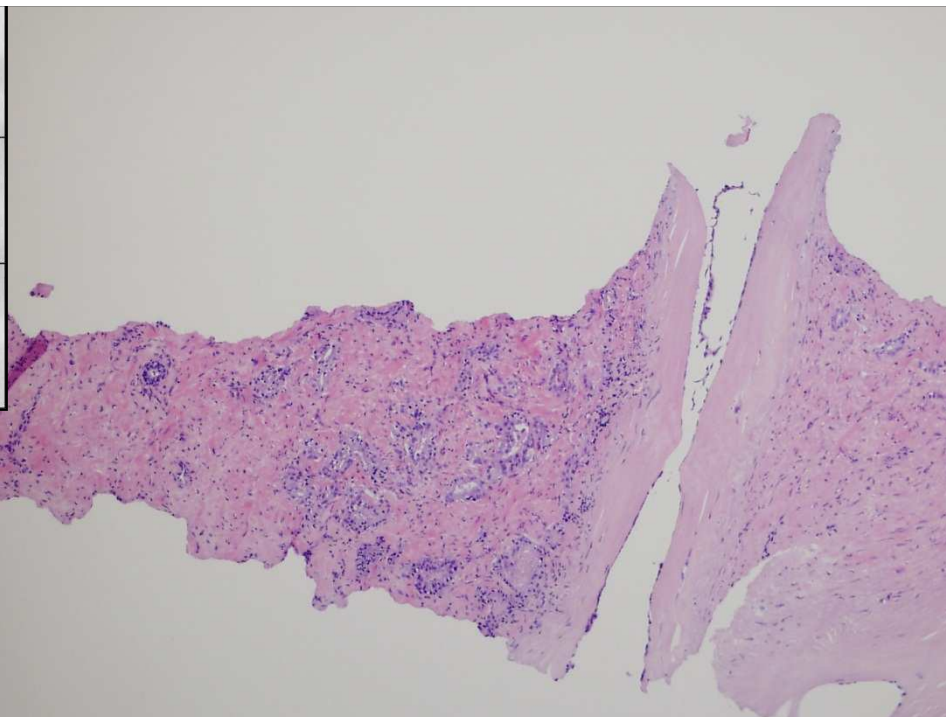
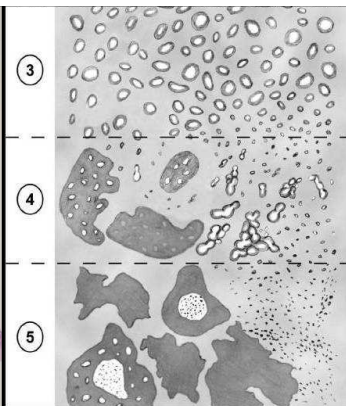
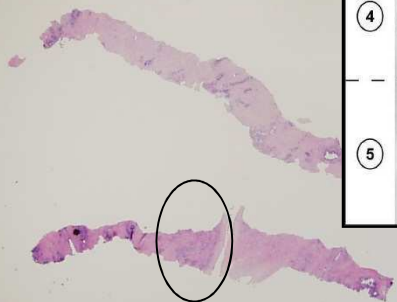
Nincs, vagy
ritka
lumenképzés,
„ill-defined
glands”

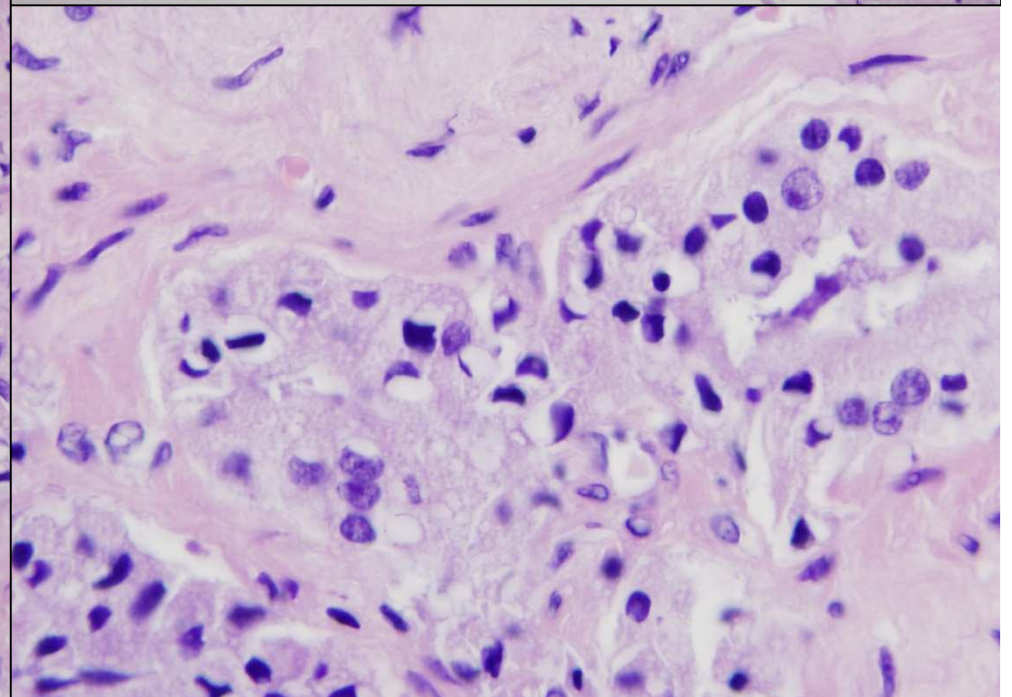
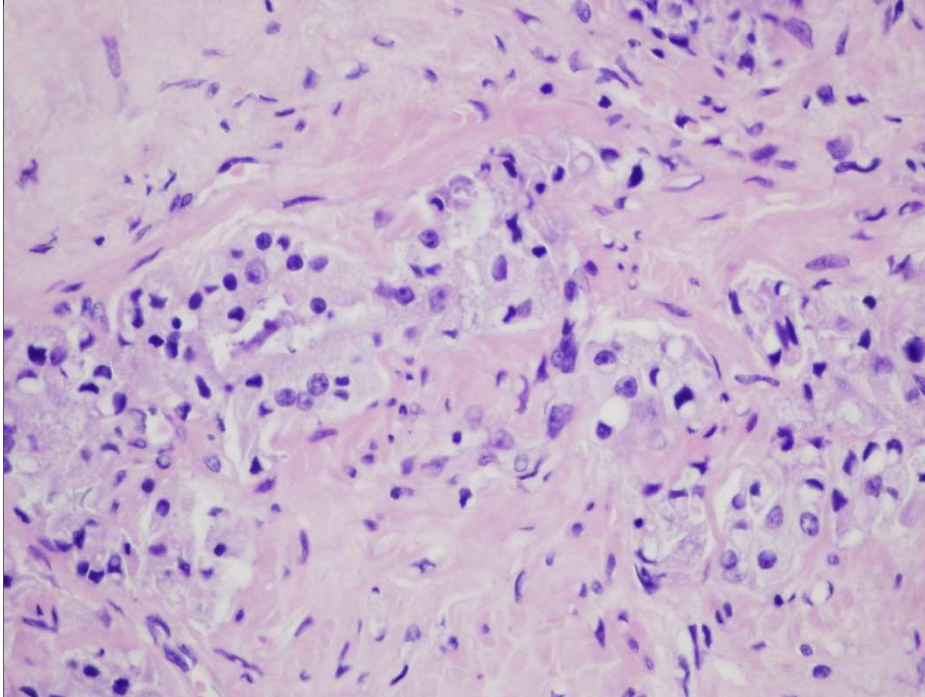
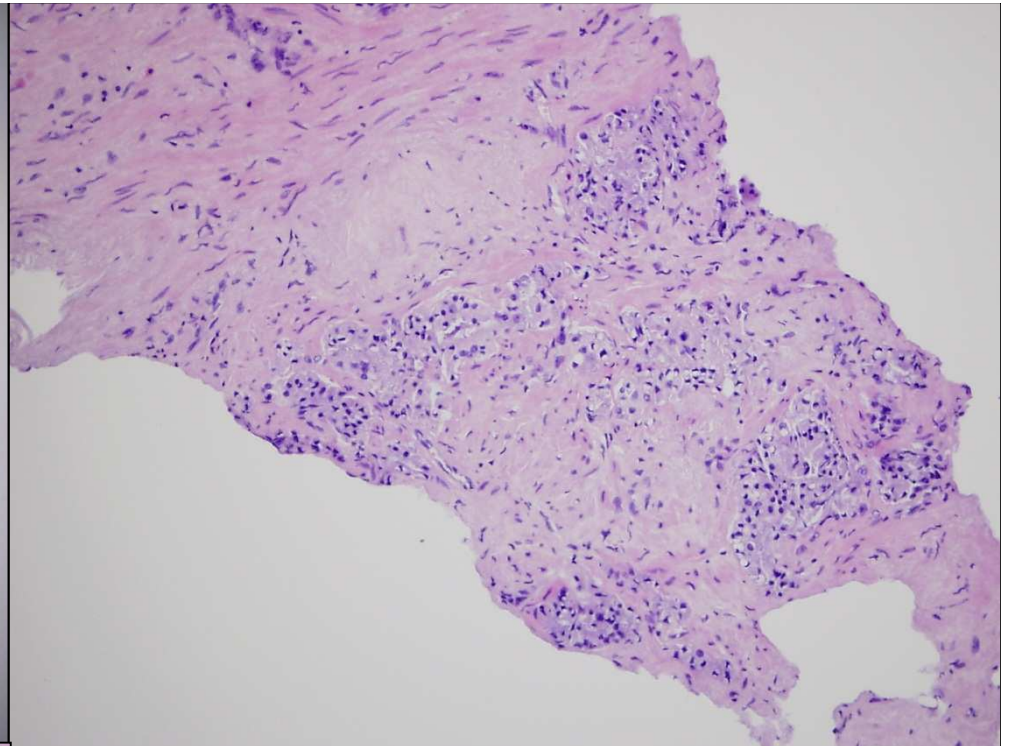


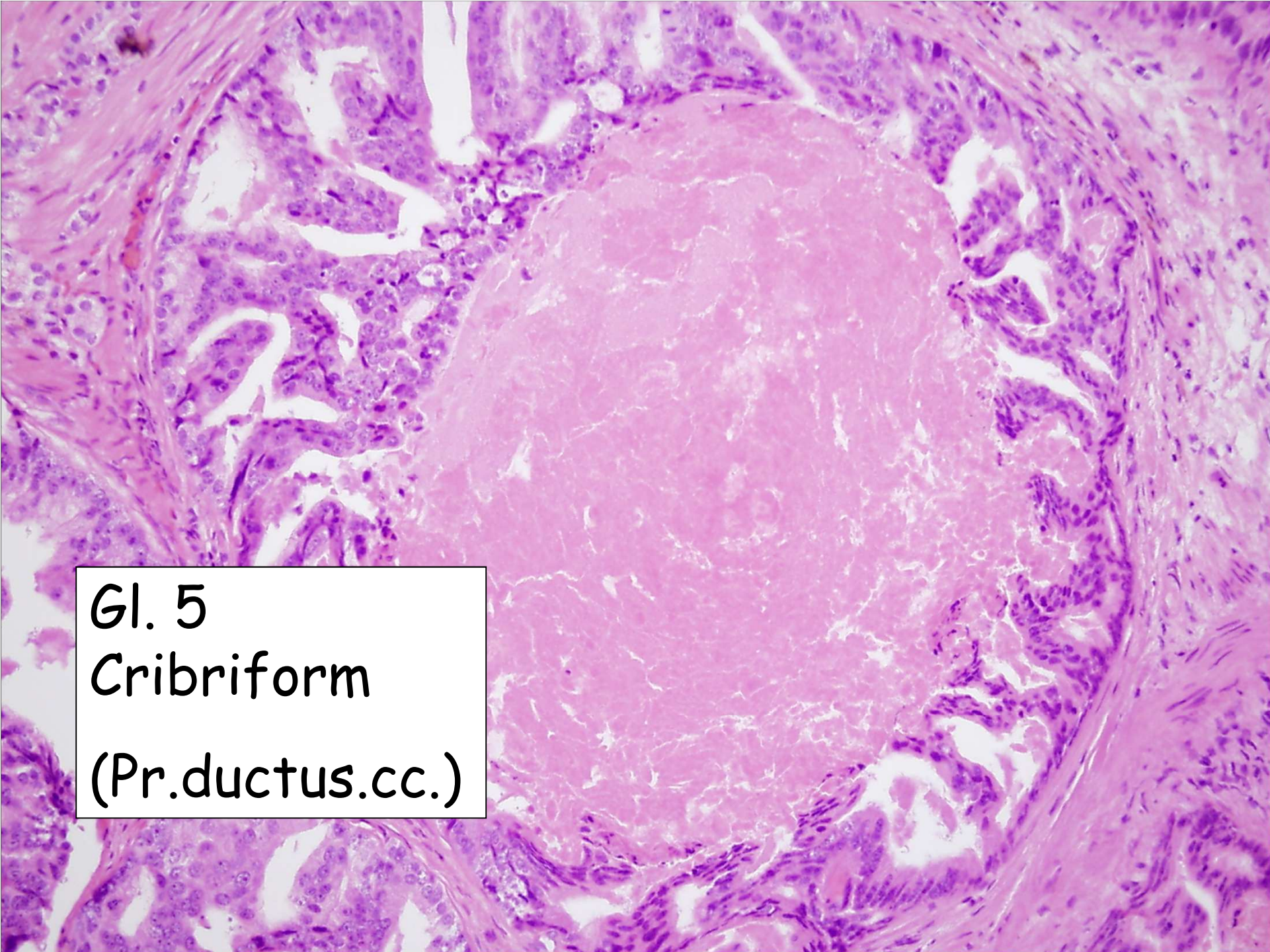
G14-5

73 éves ffi.

Más intézetben
pr.cc. G1-2



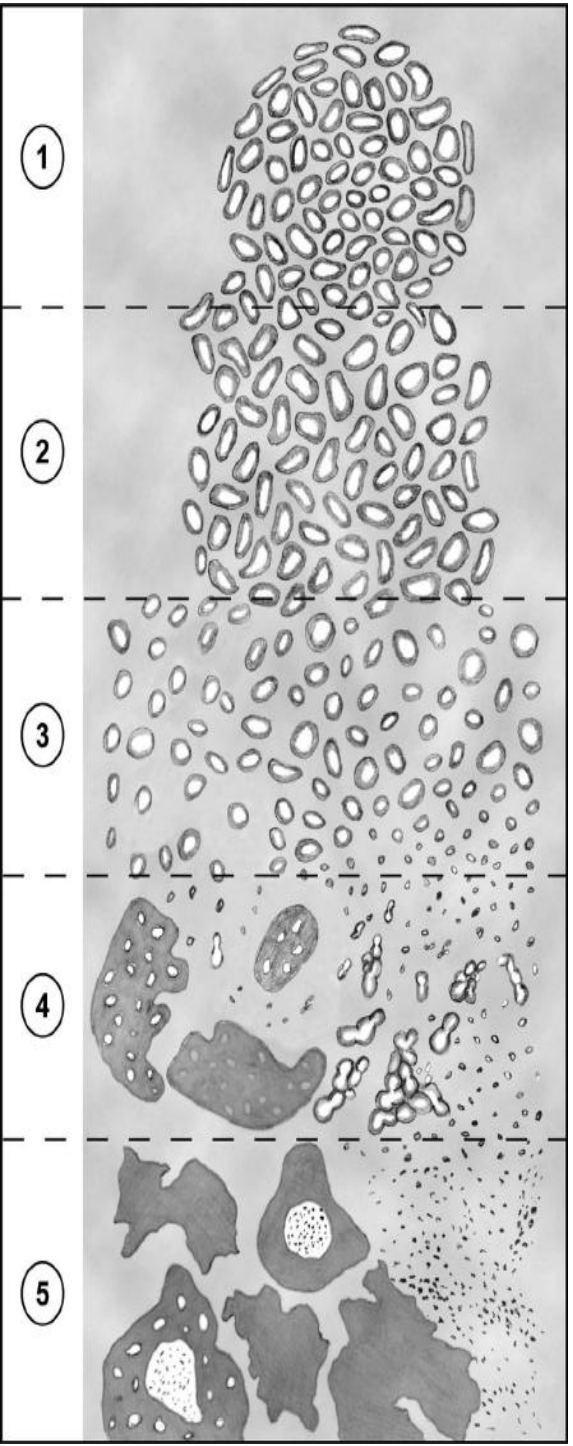
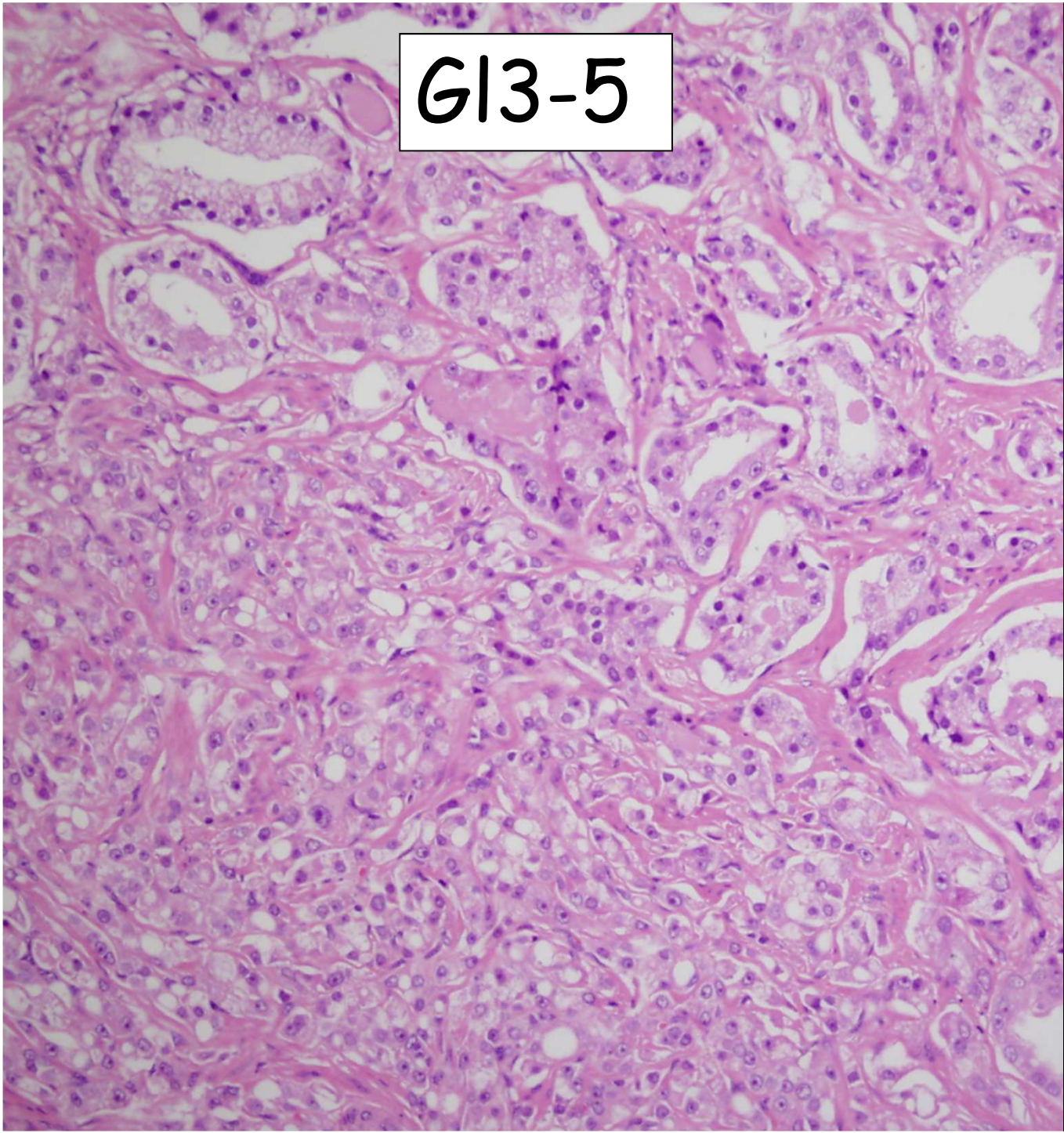




GI. 5
Cribriform
(Pr. ductus.cc.)

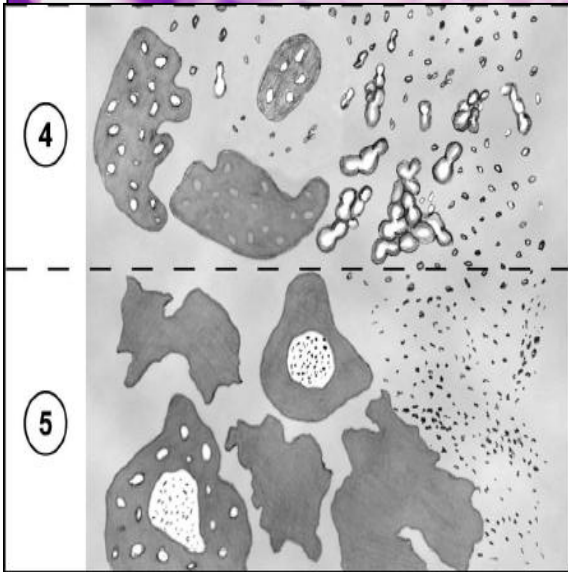
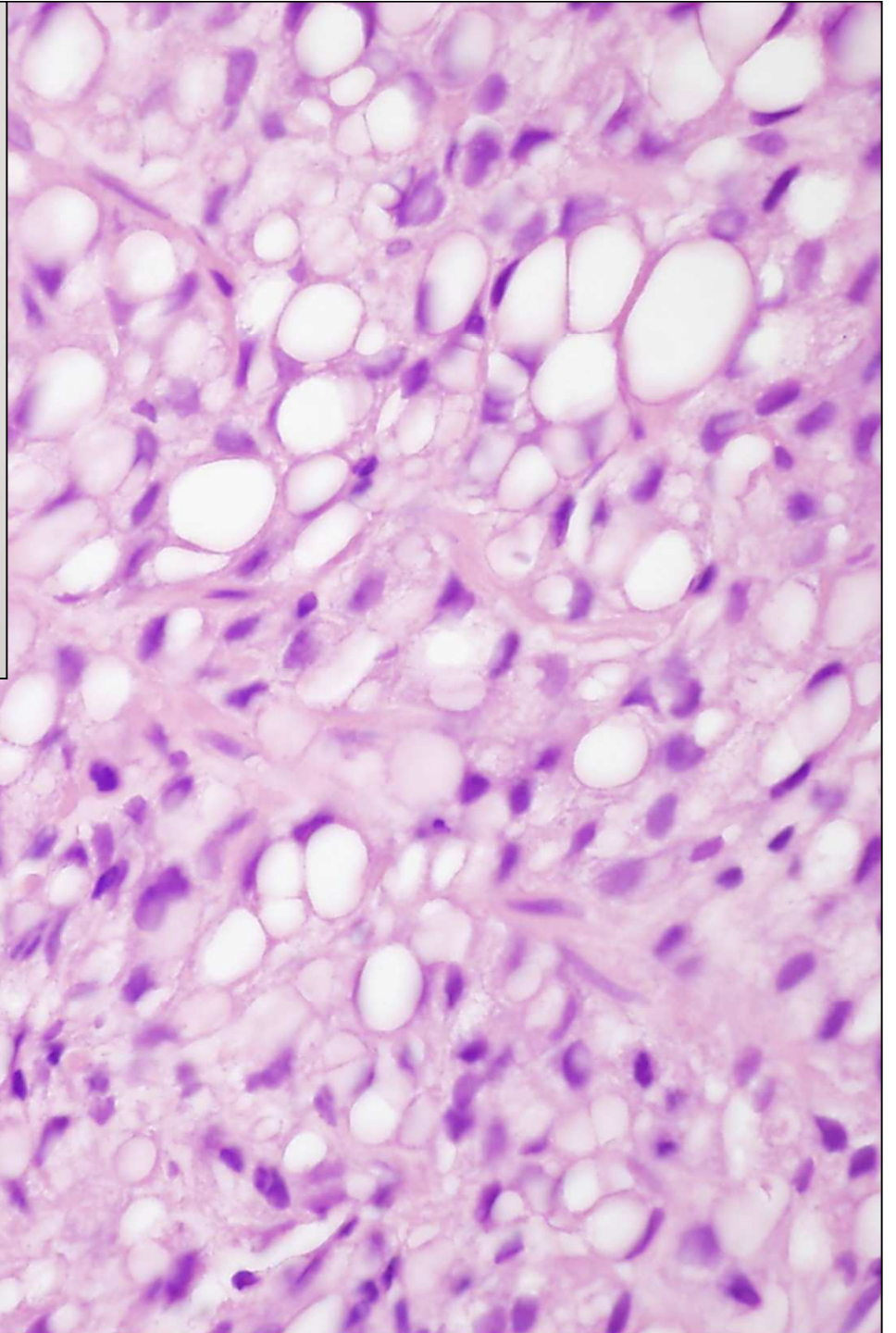
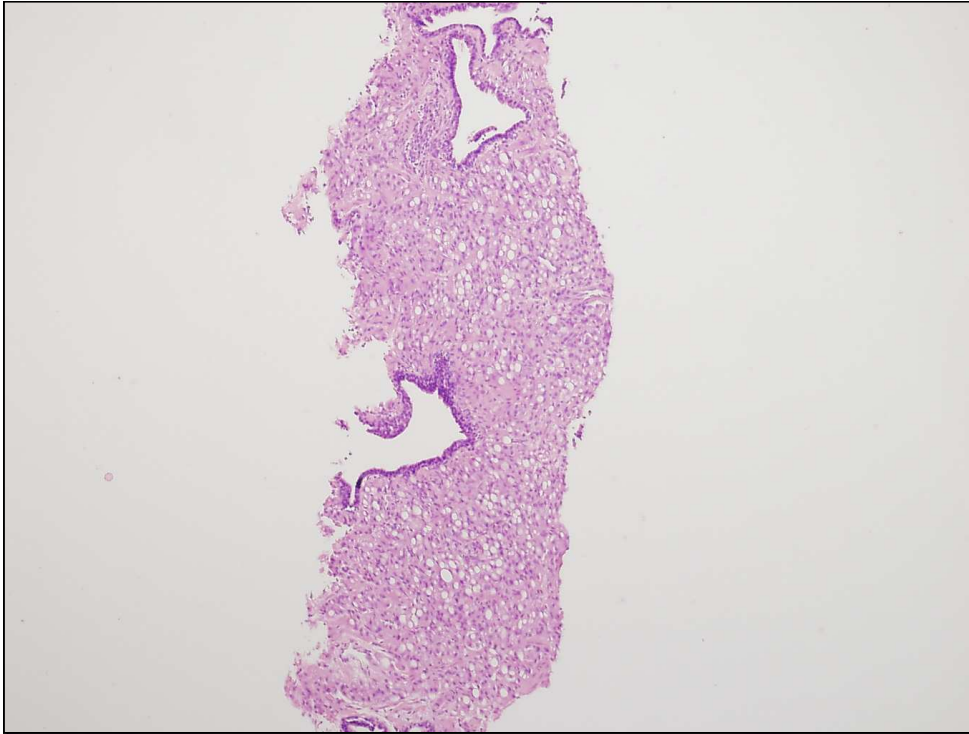
This histological image shows a cross-section of a cribriform gland. The central feature is a large, rounded, pinkish mass with a dense, cellular appearance. This mass is surrounded by a network of ductal structures, which are characterized by their cribriform (sieve-like) nature, with numerous small openings or perforations. The ducts are lined by a layer of cells, and the overall structure is embedded within a fibrous connective tissue stroma. The staining is a standard hematoxylin and eosin (H&E), highlighting the nuclei in purple and the cytoplasm and extracellular matrix in pink.

G13-5

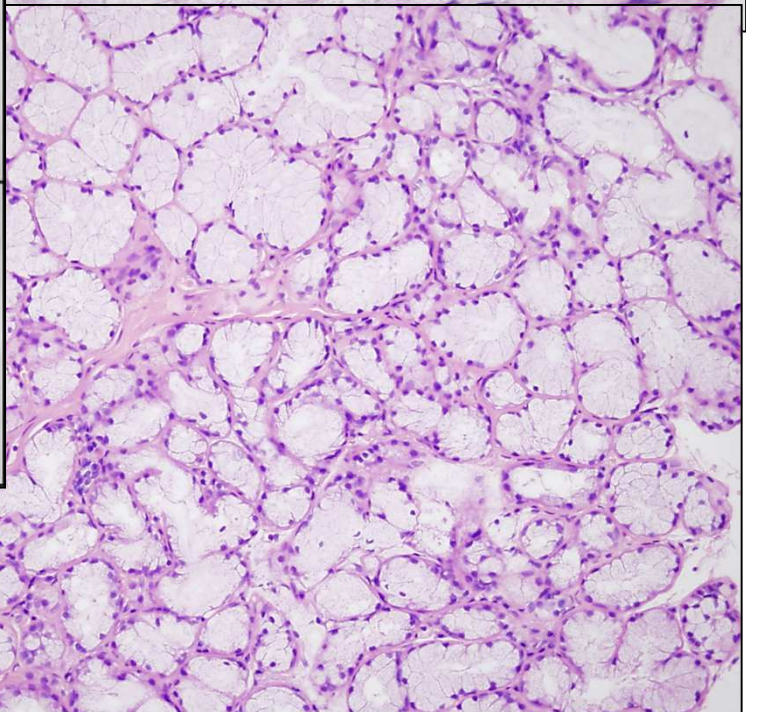
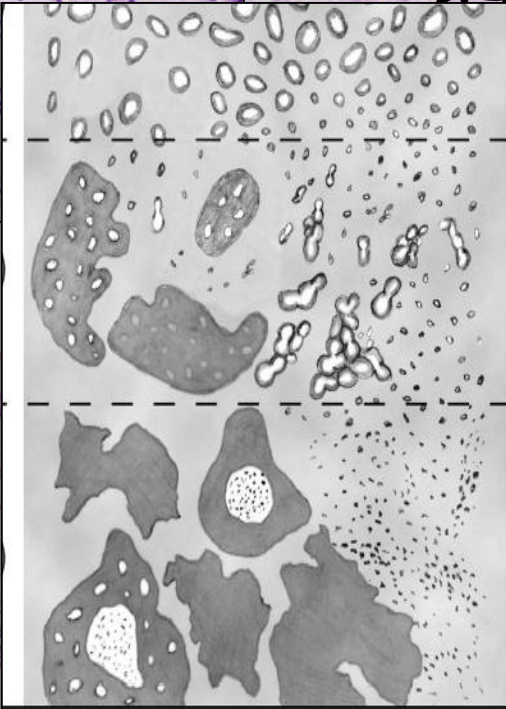
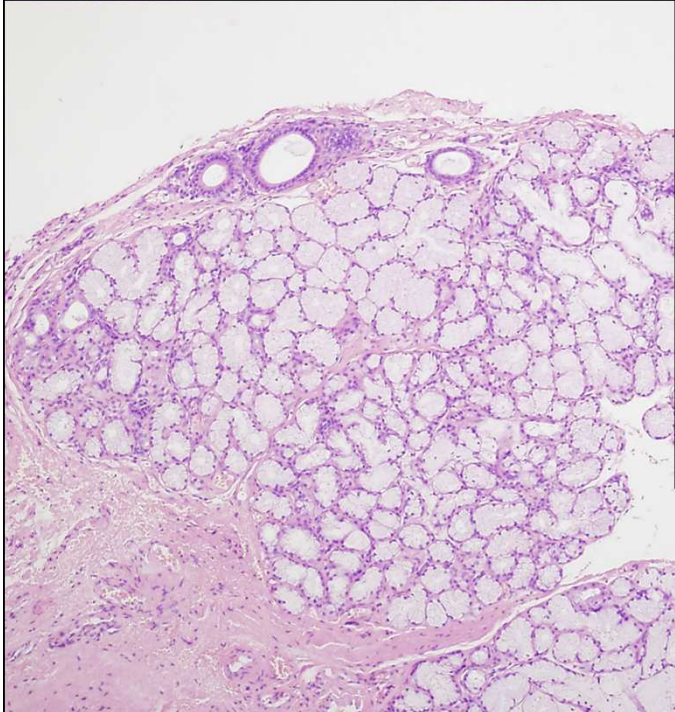
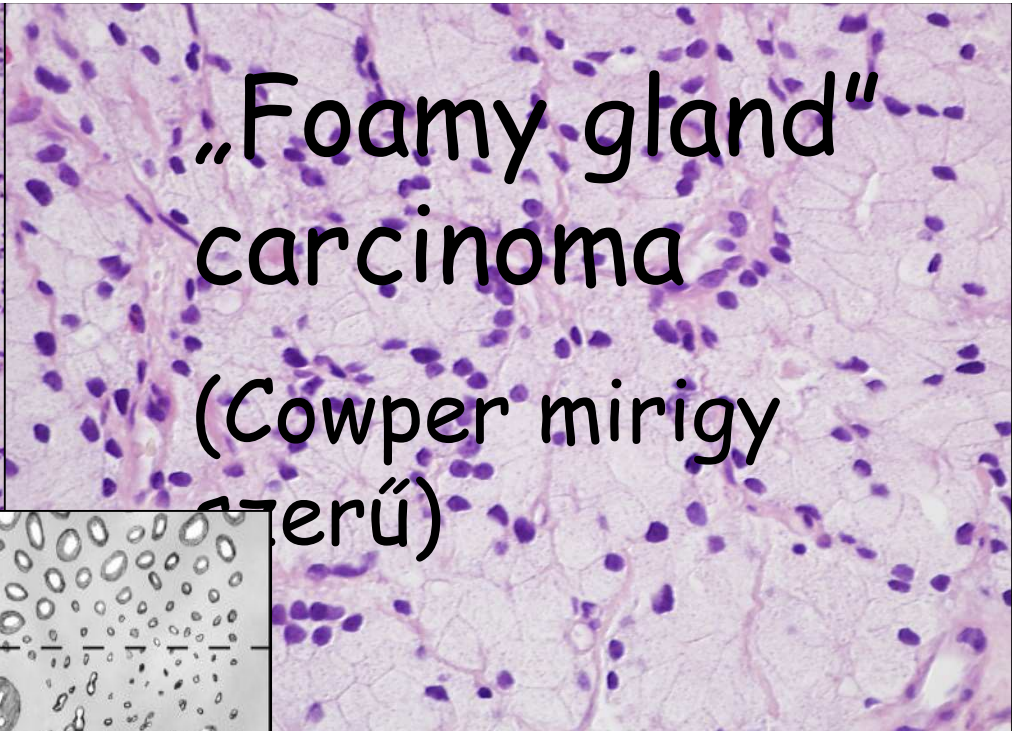
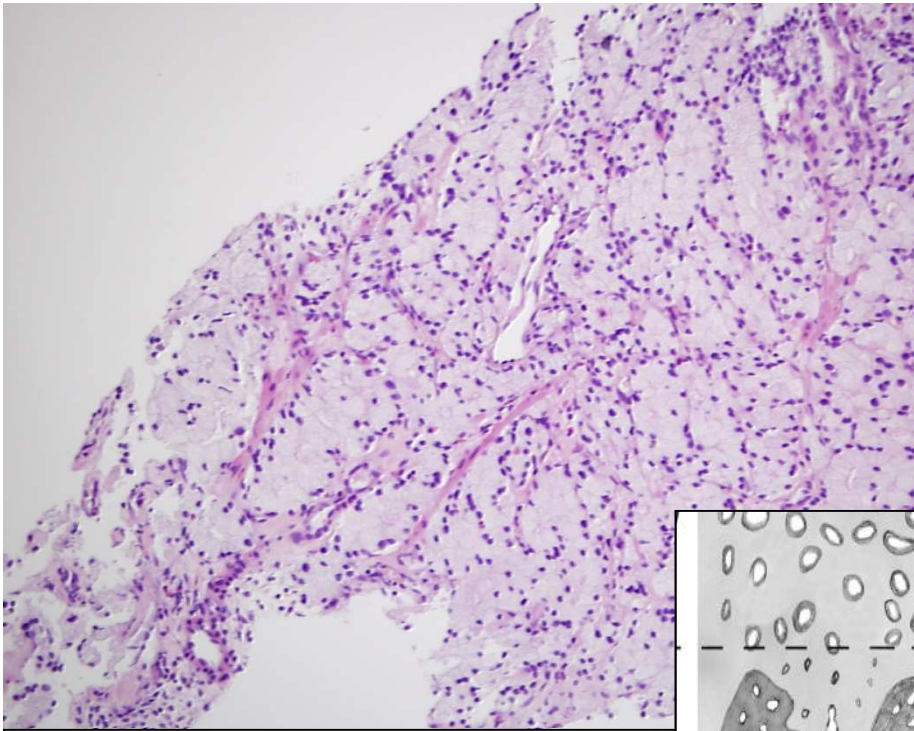


Speciális típusok -

Grading ugyancsak a struktúra alapján



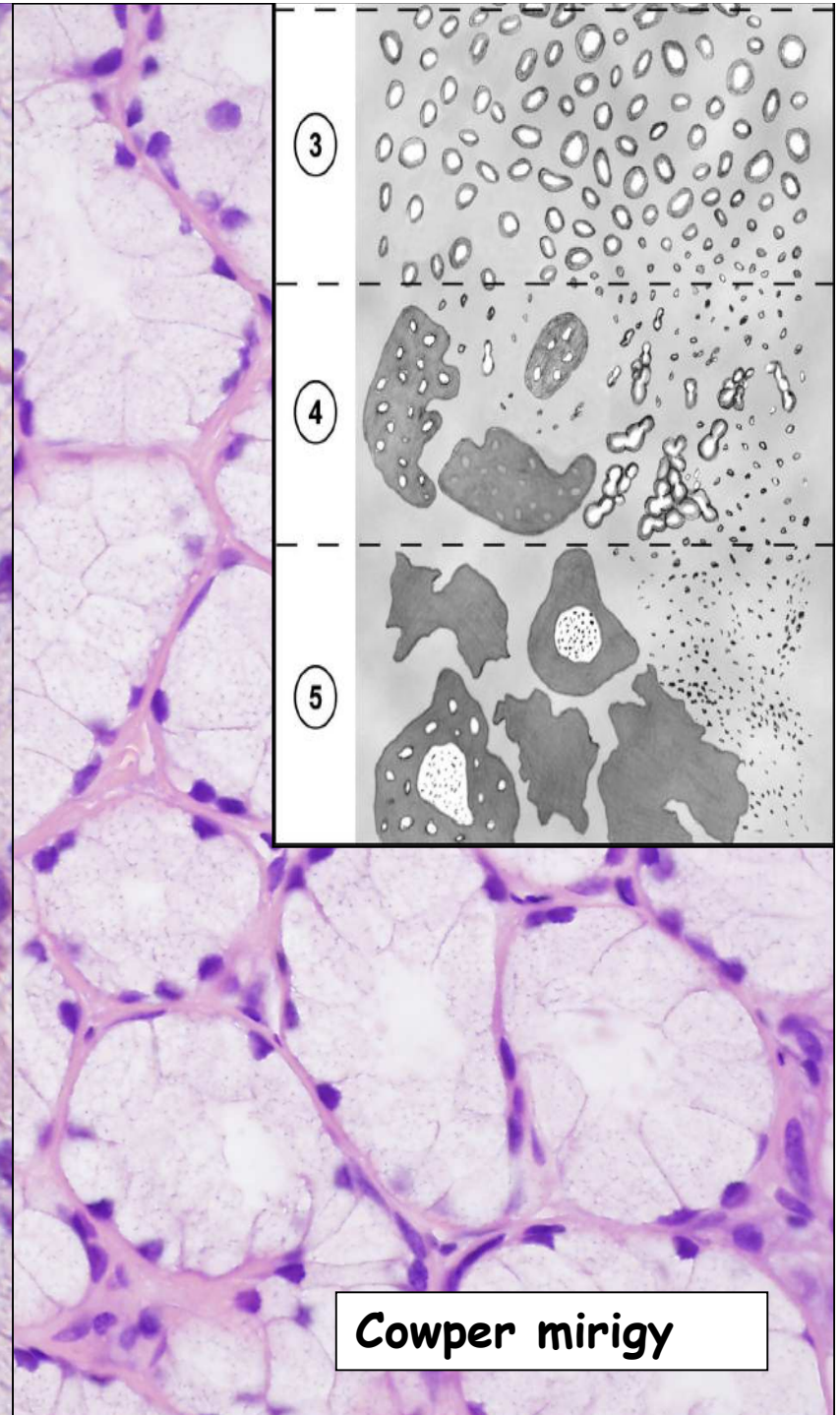
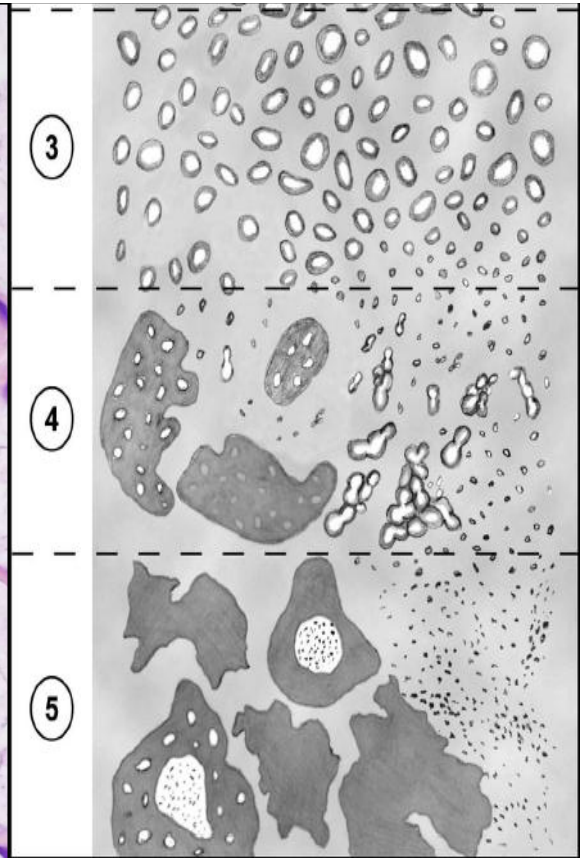
„Foamy gland“
carcinoma
(Cowper mirigy
terű)



Gl. 4

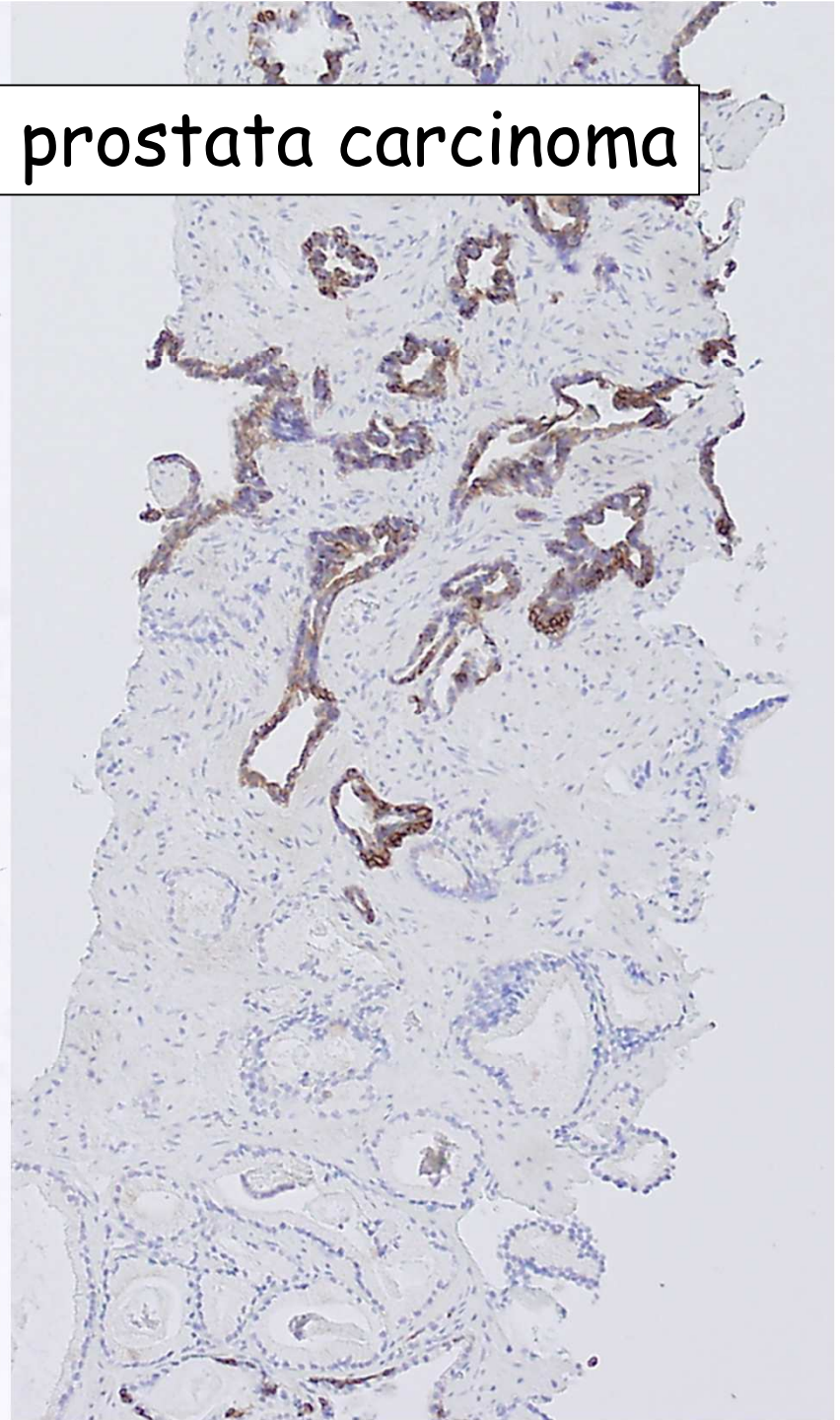
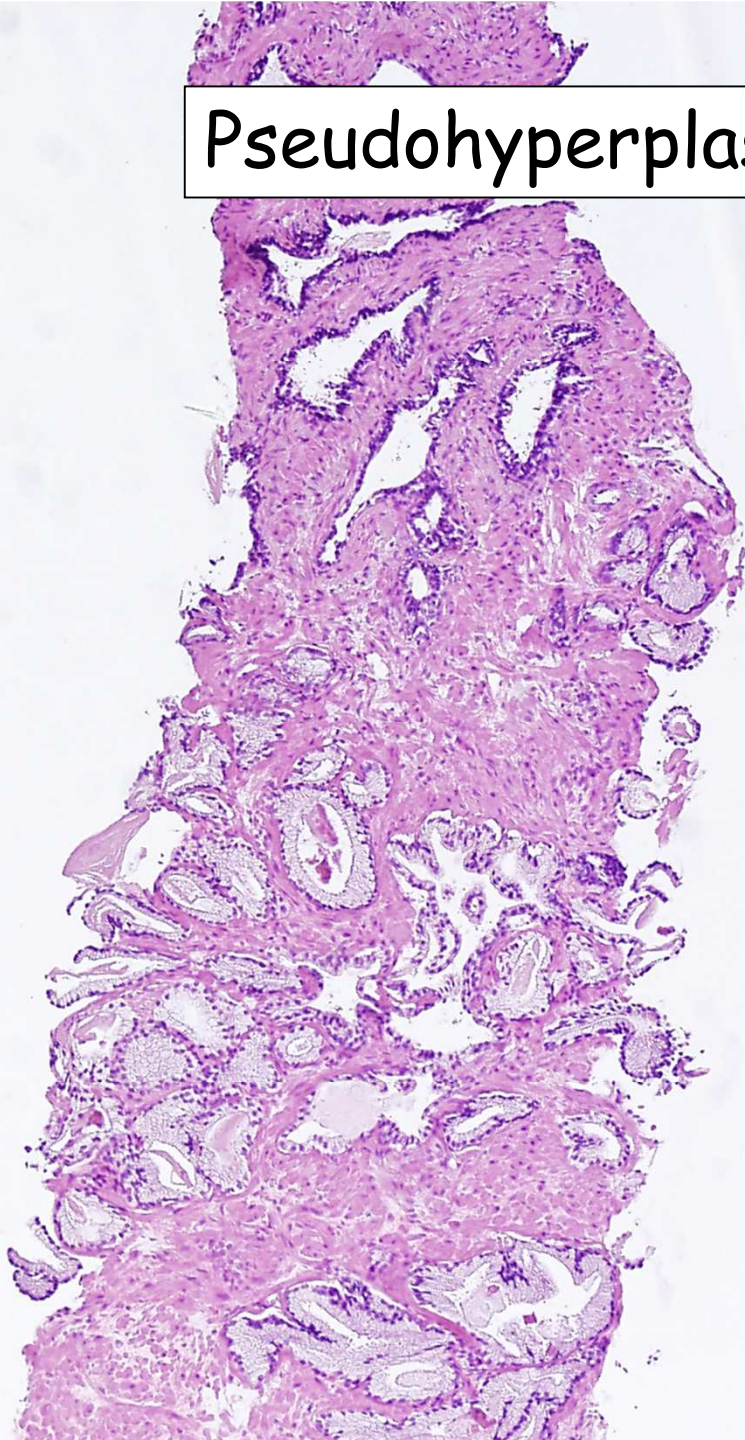
Diff.dg.:
benignus lézió

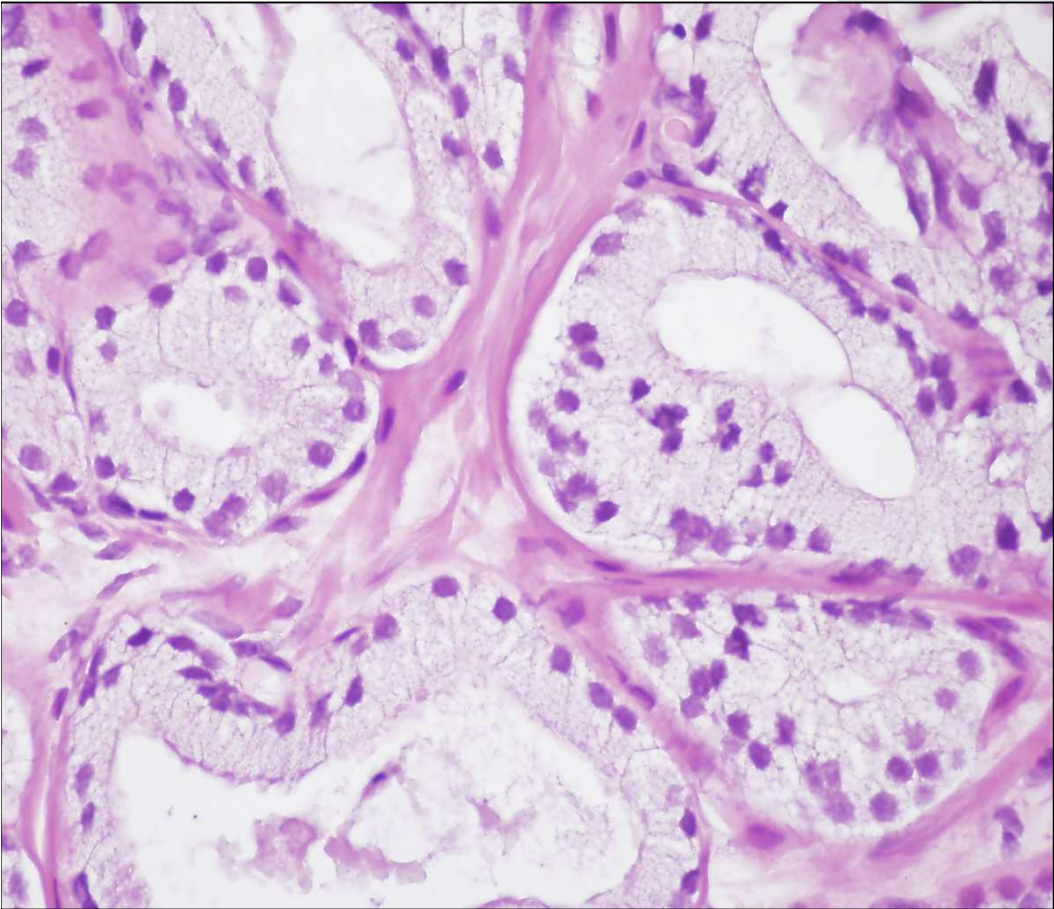
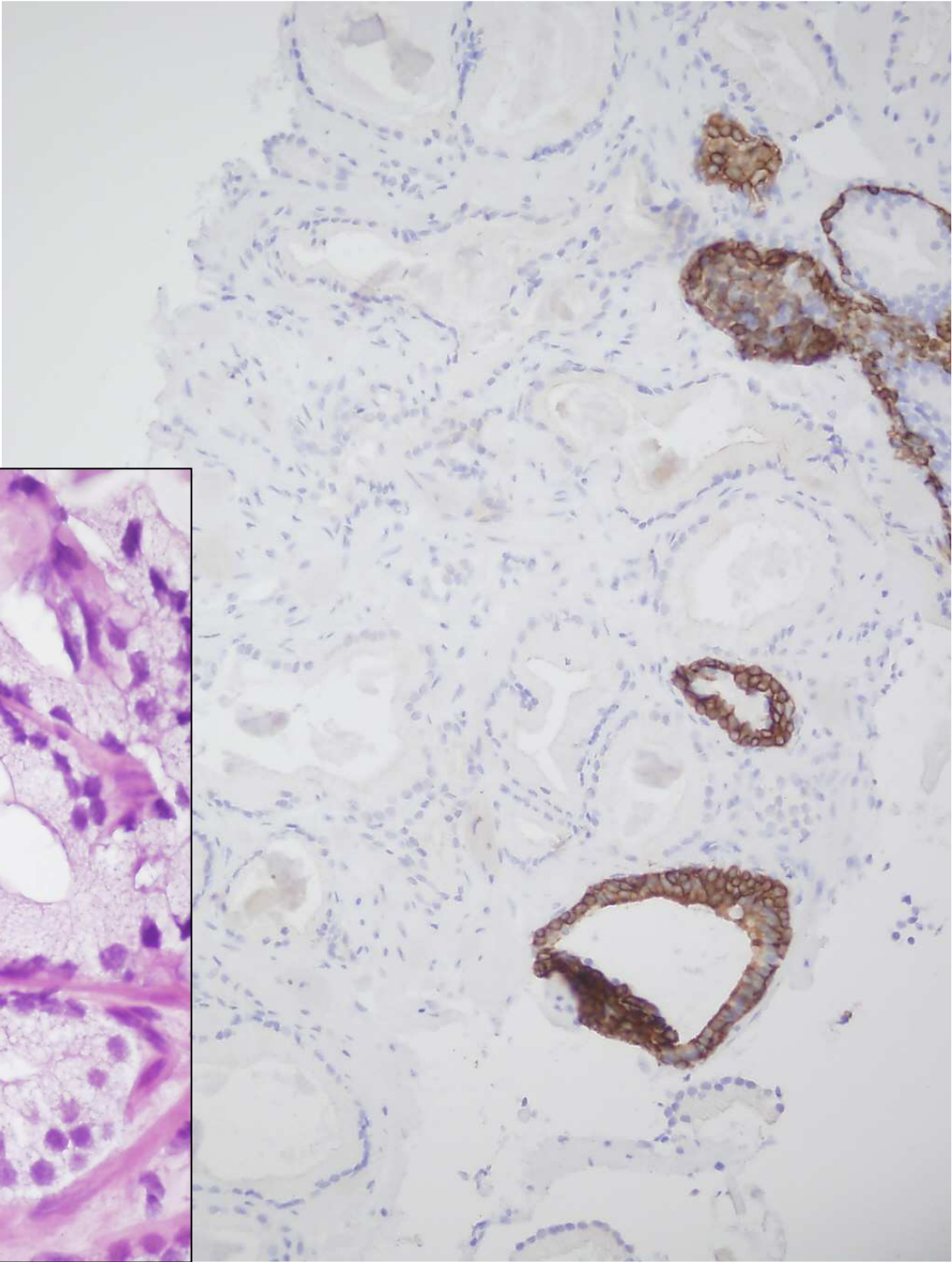
Pr.: rossz



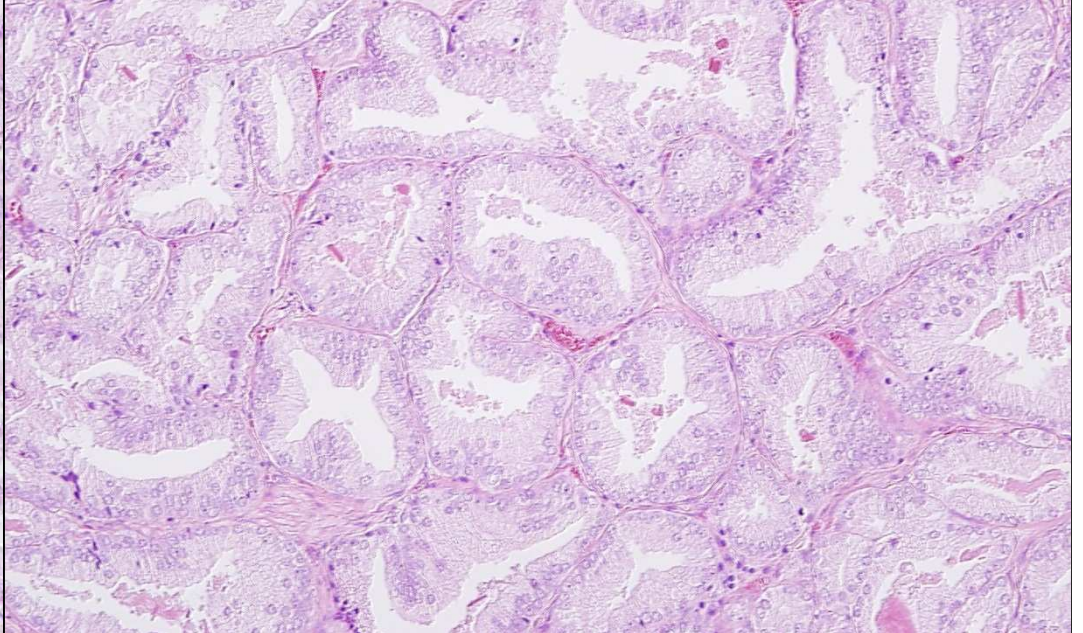
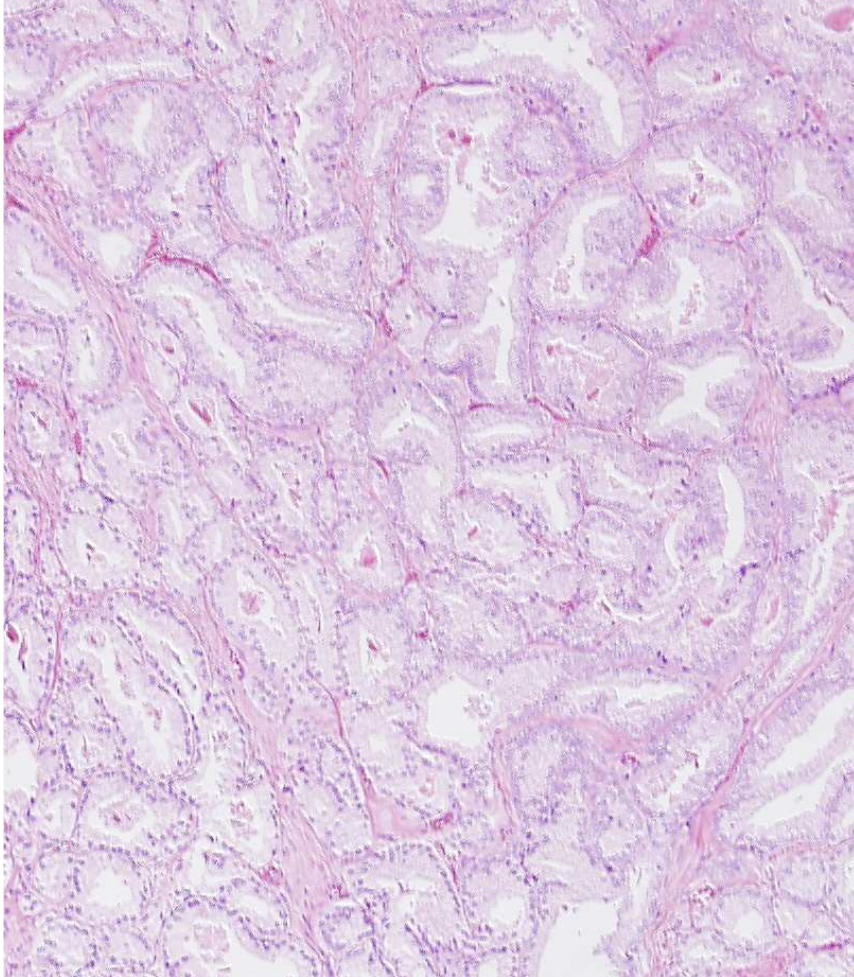
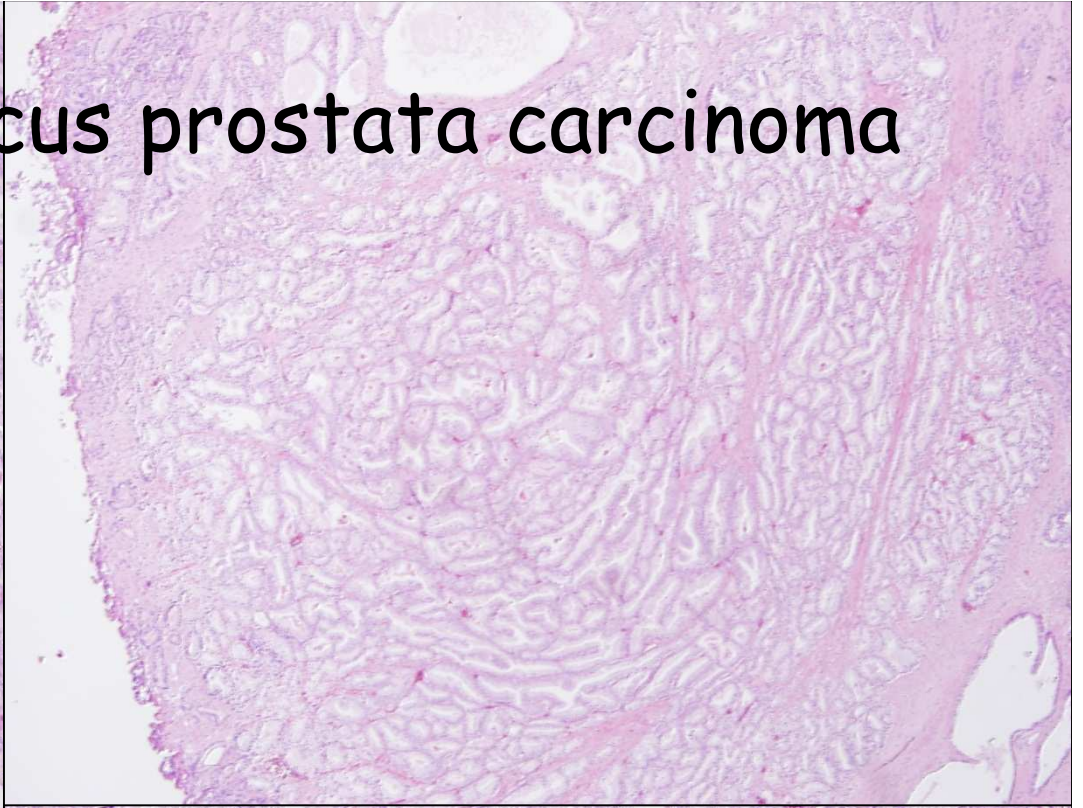
Cowper mirigy

Pseudohyperplasticus prostata carcinoma

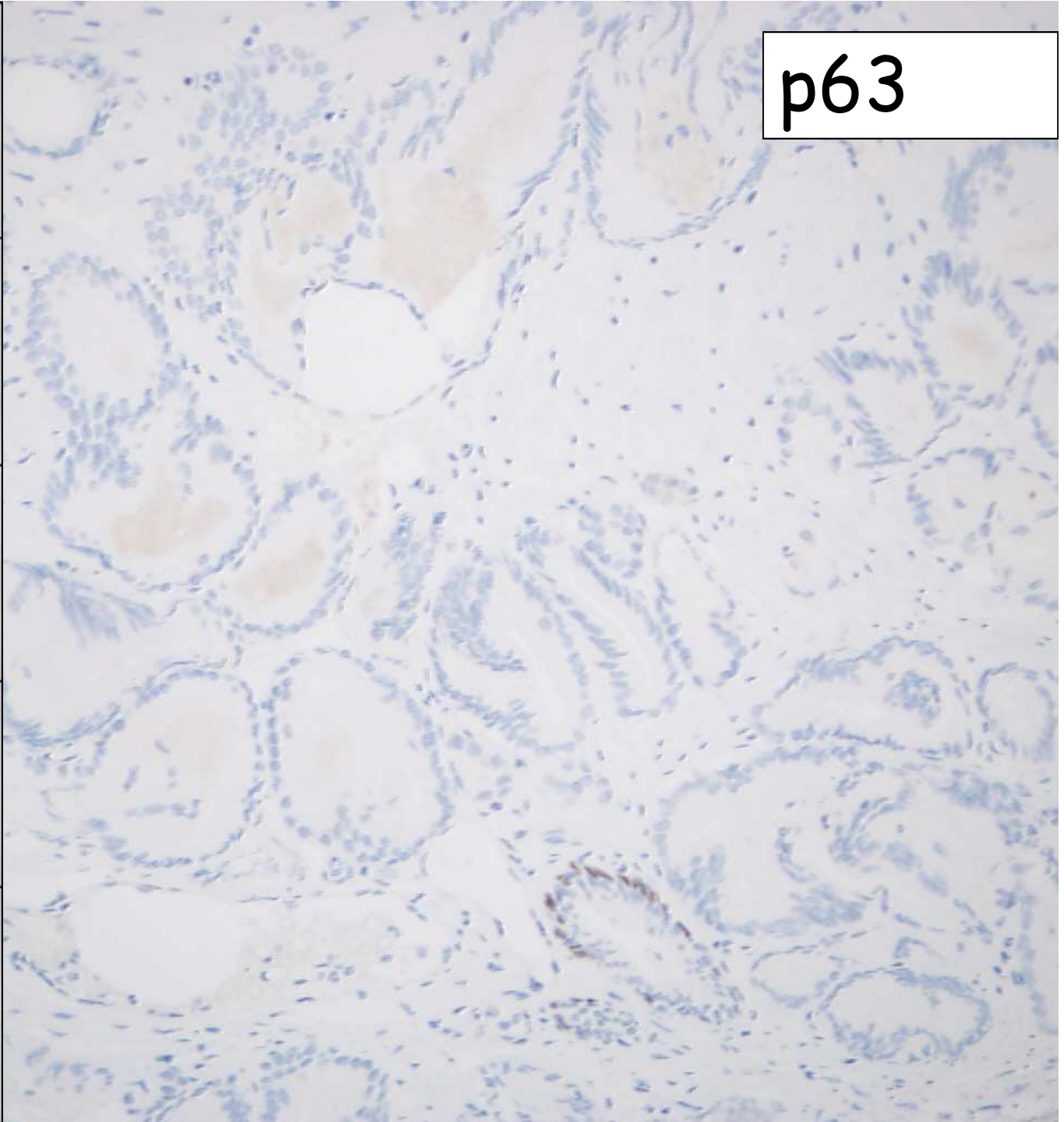
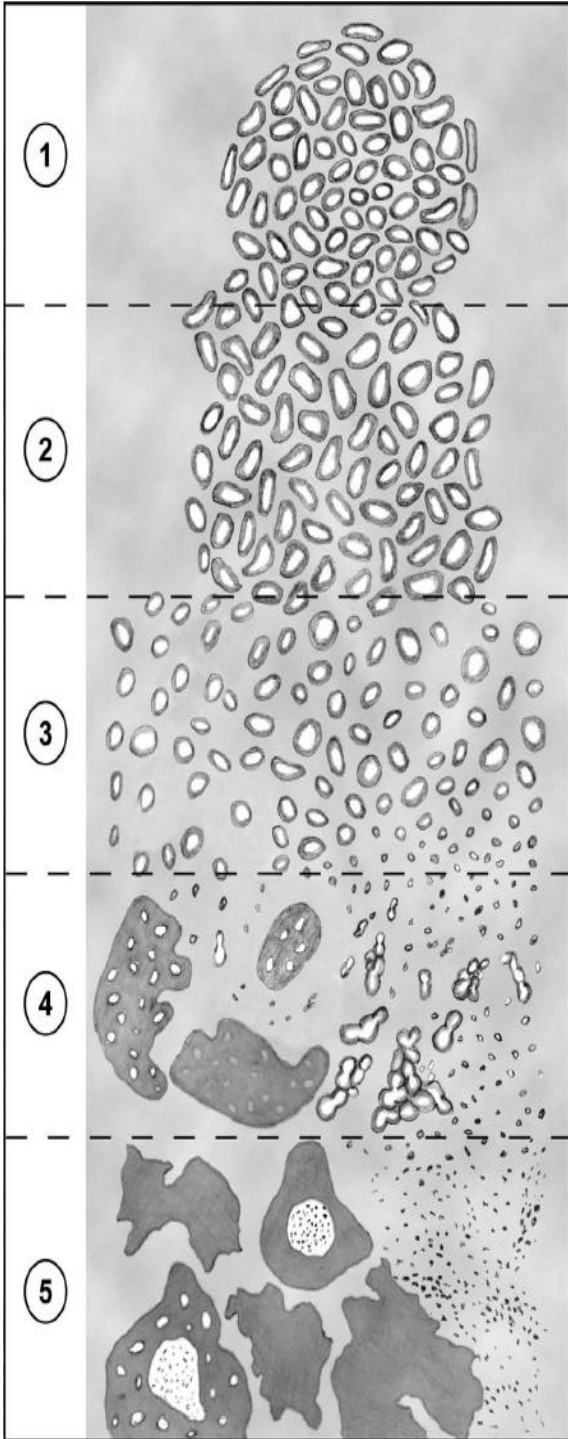




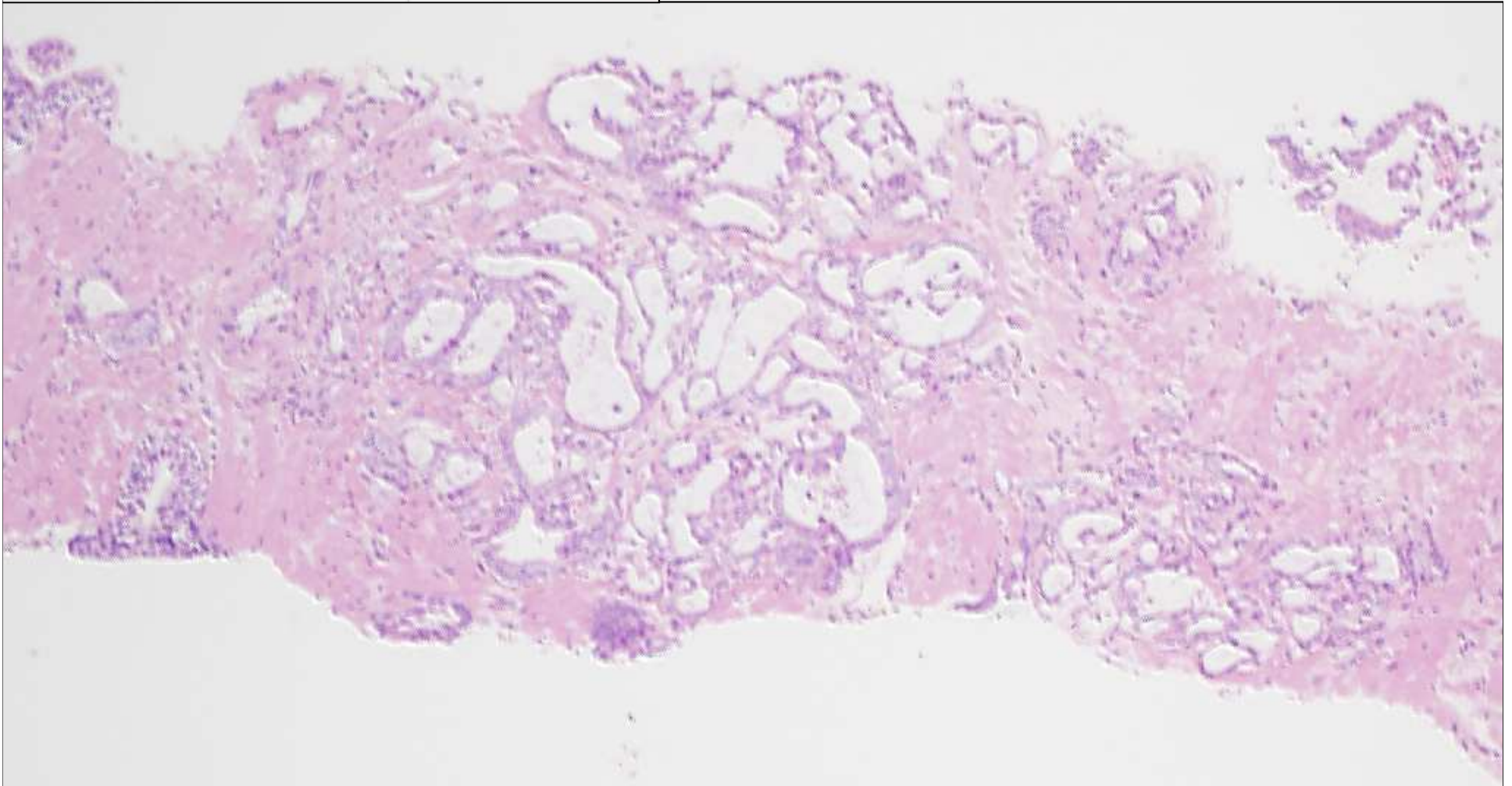
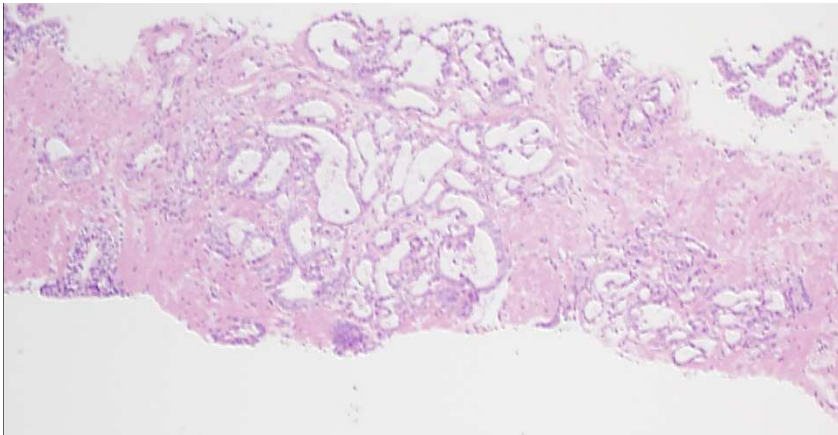
Pseudohyperplastic prostata carcinoma

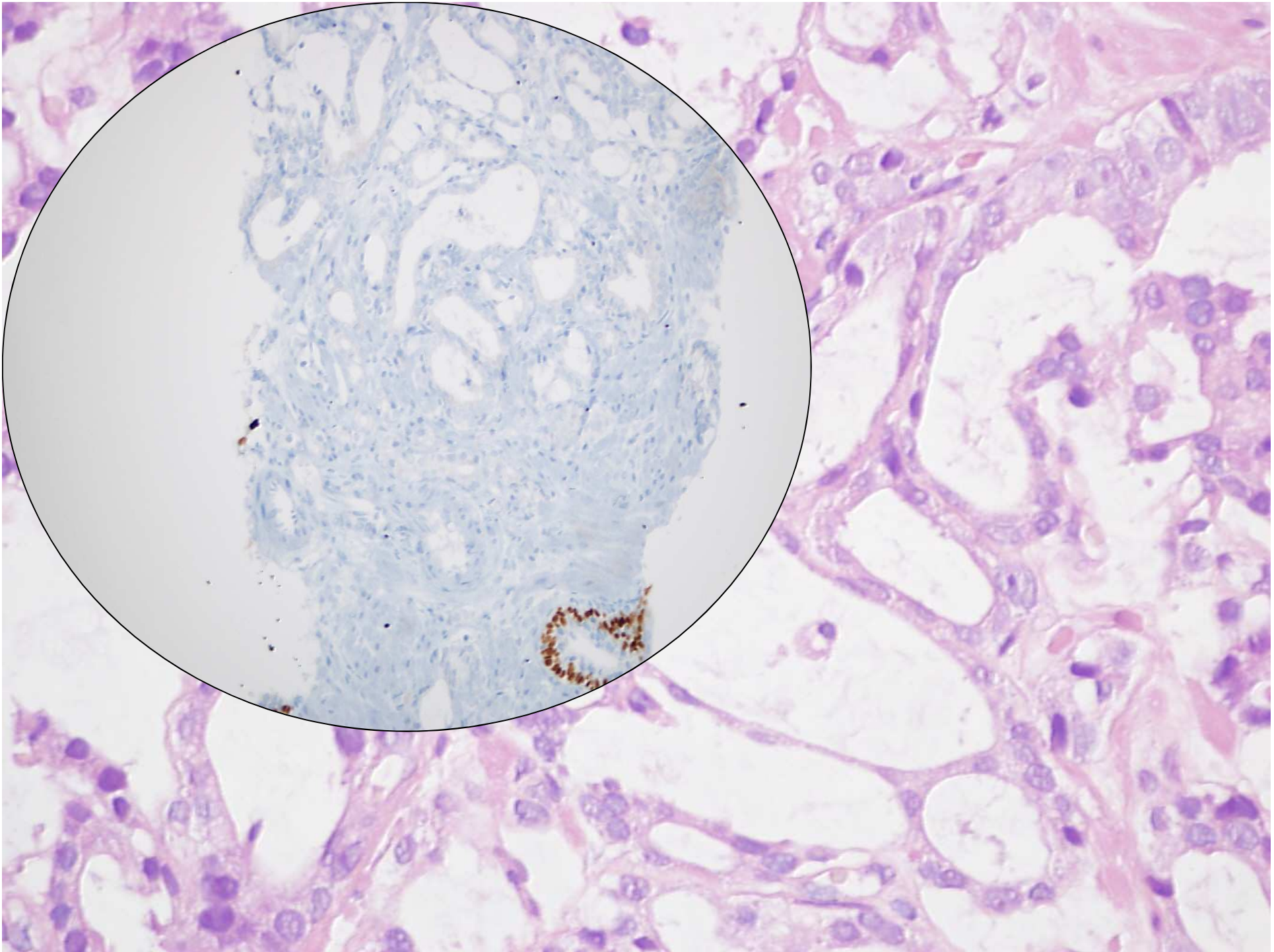


p63

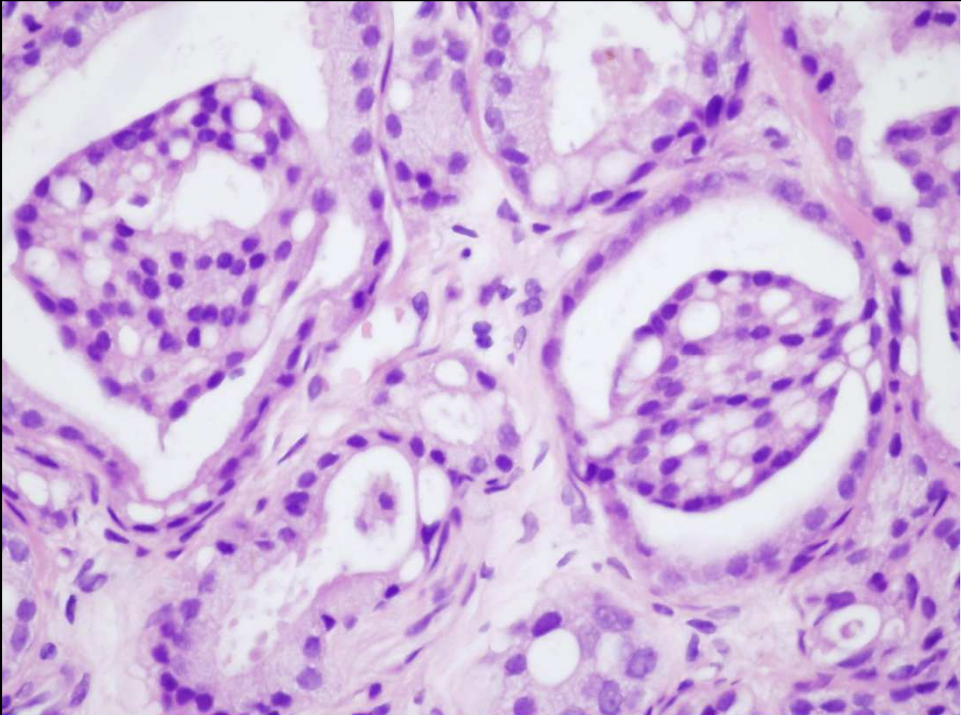
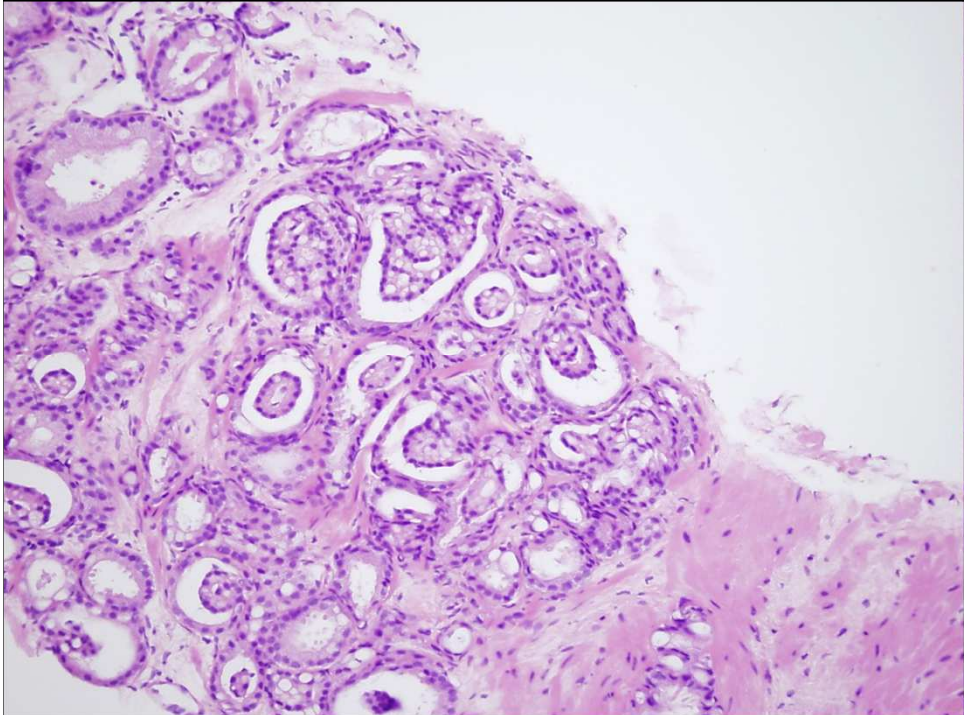


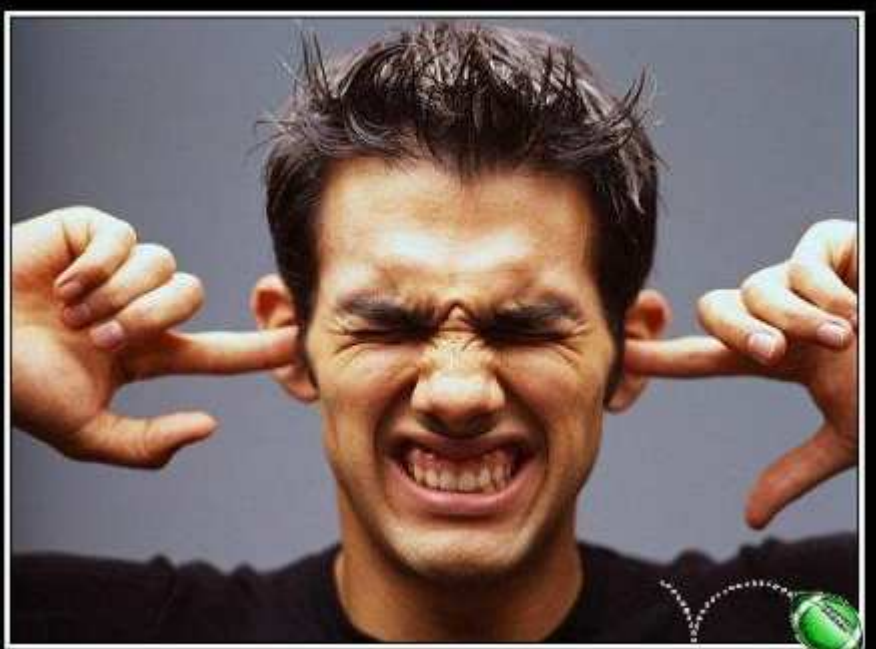
Atrophia-szerű prostata carcinoma



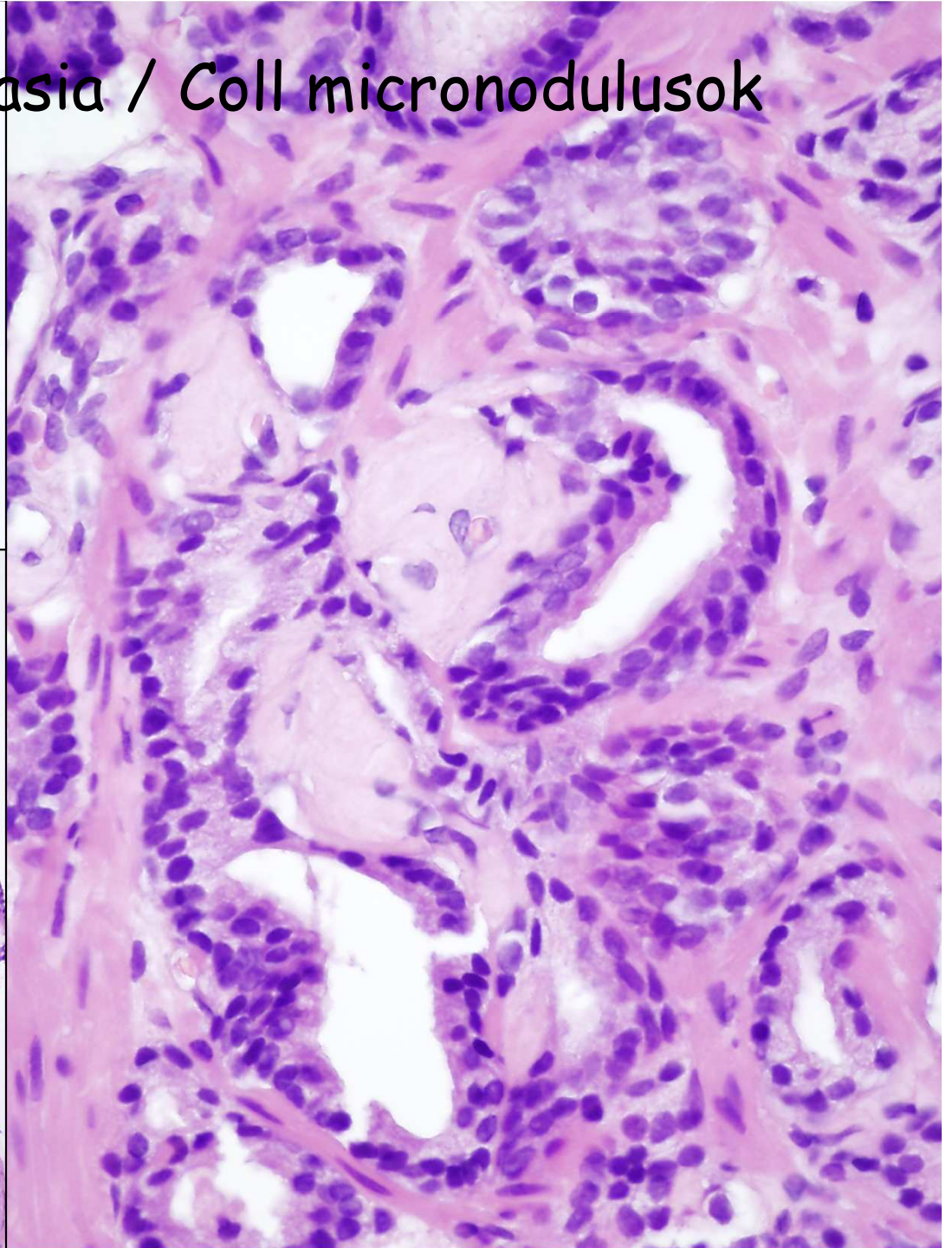
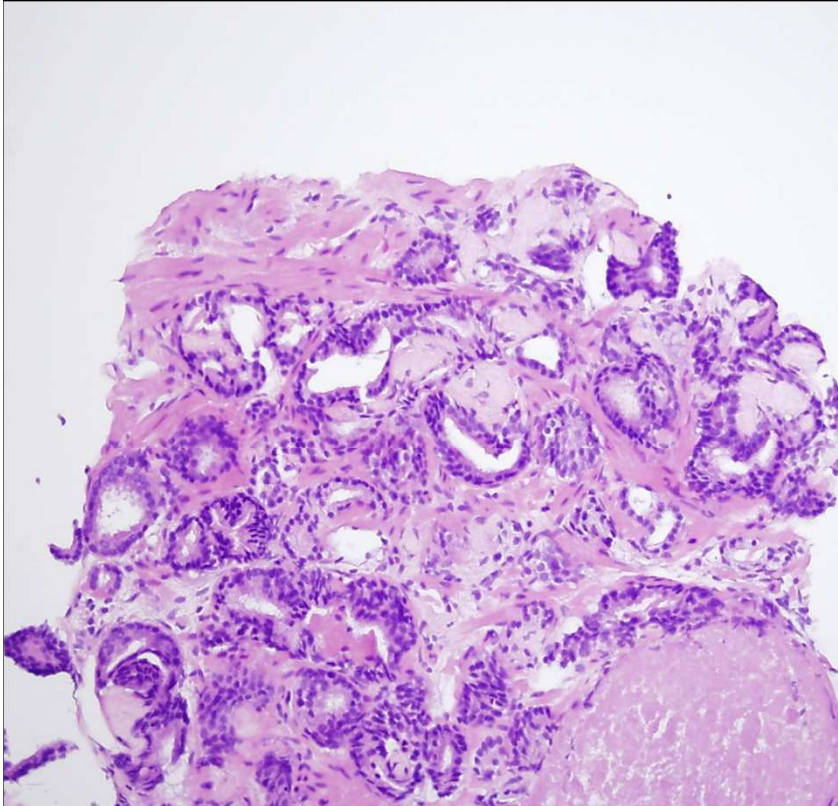
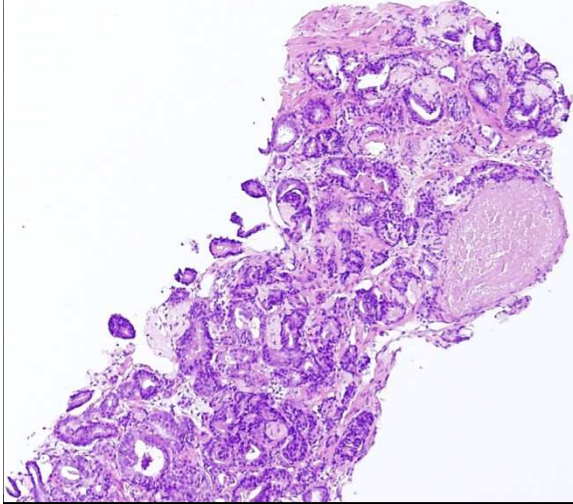


Glomeruloid bodyk / glomerulation

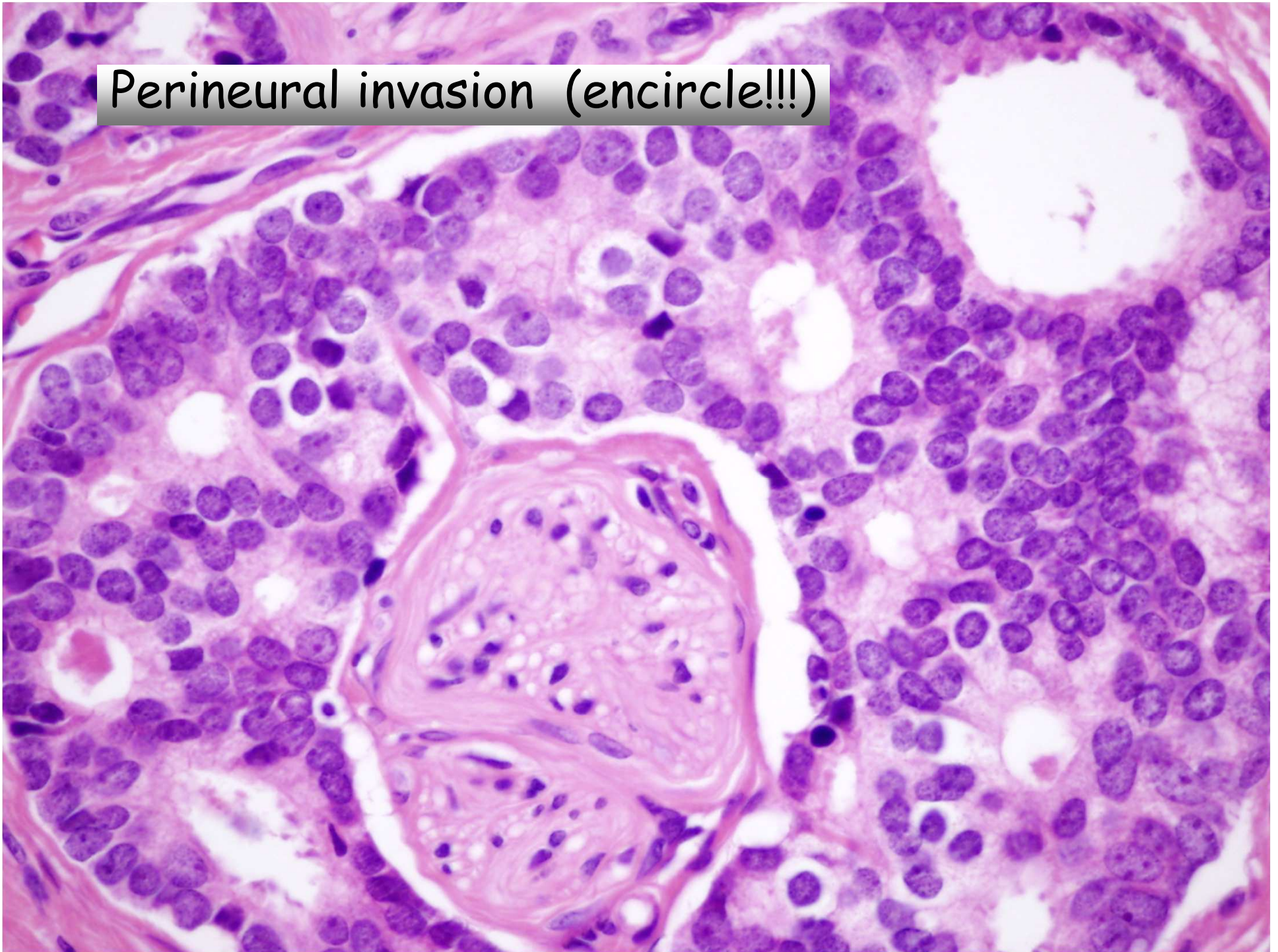


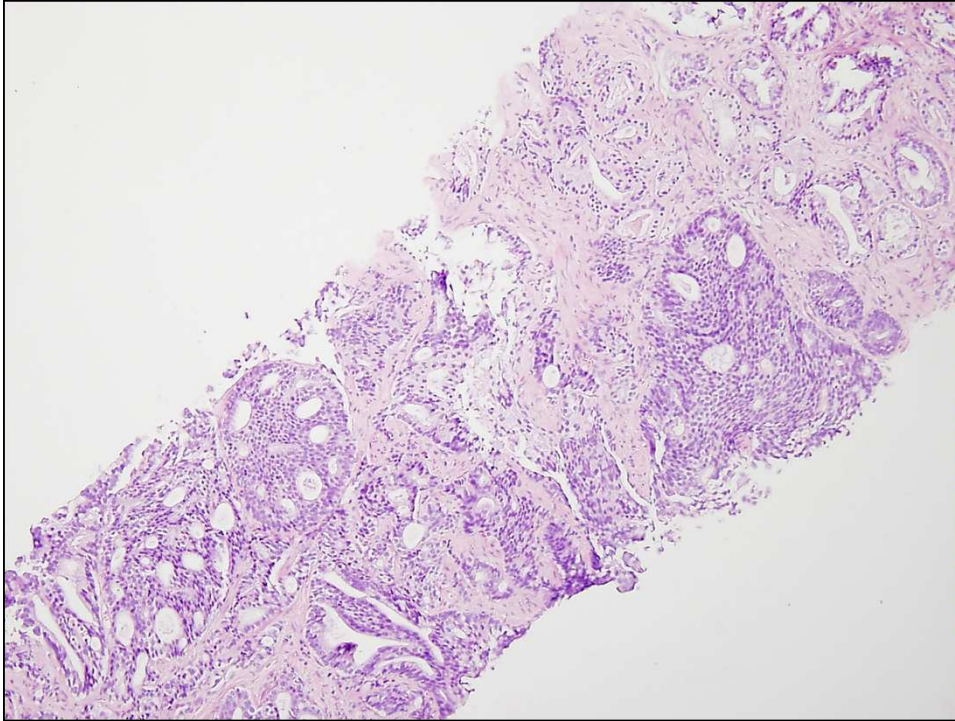
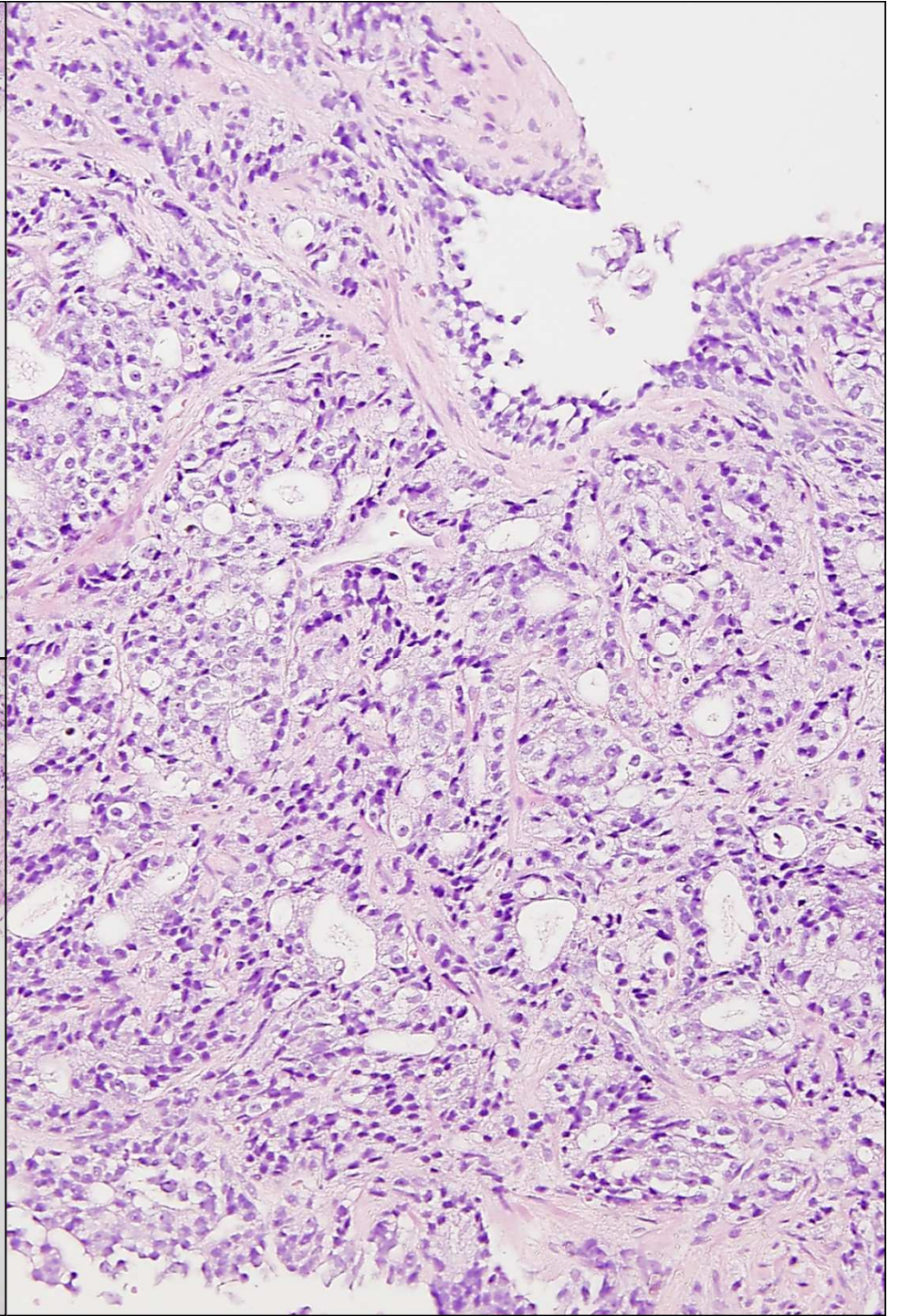
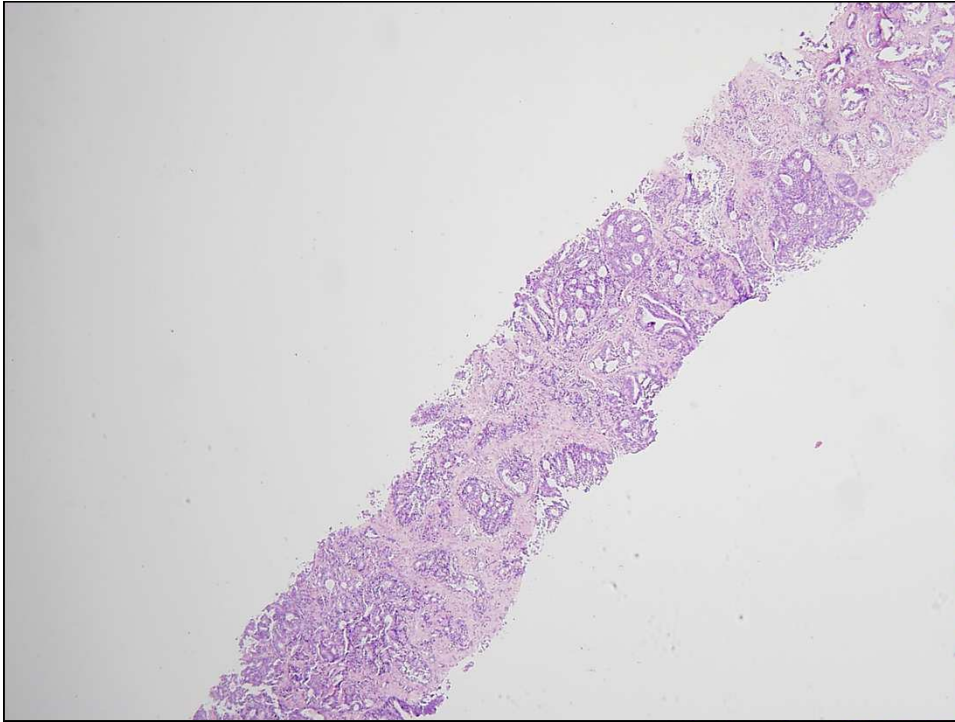


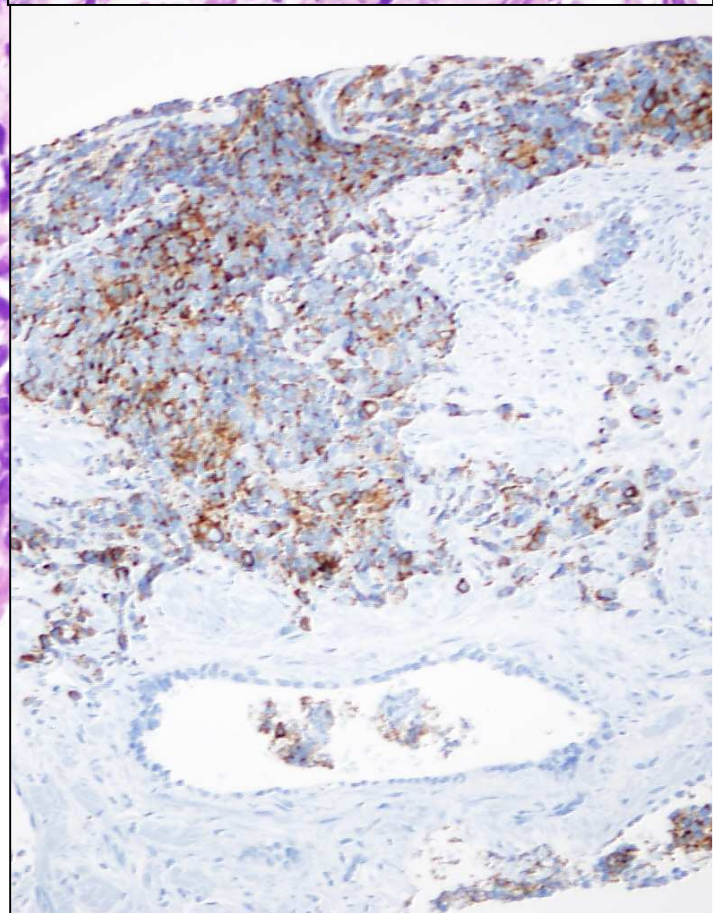
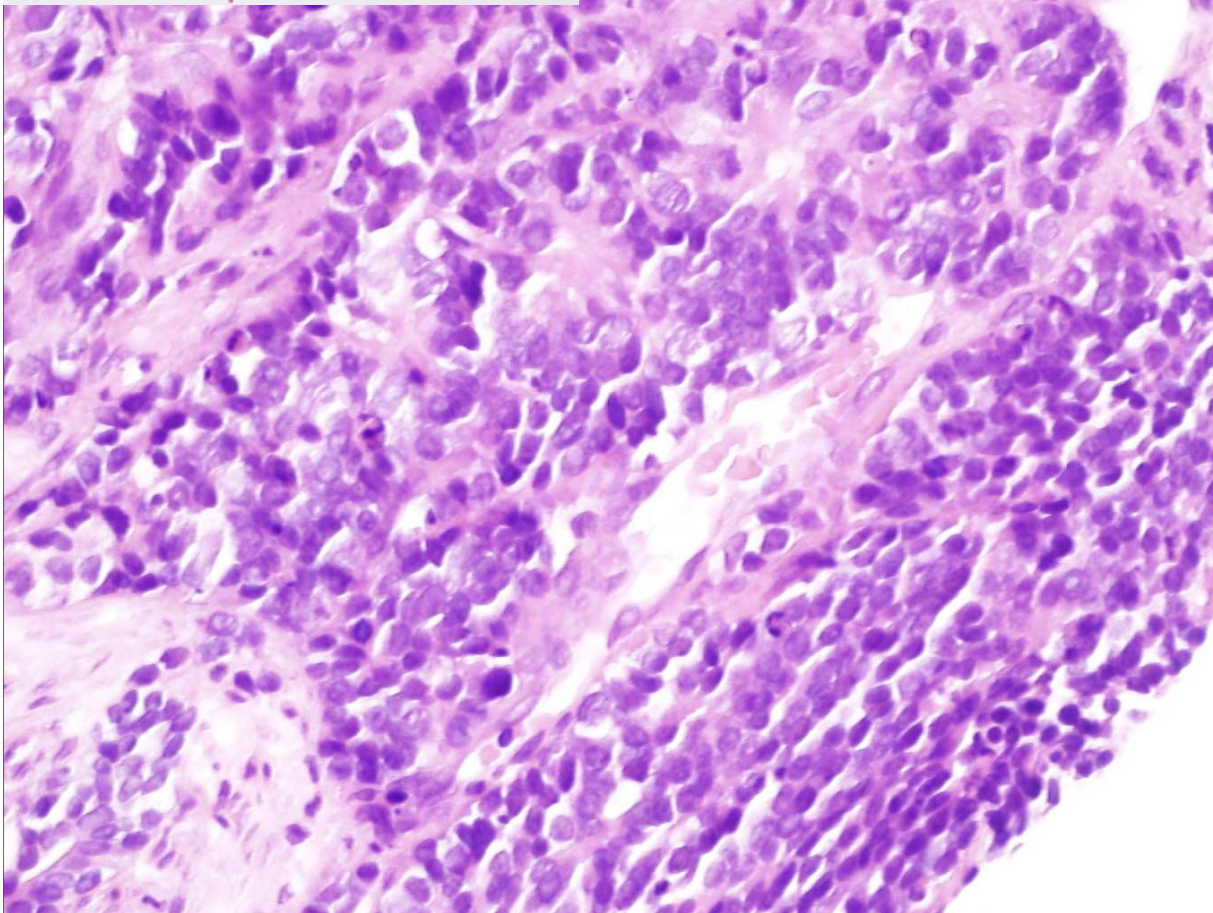
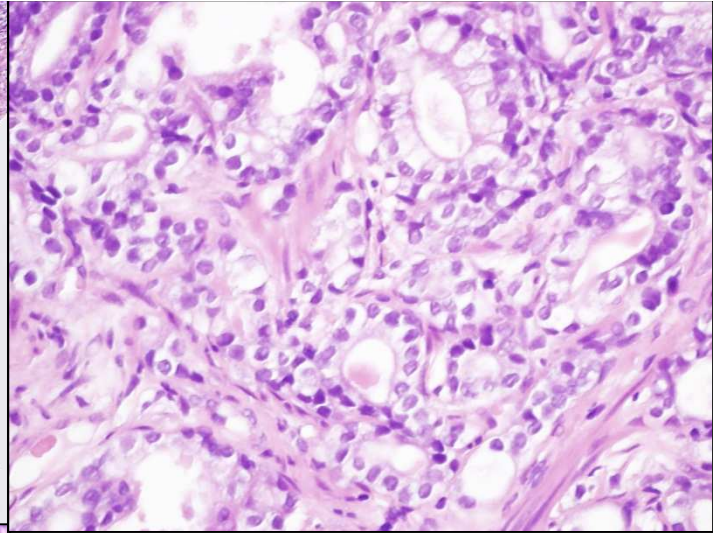
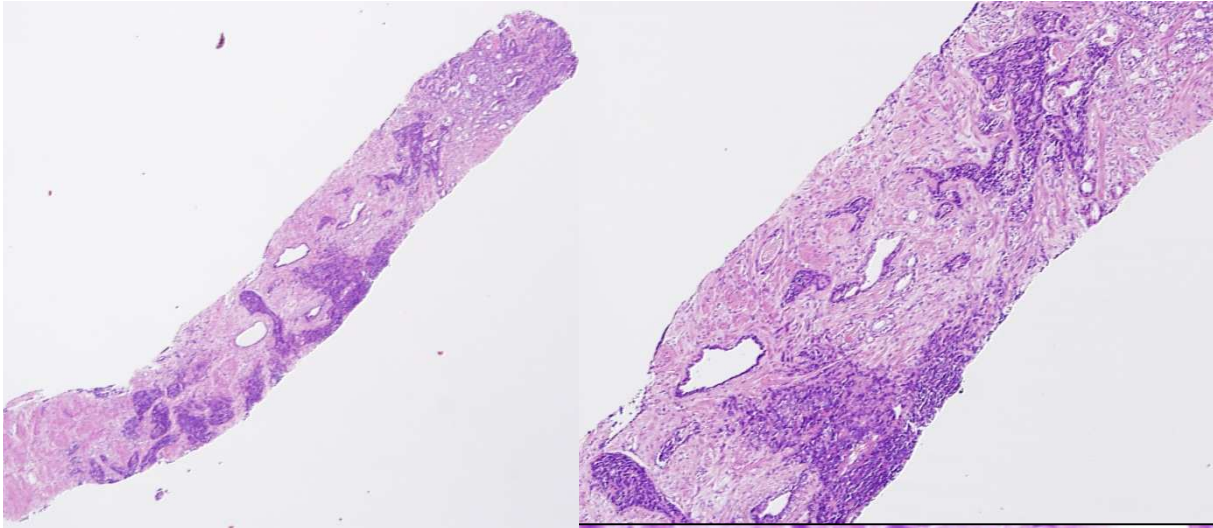
Mucinosus fibroplasia / Coll micronodulusok



Perineural invasion (encircle!!!)





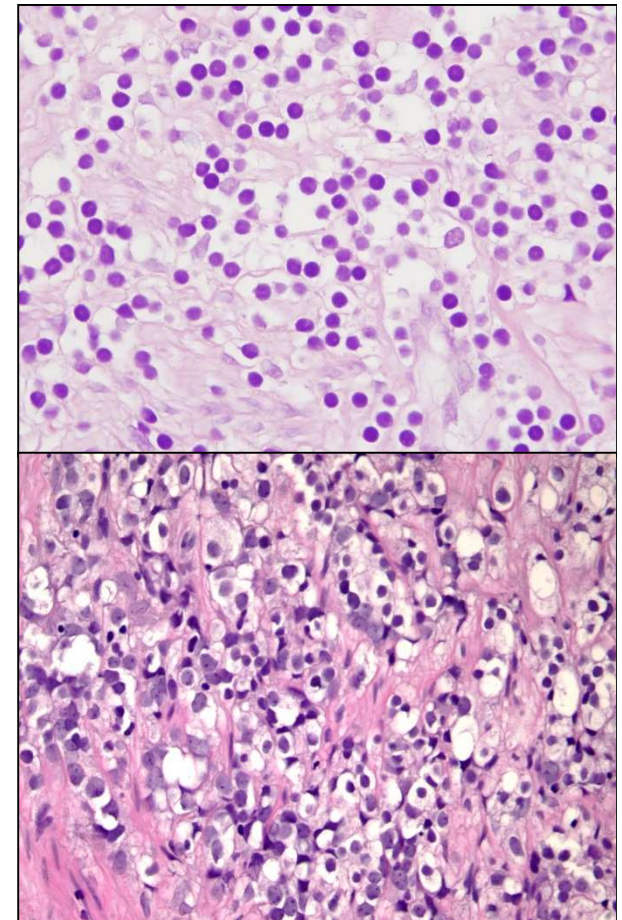


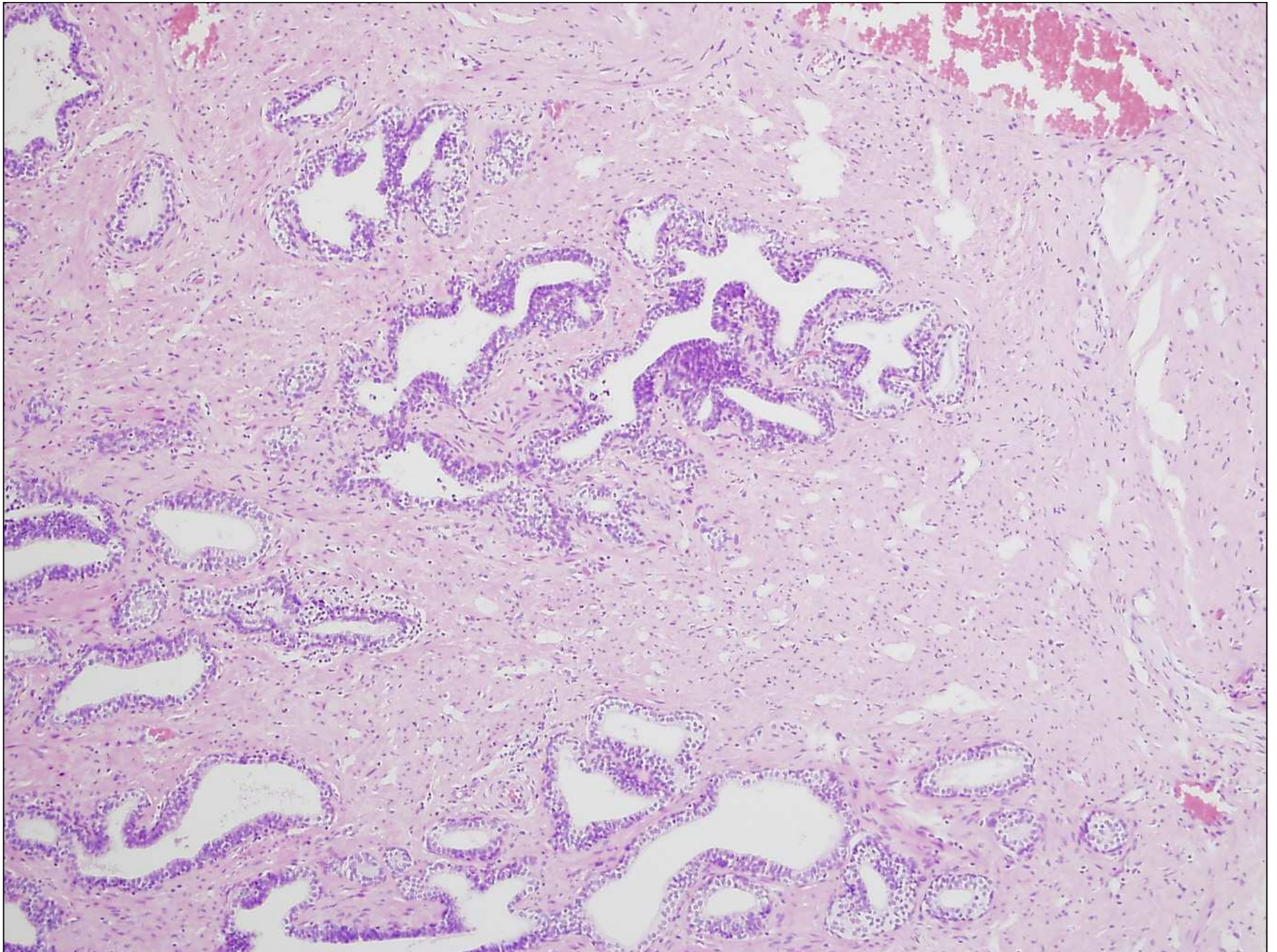
Mely típusoknál nem kell grade-et adni?

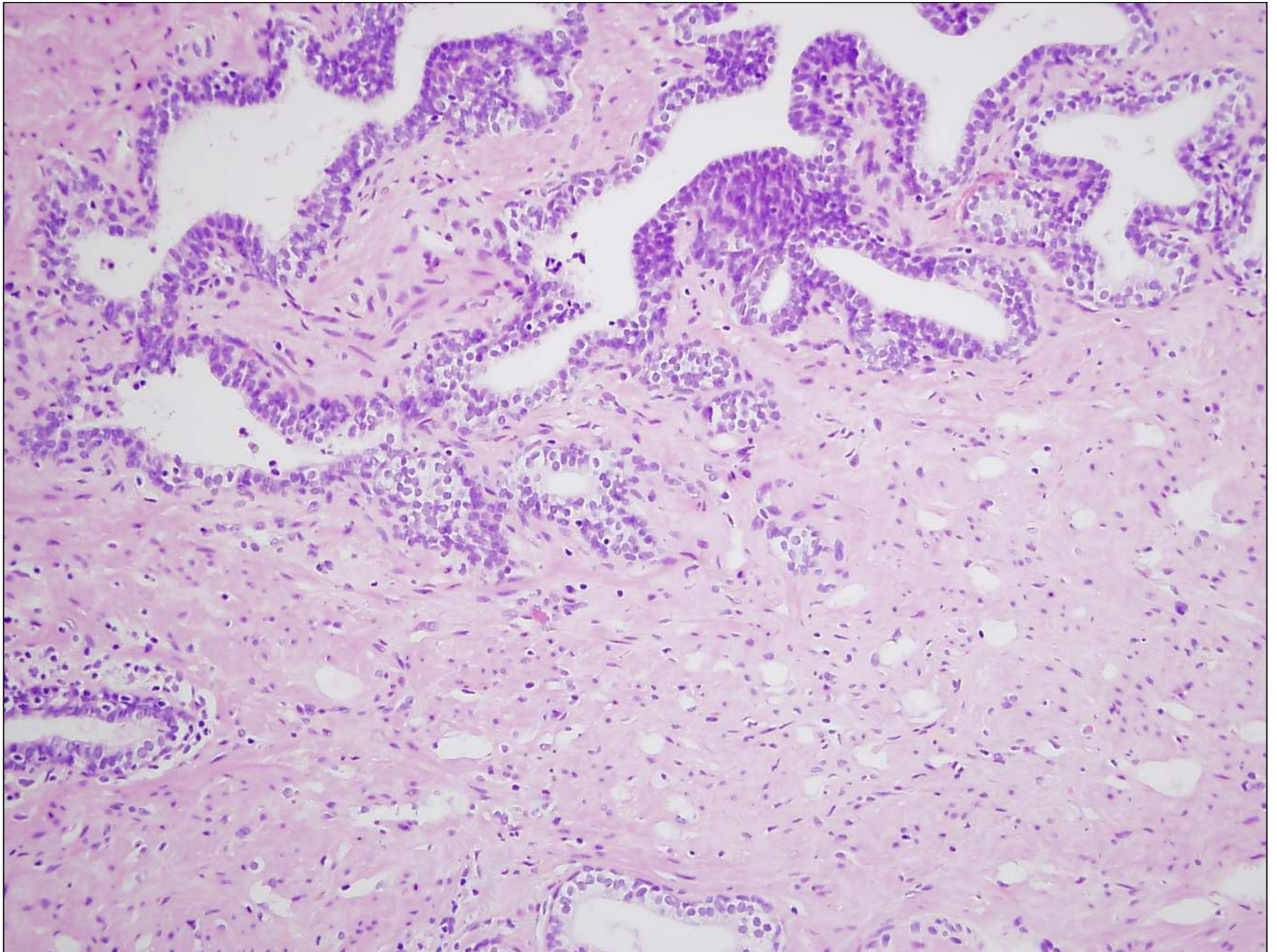
- Kissejtes
- Laphám
- TCC

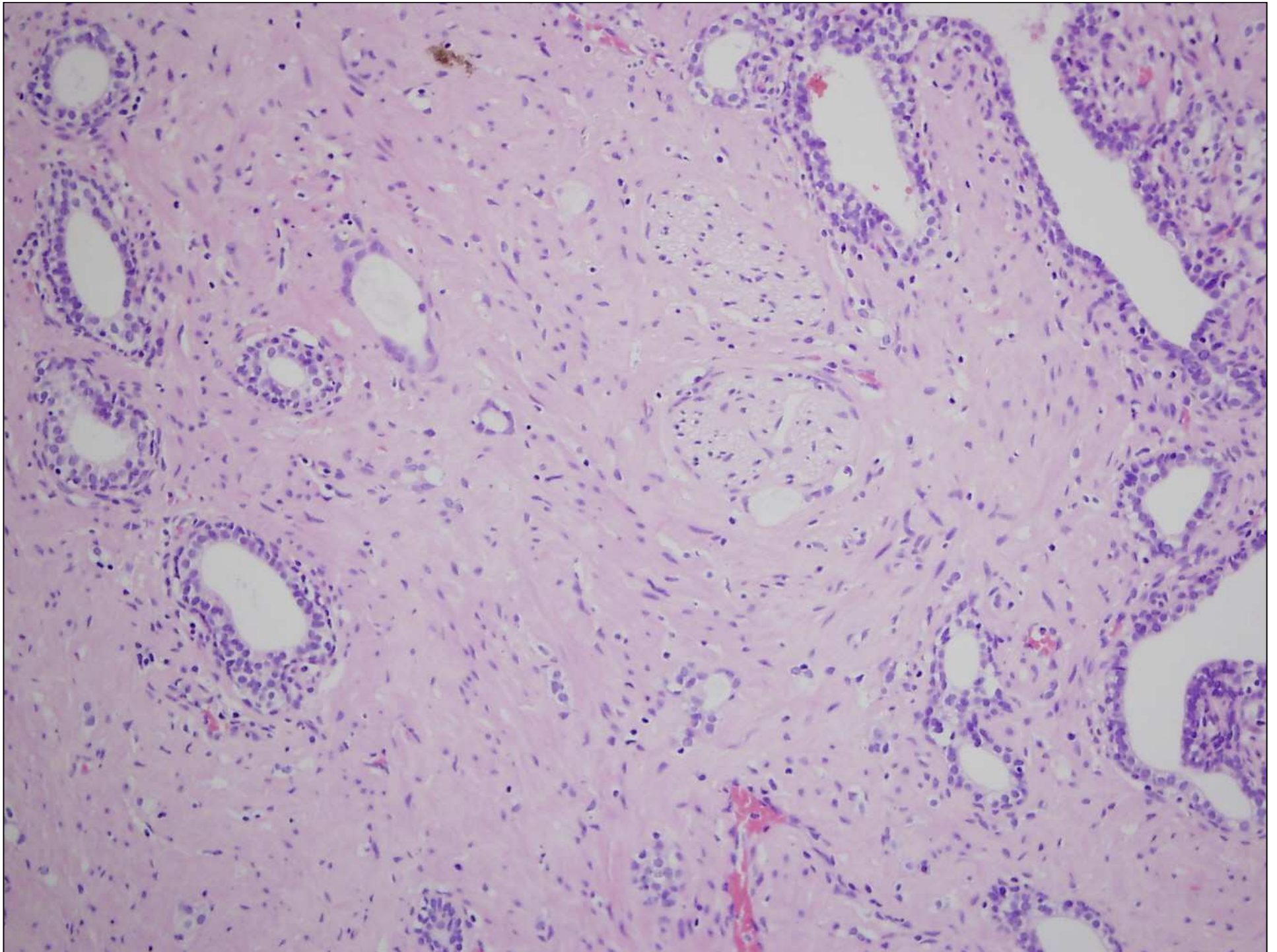
És még?

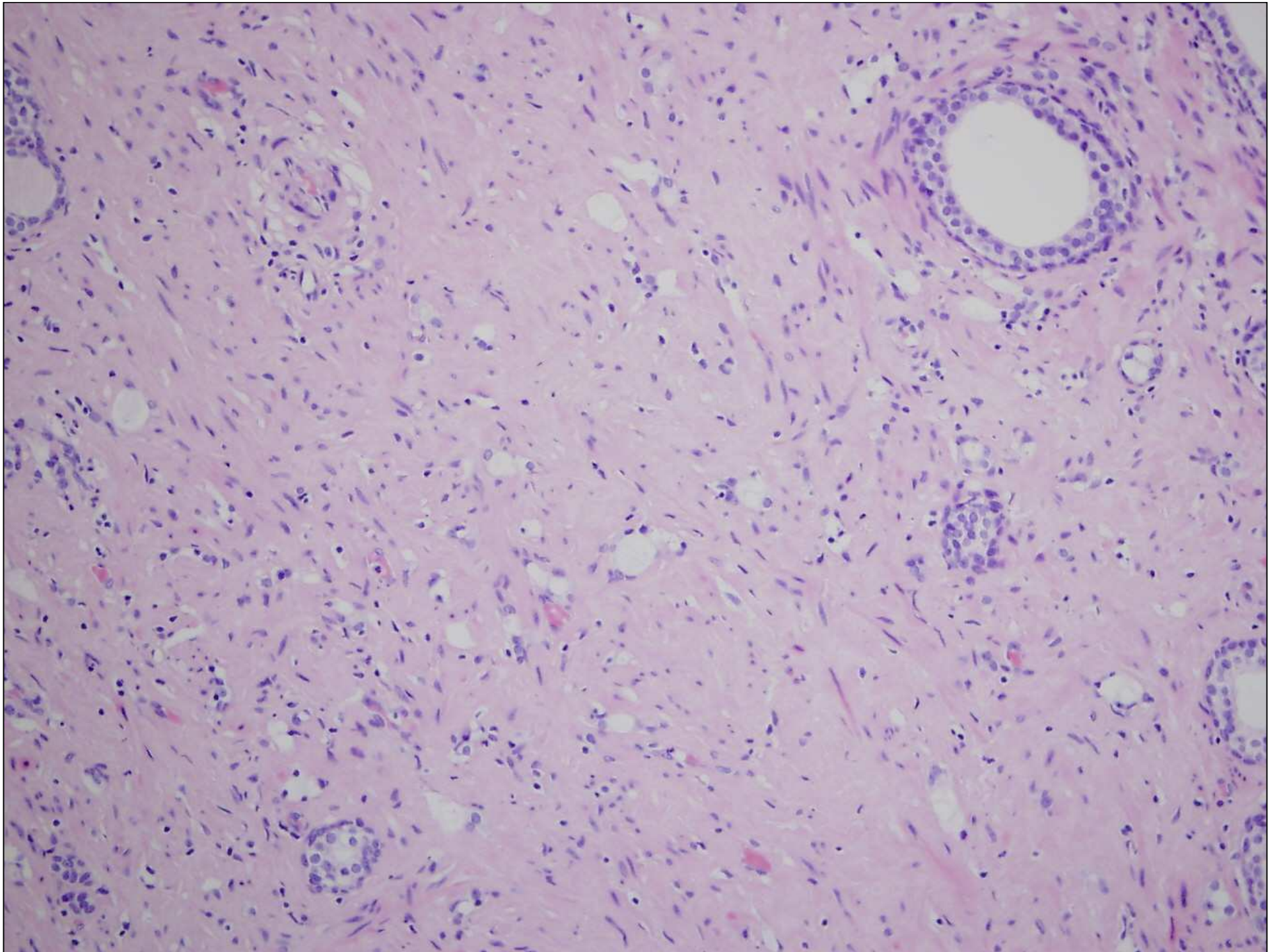
Kezelés után





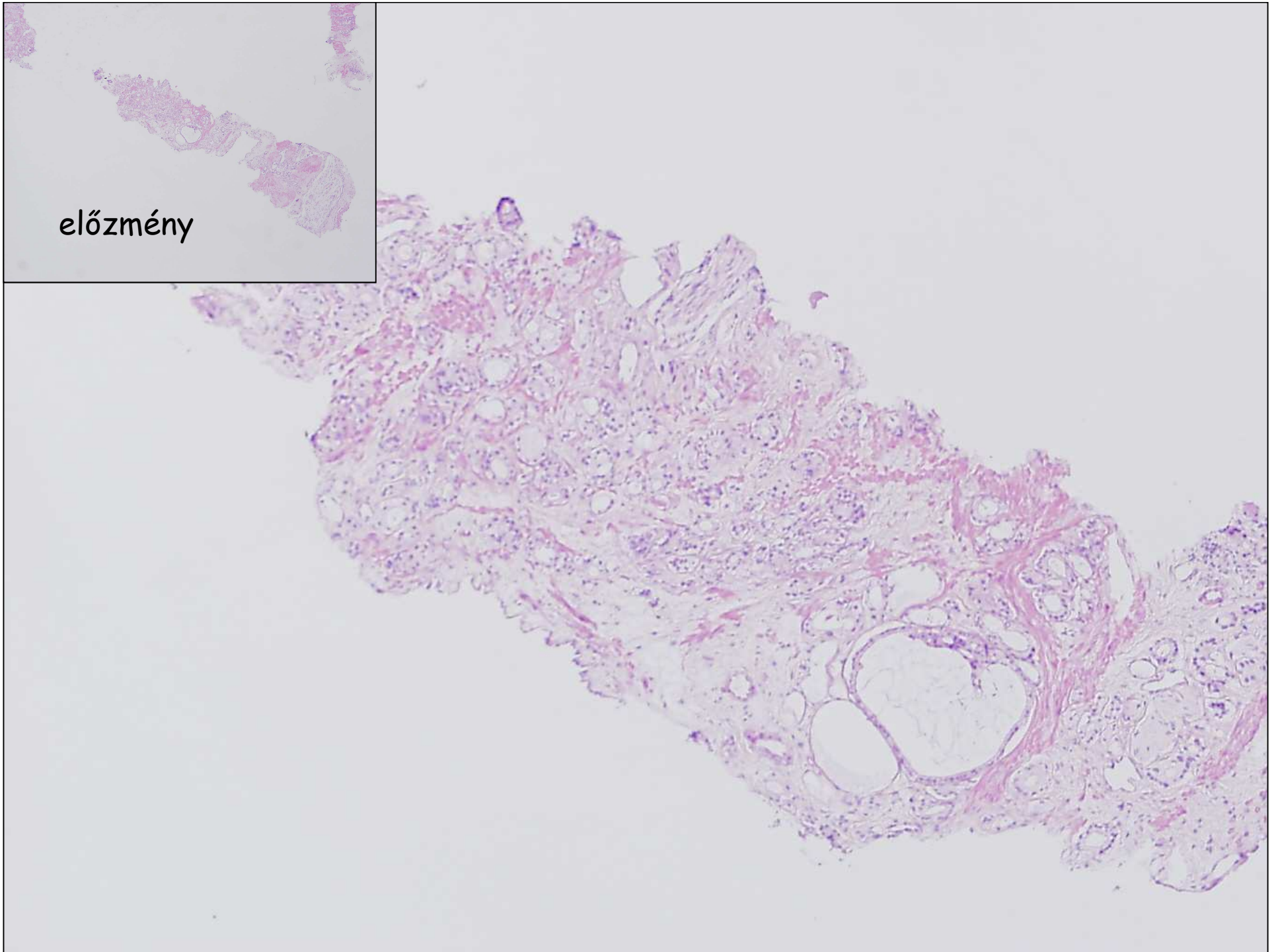


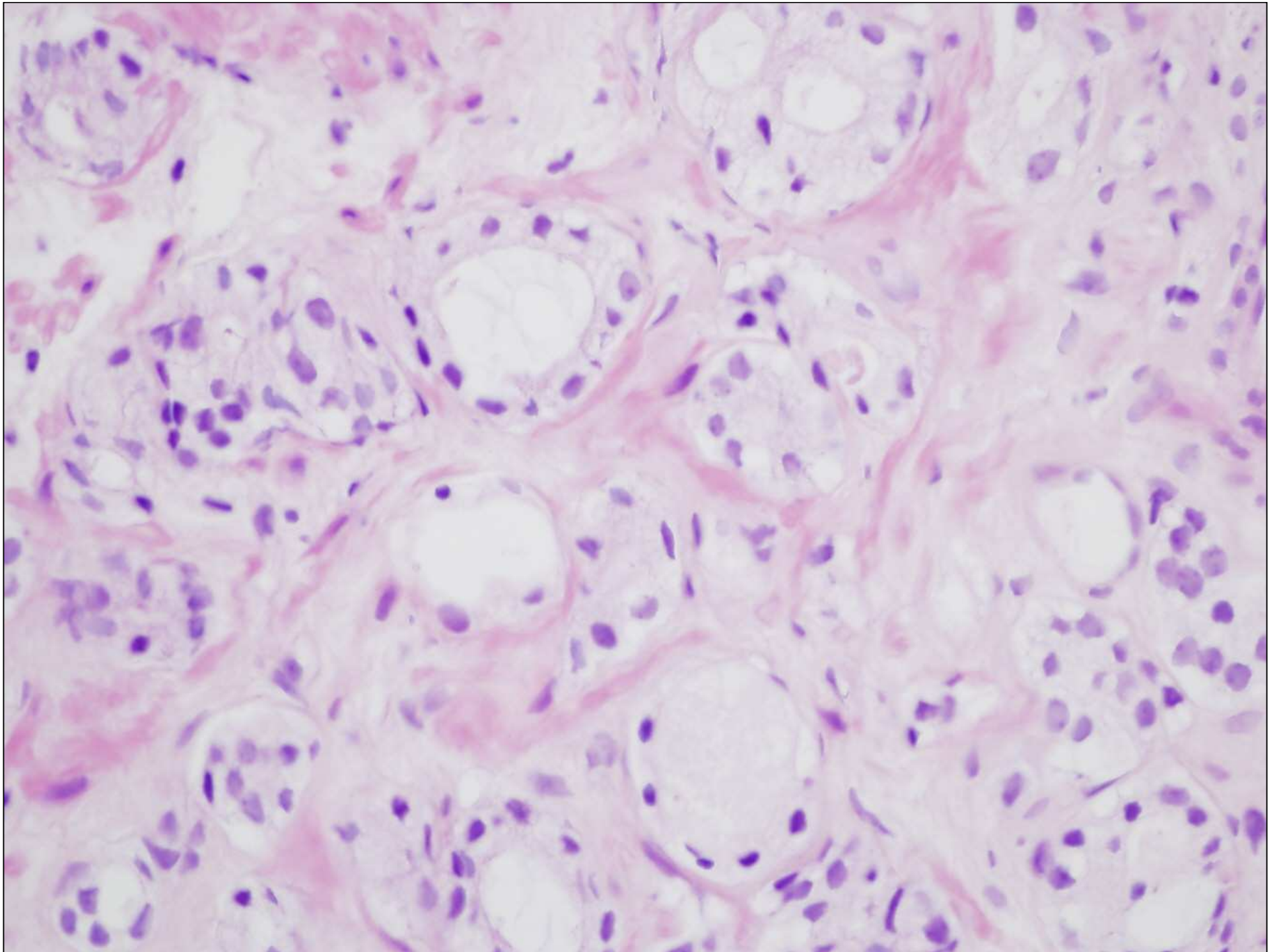




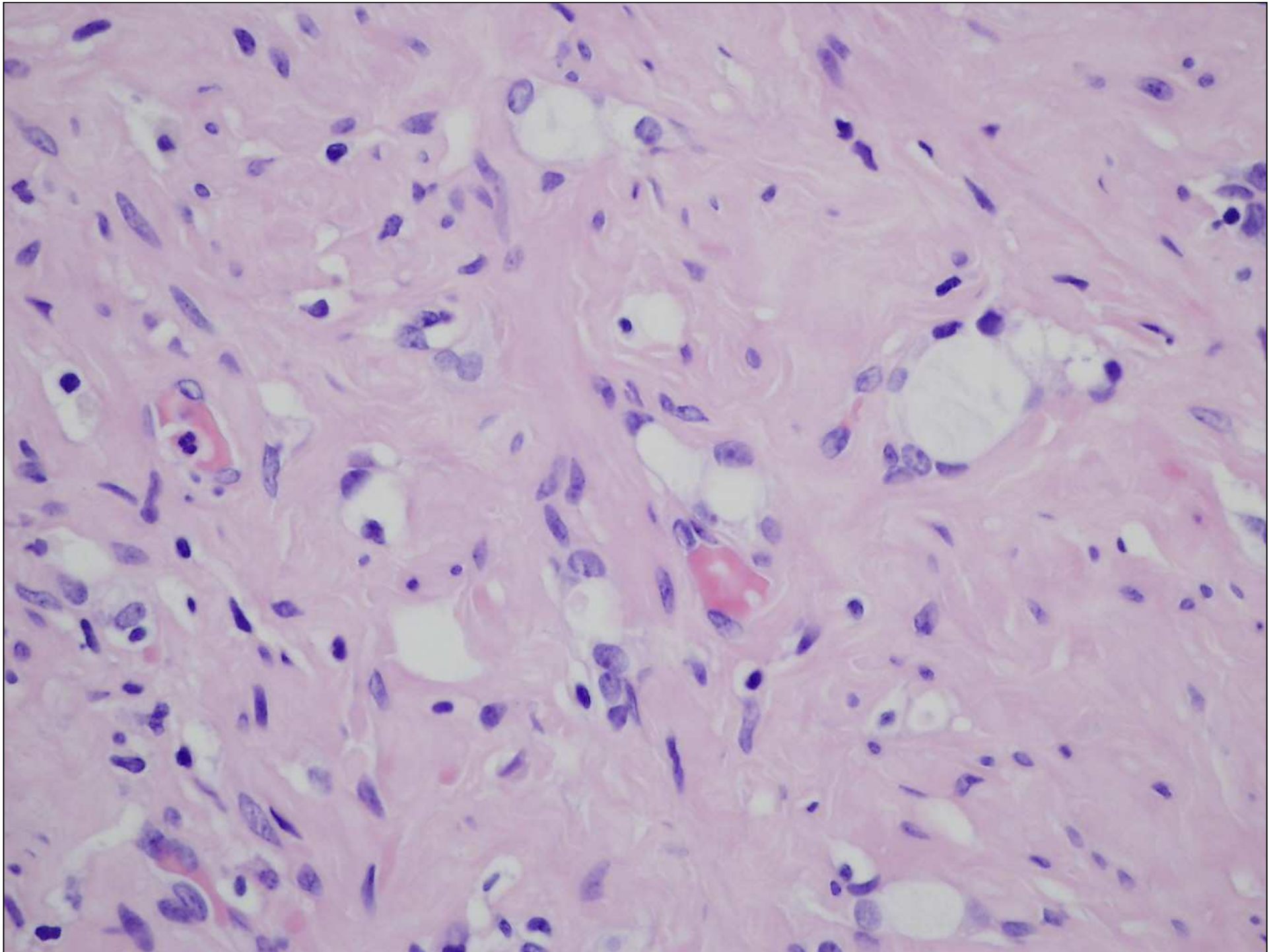


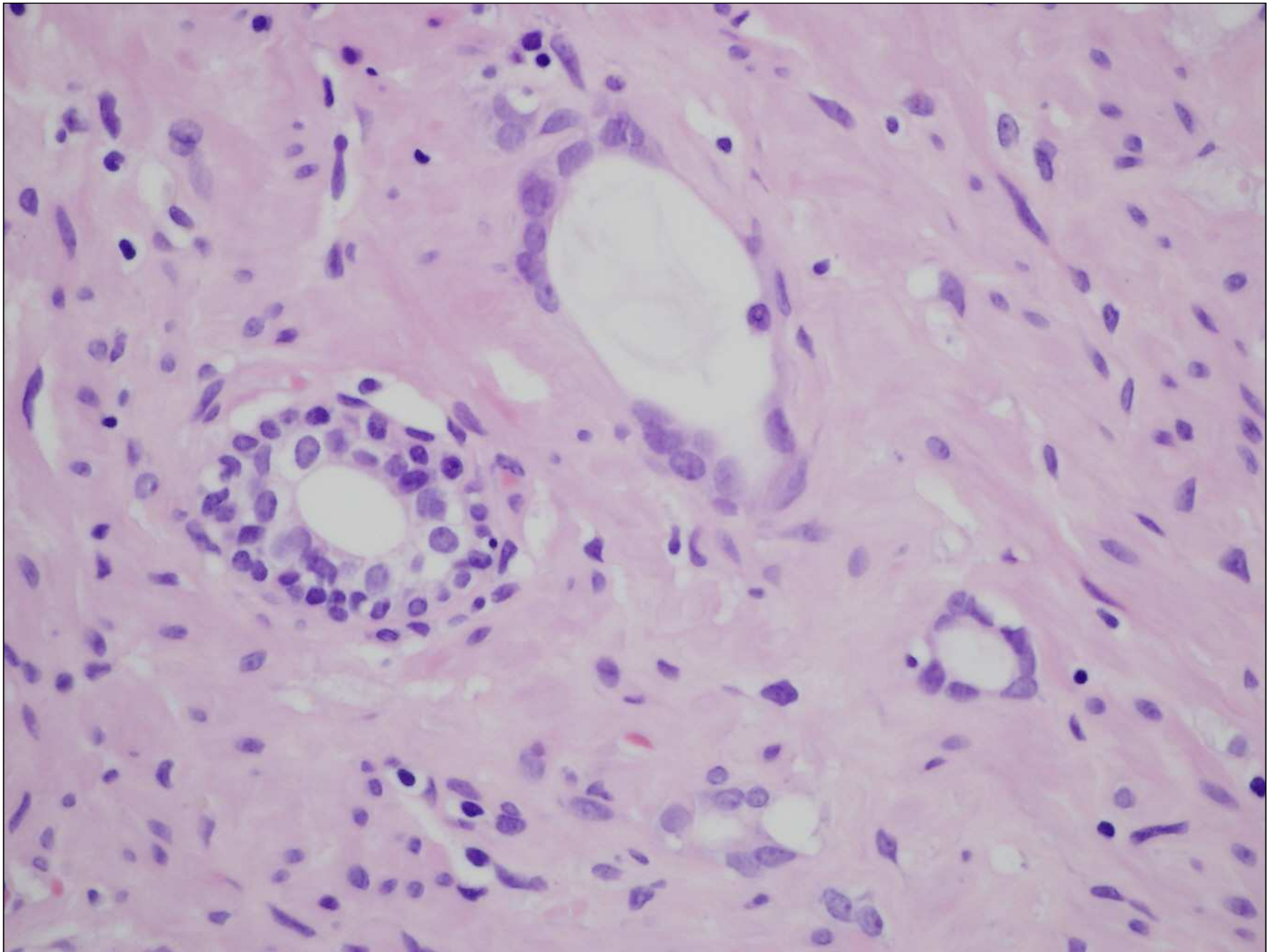
előzmény

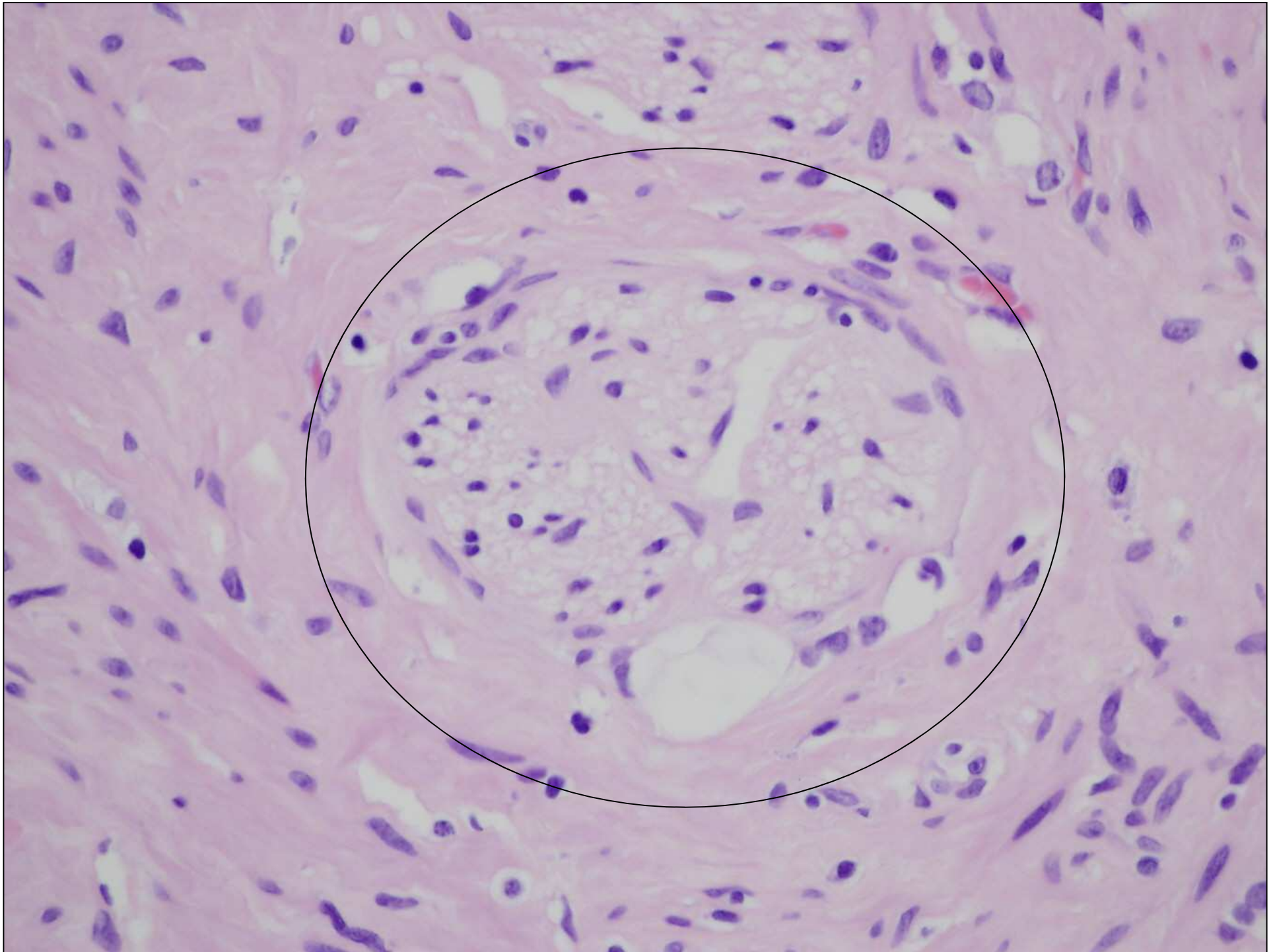




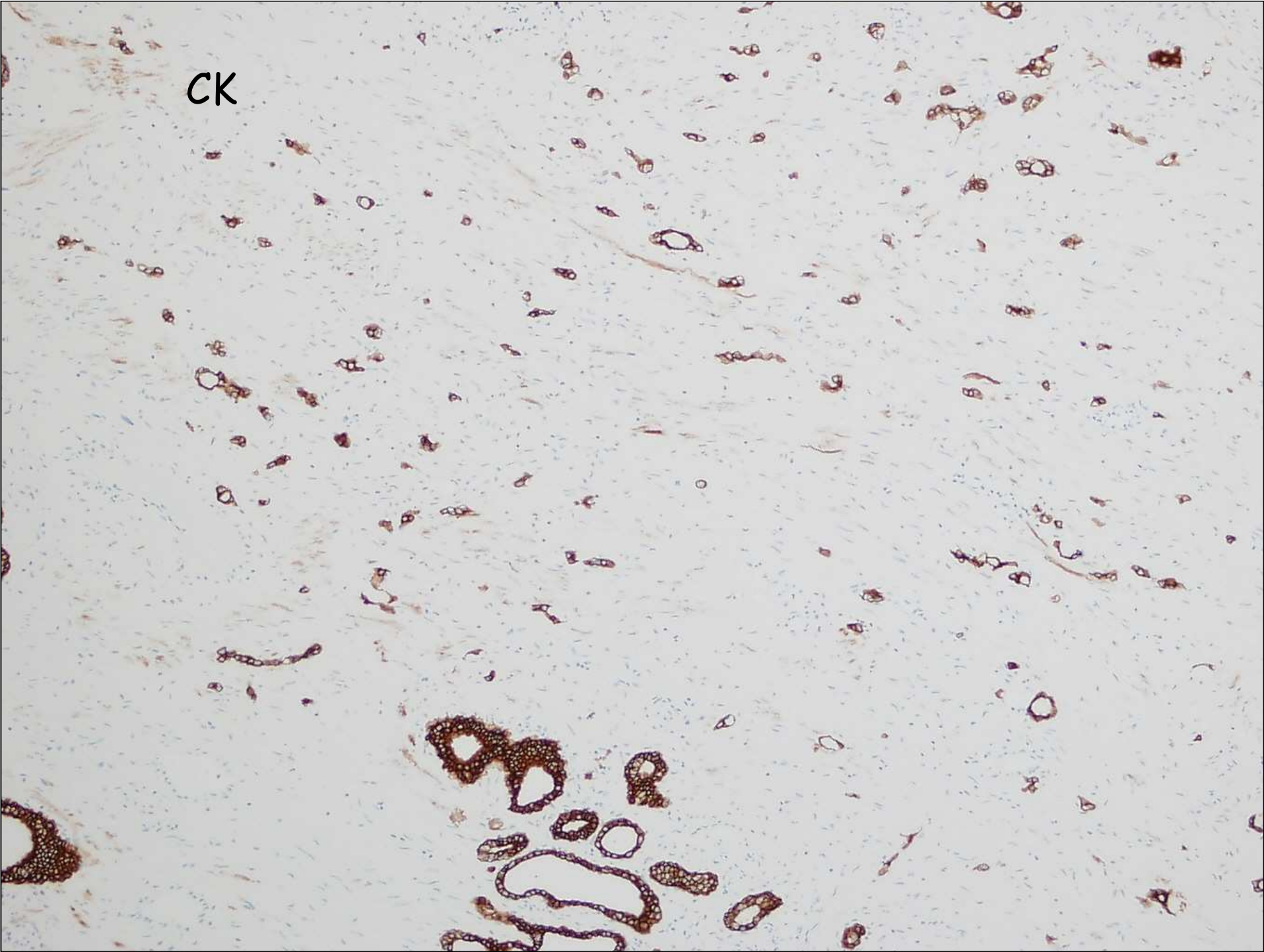




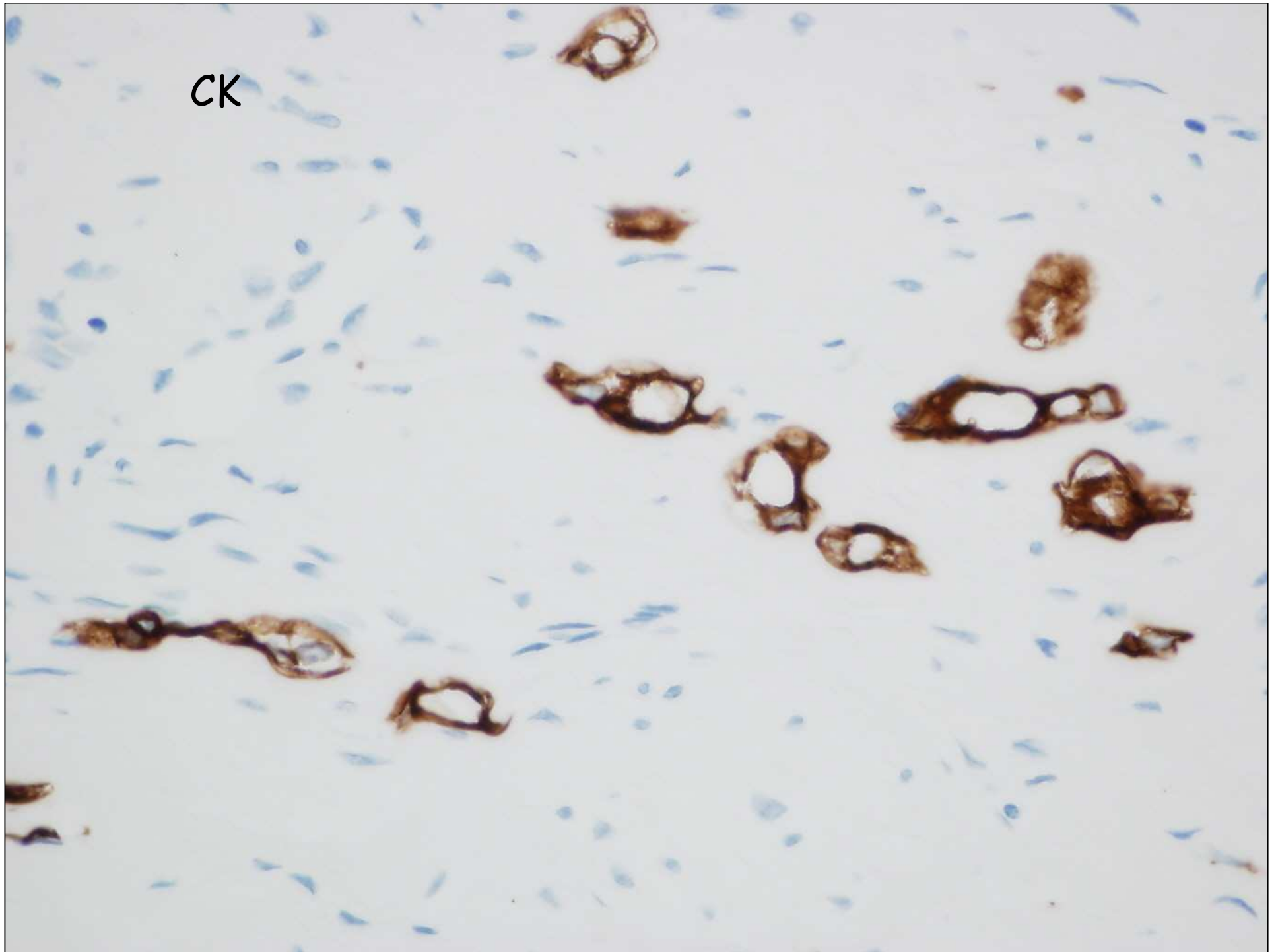




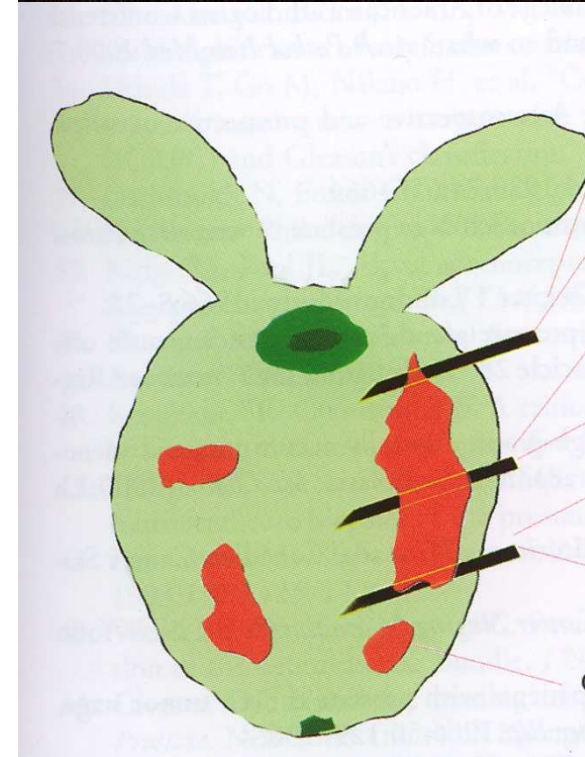
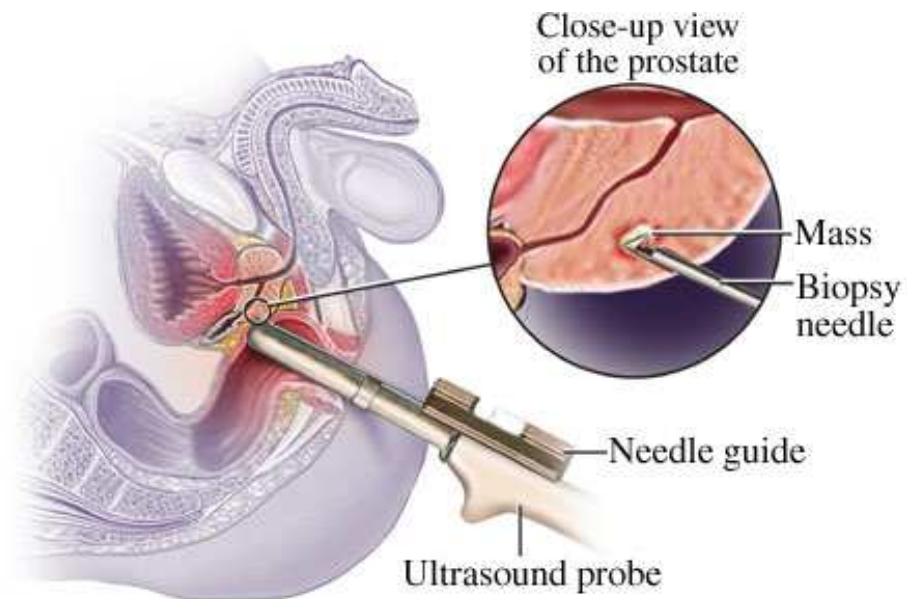
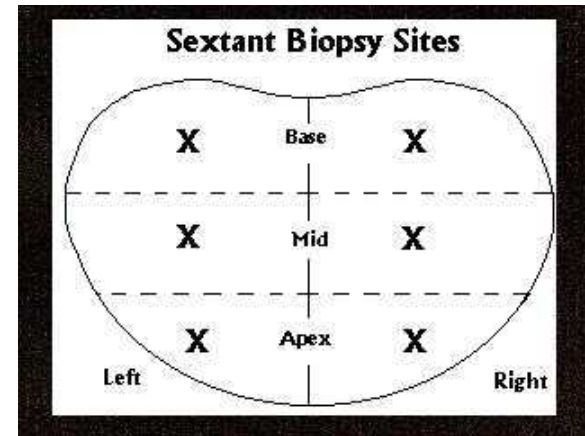
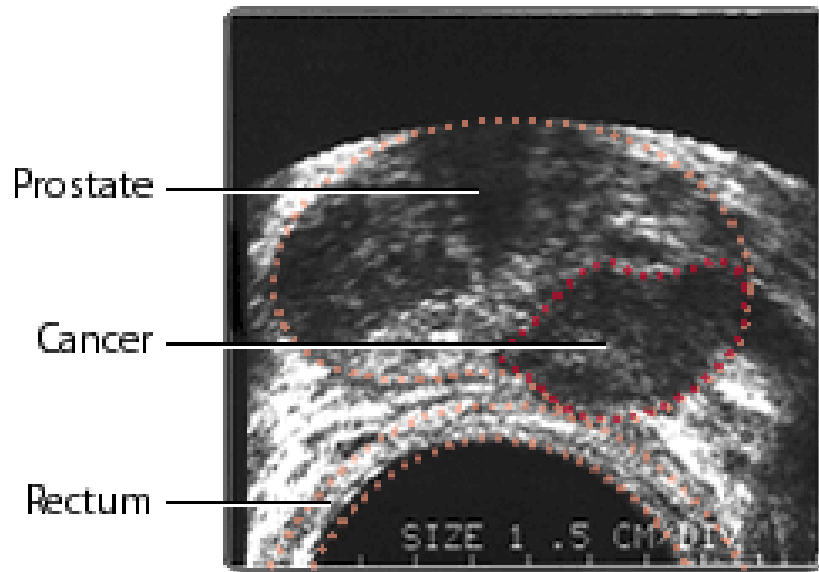
CK

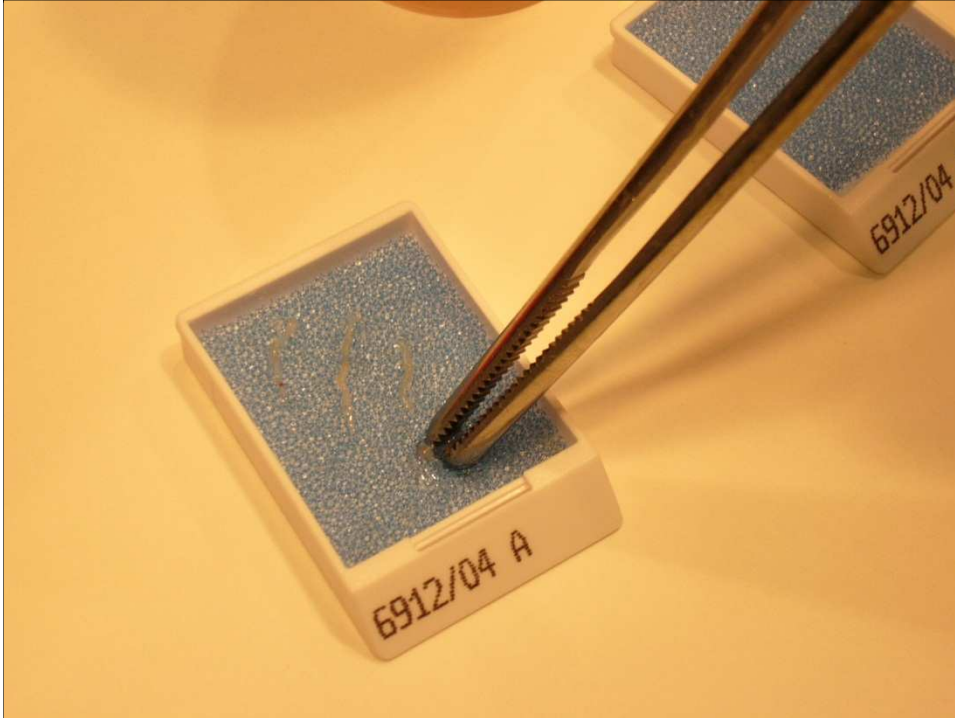
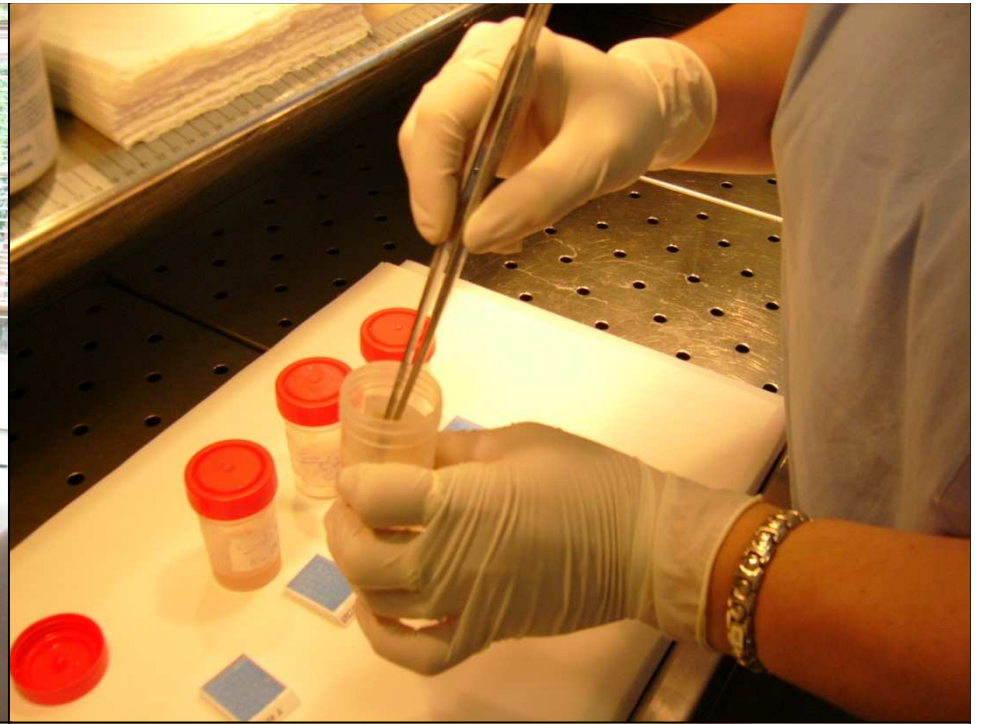


CK

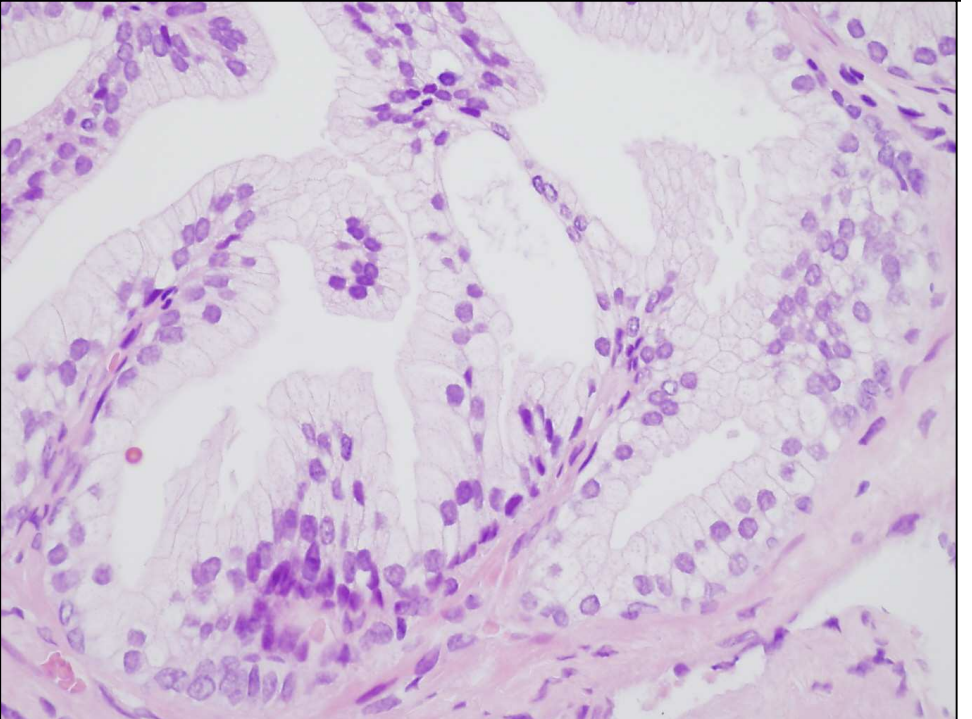
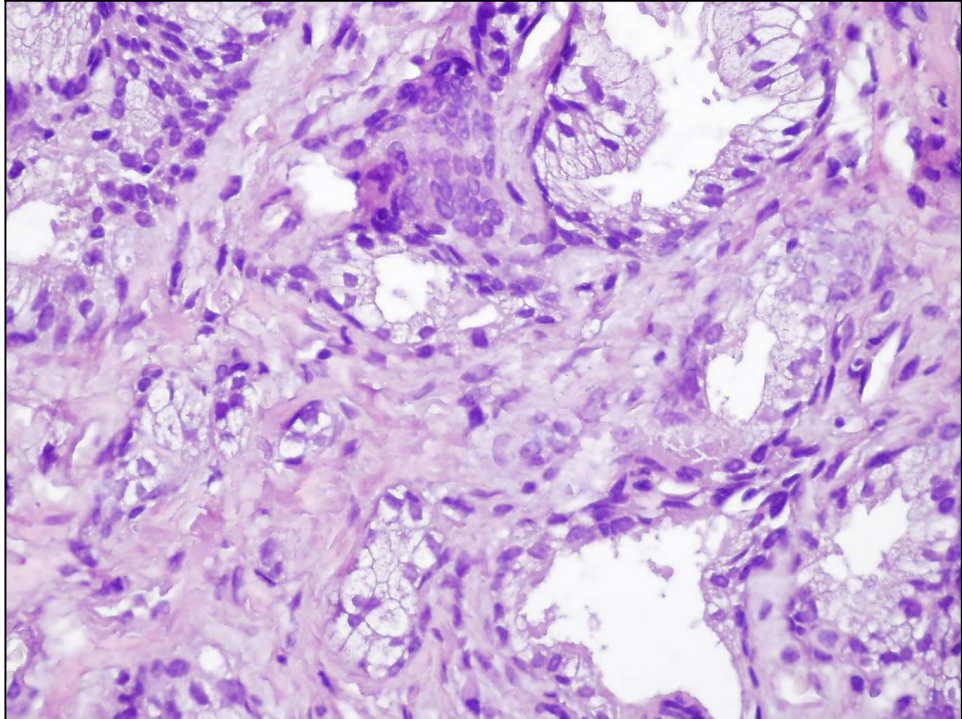
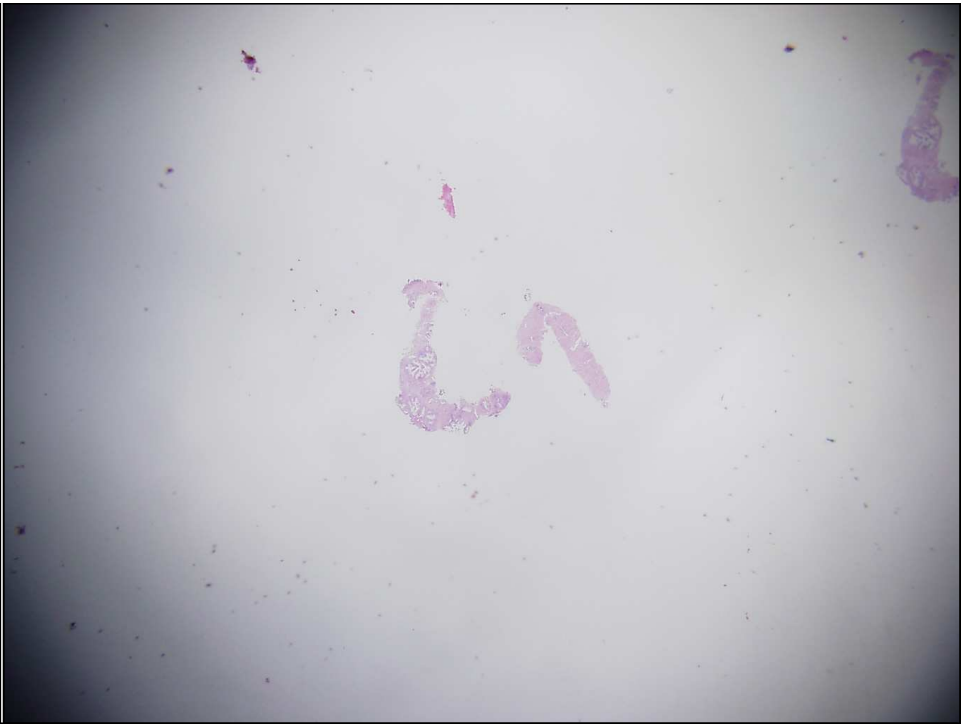


Tűbiopsziák





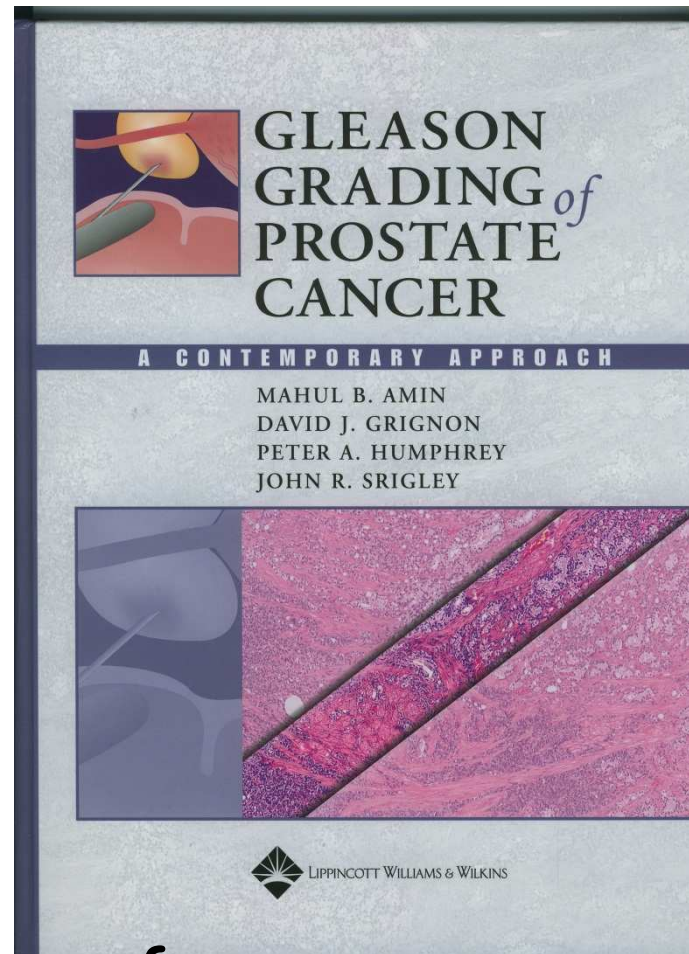




Gleason grading and
prognostic
factors in carcinoma of
the
prostate

Peter A Humphrey

Modern Pathology (2004)17,
292-306



Diagnosis and reporting of
limited adenocarcinoma of the
prostate on needle biopsy

Jonathan Epstein

Modern Pathology (2004)17, 307-315



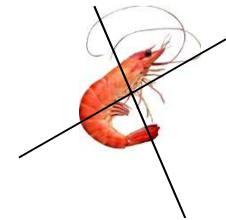
Atypical Small Acinar Proliferation

.....suspicious for cancer but fall below the diagnostic threshold

A fókusz kisebb, mint max 2 tucat (?!?!)
acinus

Atypical or Suspicious Prostate Needle Biopsies

... prostate tissue with focus of atypical glands" ...
To refer to small acinar structures that are suspicious for adenocarcinoma, but lack sufficient cytologic and/or architectural atypia to establish a definitive malignant diagnosis

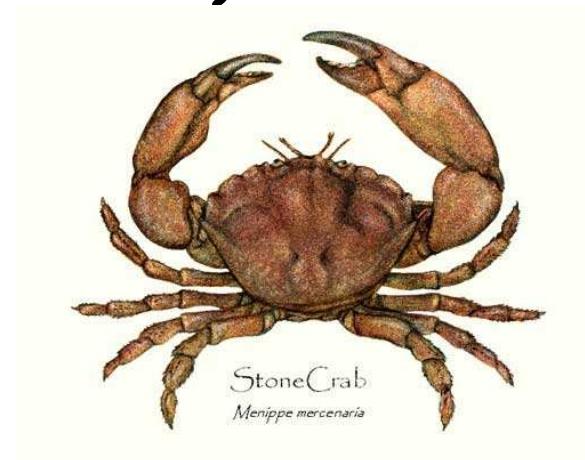


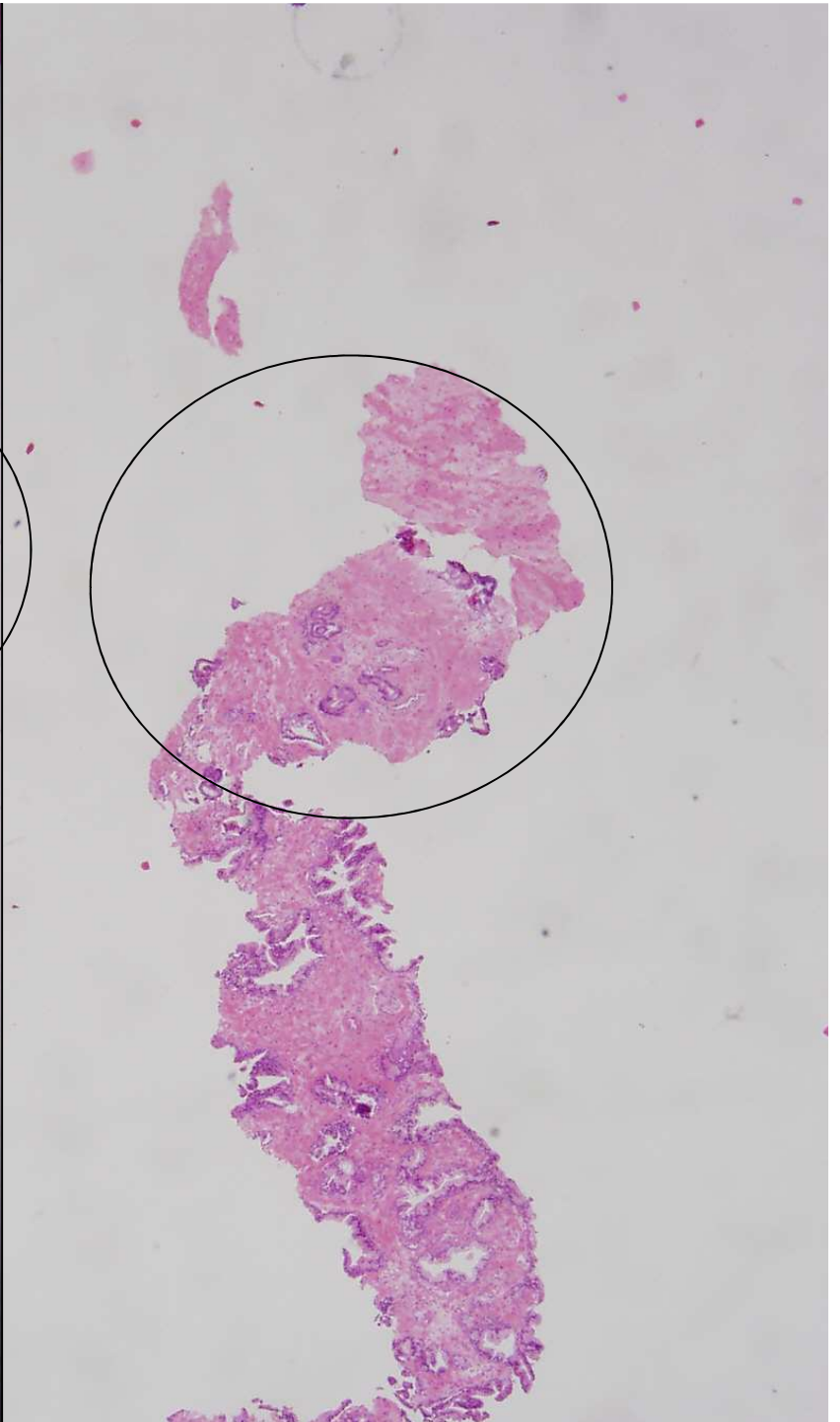
ASAP?

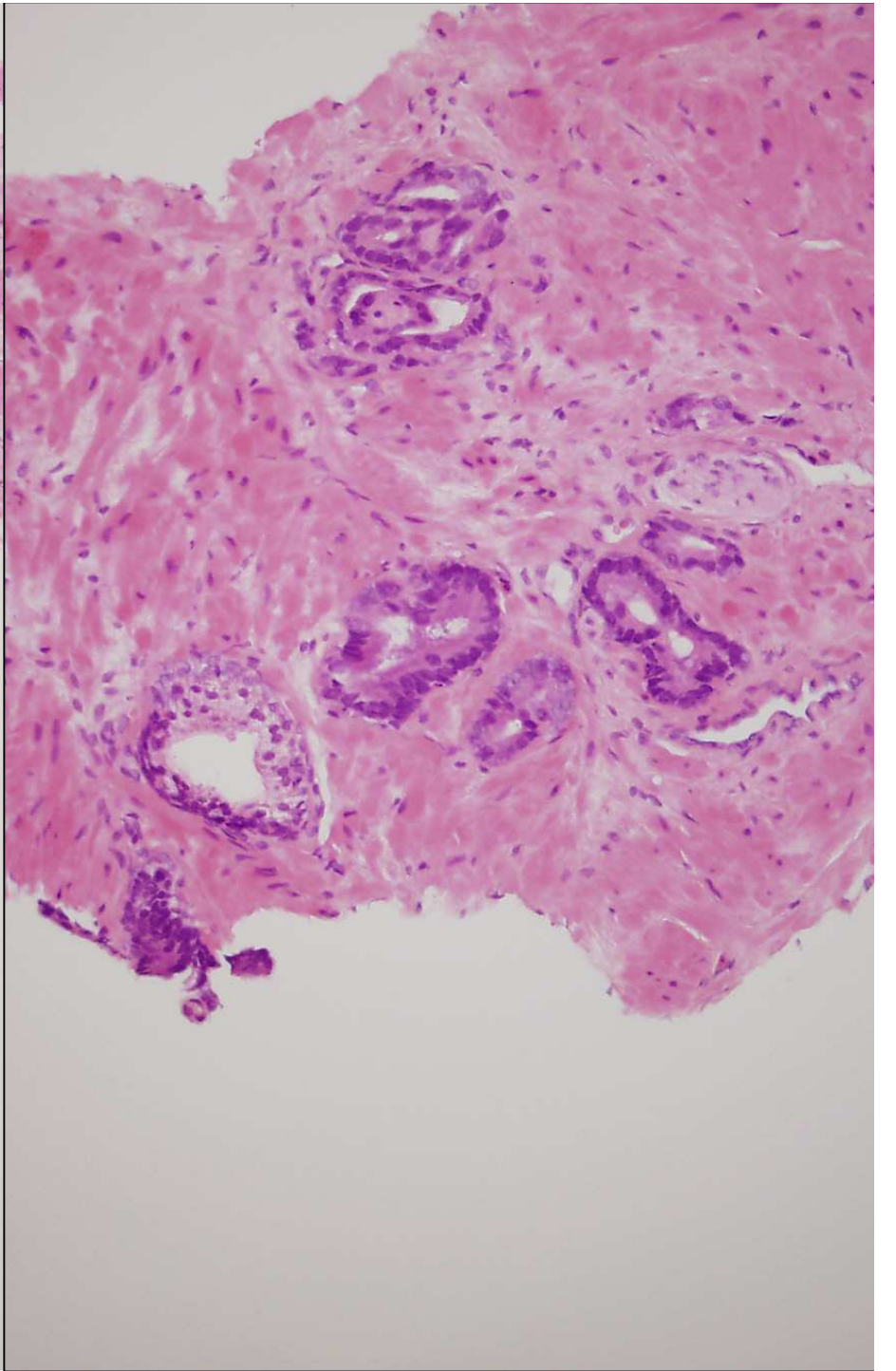
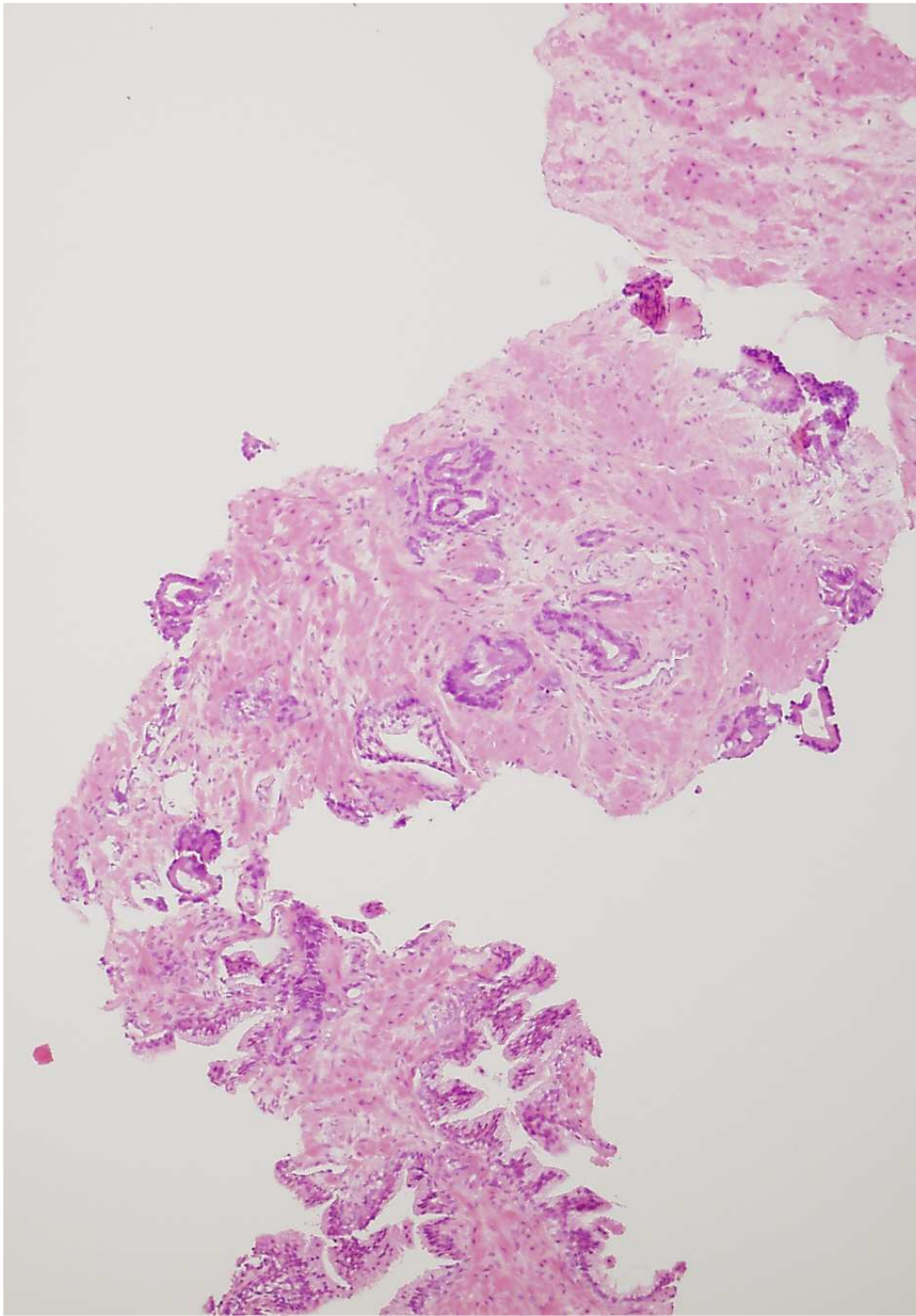
(Atypical small acinar proliferation)

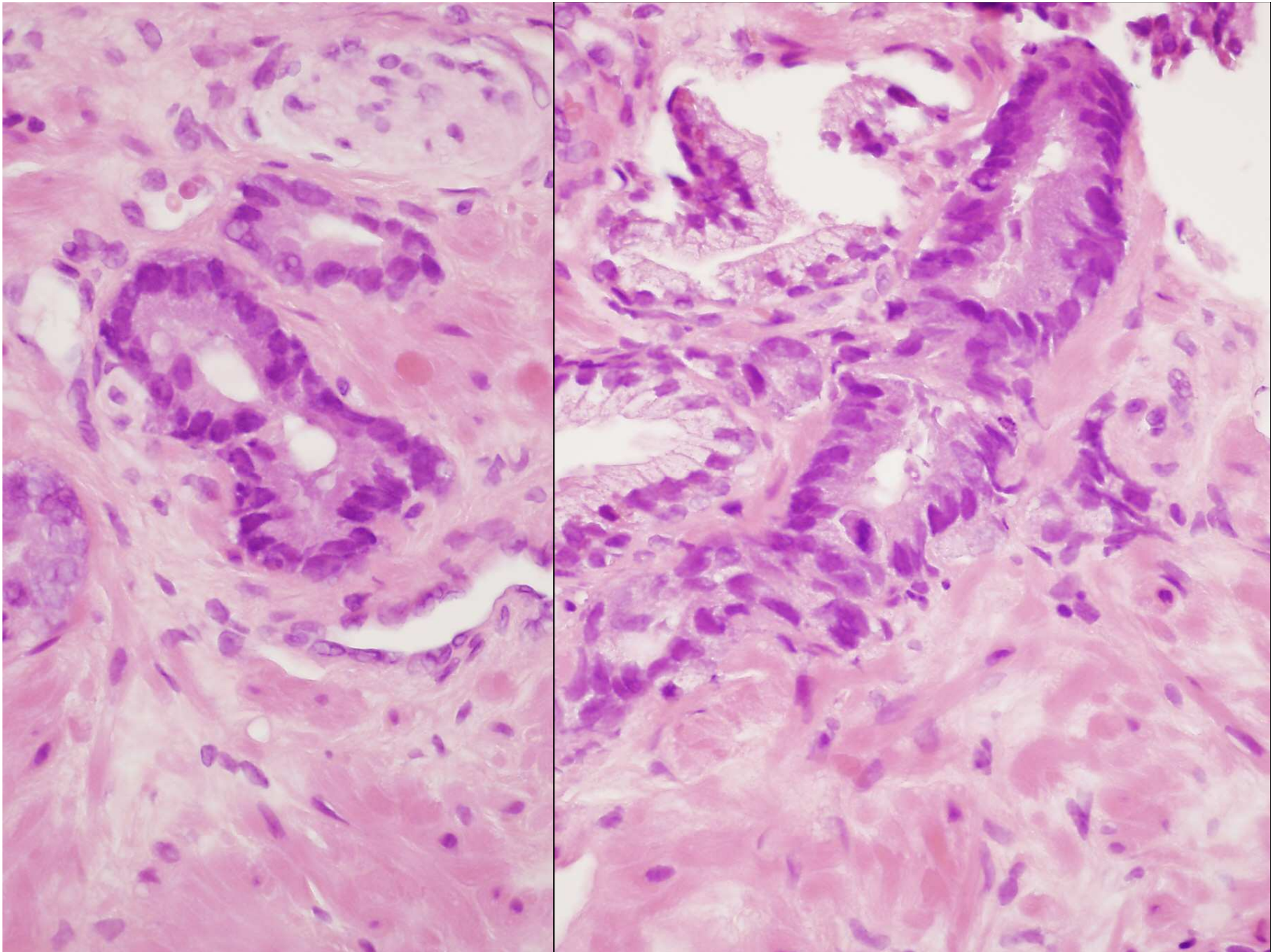
(3-5% in needle biopsy specimens)

PSA <4 had 33% risk of cancer on rebiopsy!!!!!!



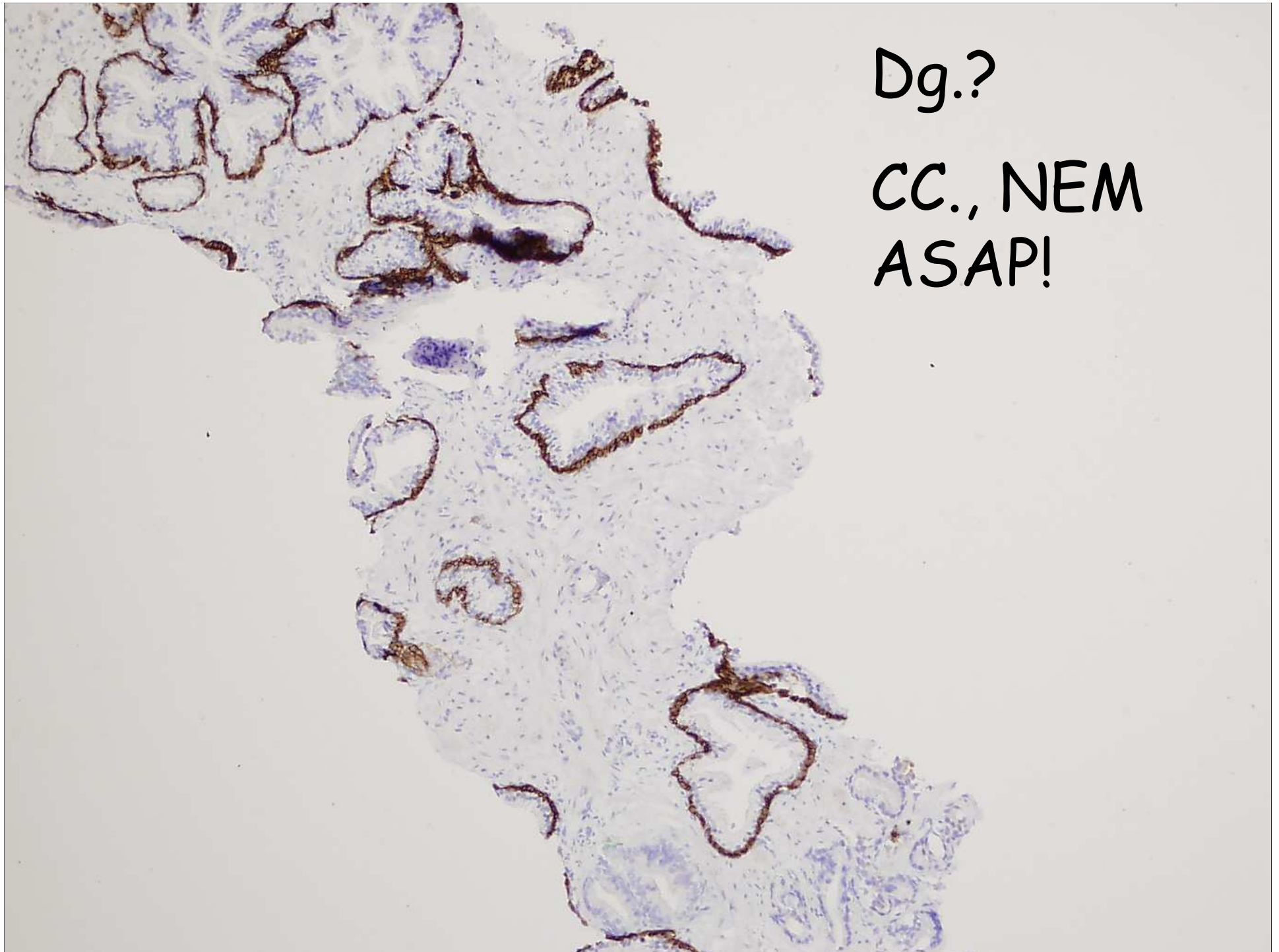




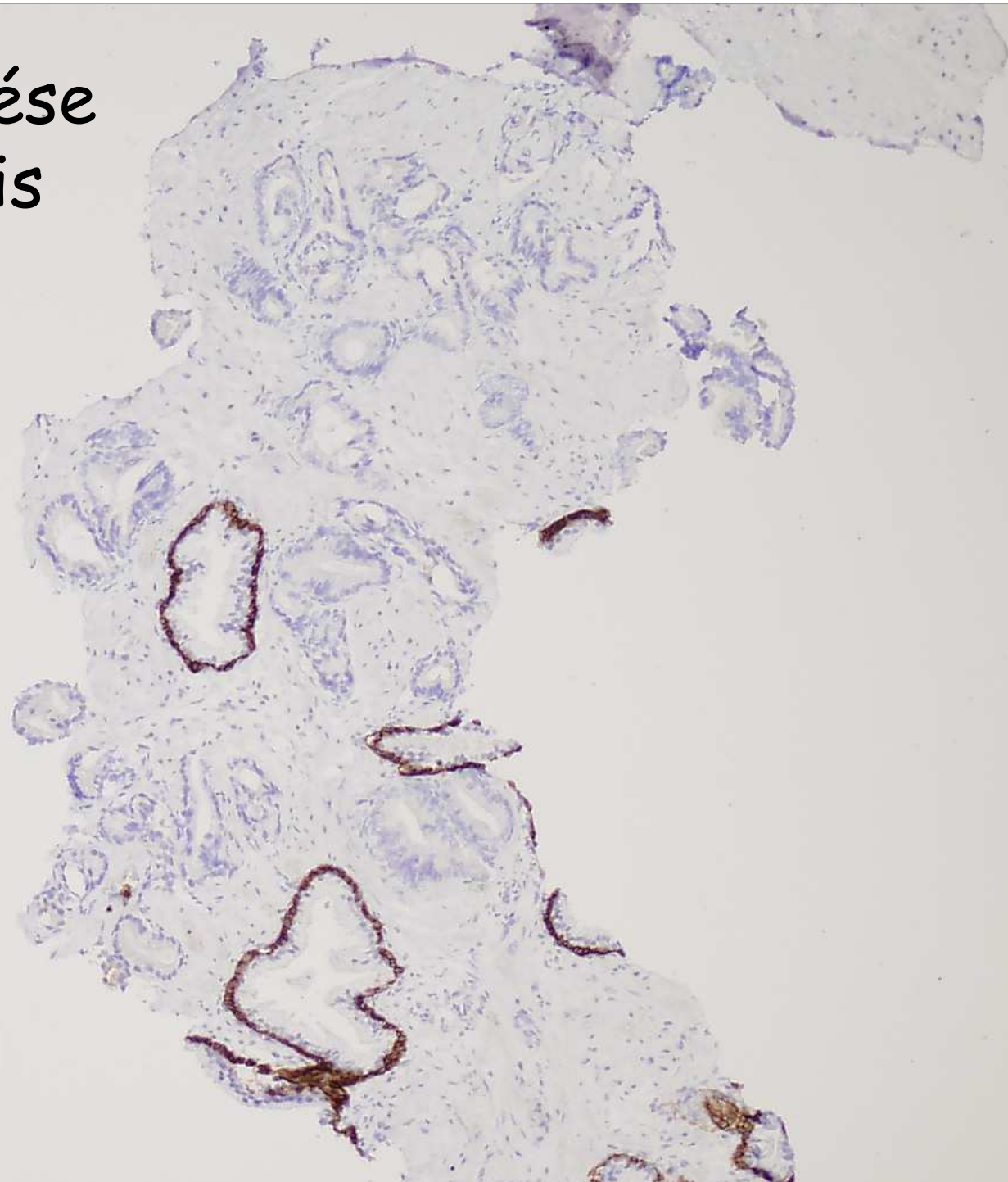


Dg.?

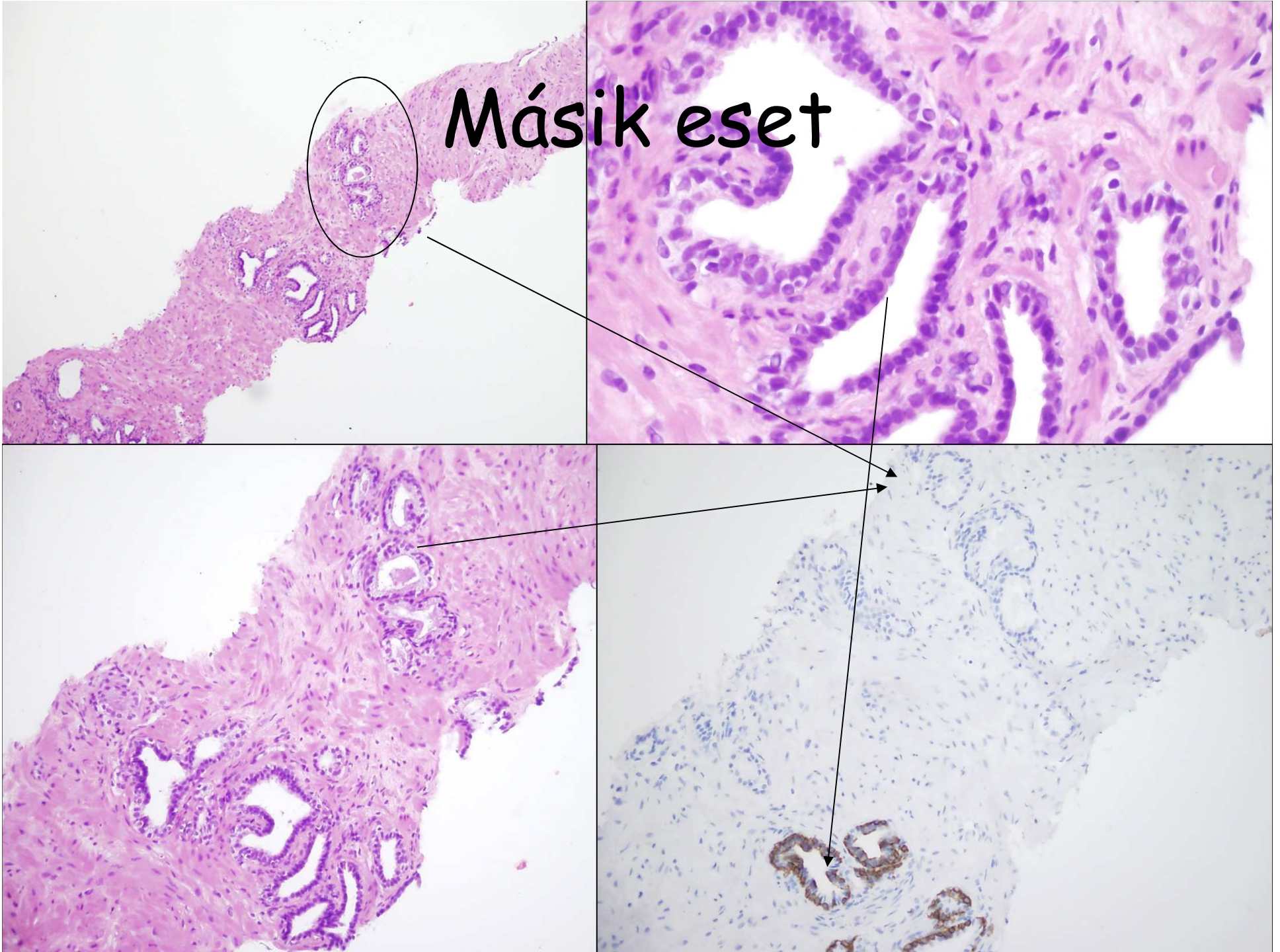
CC., NEM
ASAP!



IH lemetzése
során több is
lett.....



Másik eset



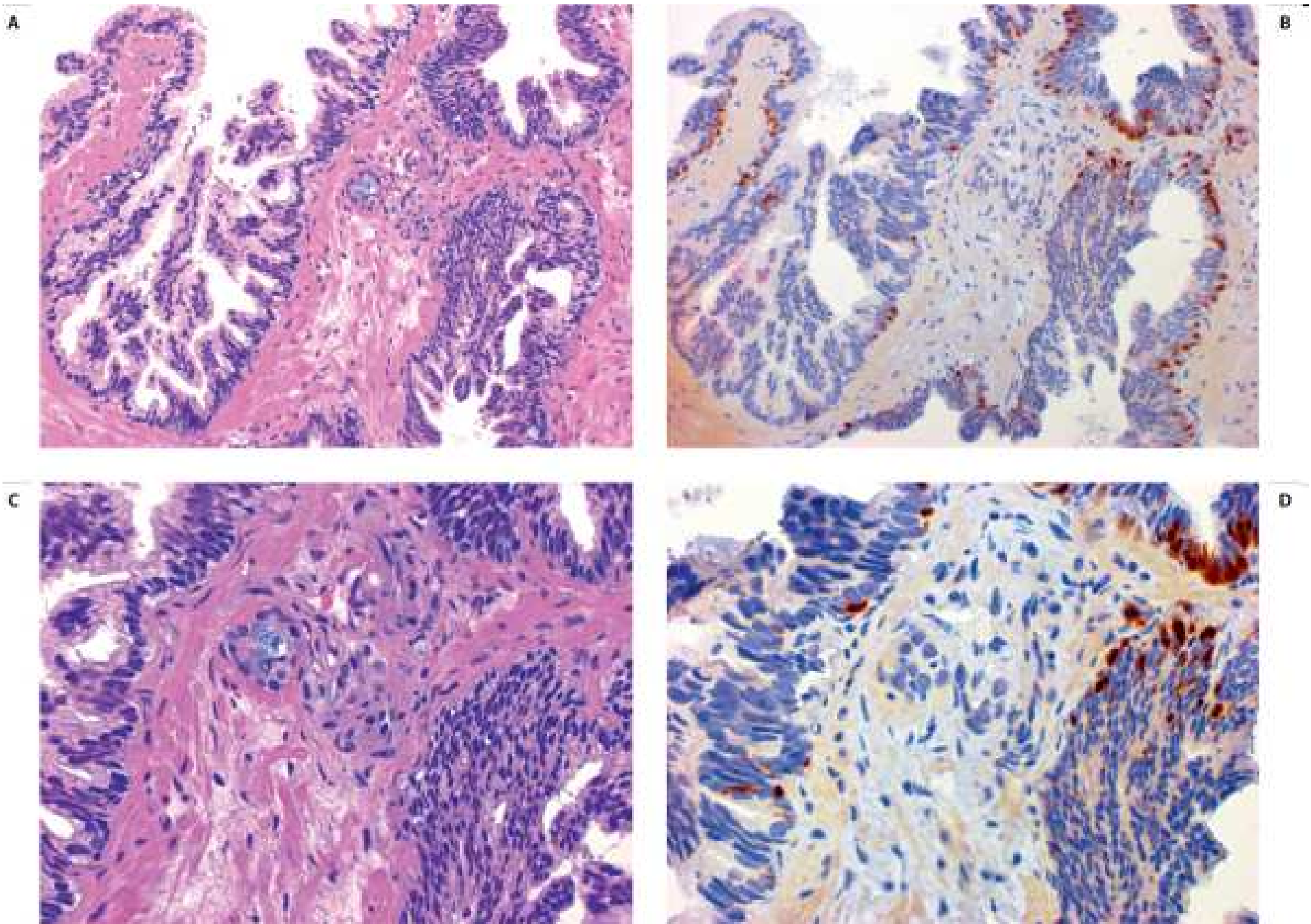
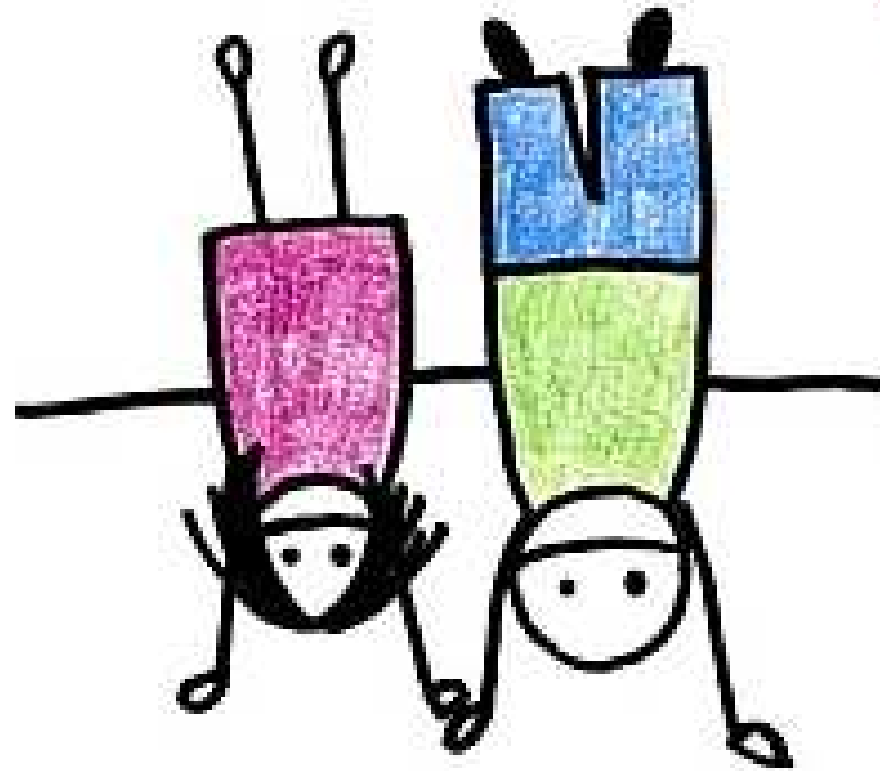


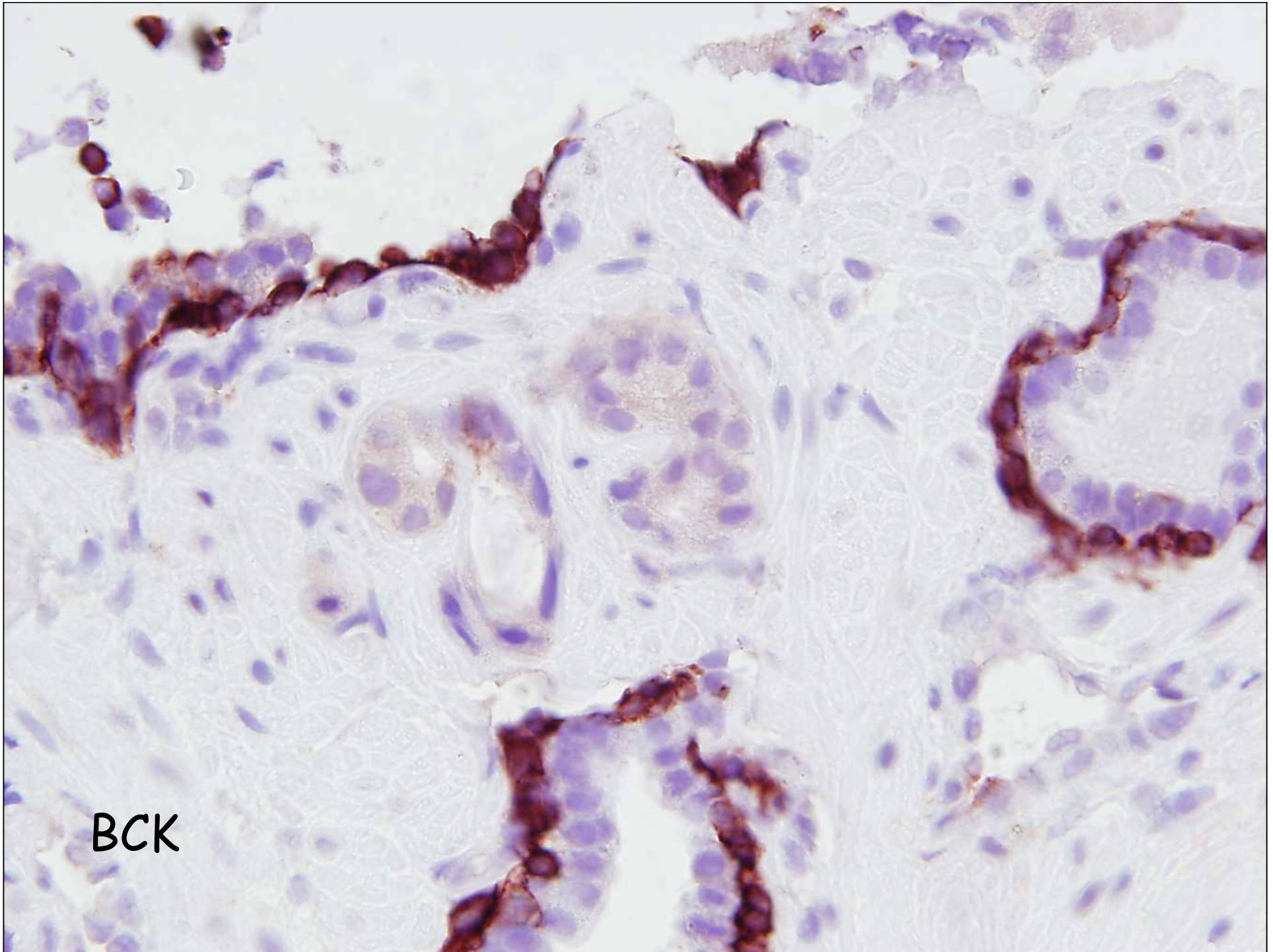
Fig. 9-17 Atypical small acinar proliferation. (A, C) This small focus of two to three acini stands in contrast to the adjacent benign epithelium, but the cytologic features are obscured by the dark staining. (B, D) Matched triple stains reveal absence of racemase staining as well as p63 and keratin 34βE12. Absence of racemase staining does little to allay the suspicion for malignancy, but the focus is simply too small and lacks cytologic support for malignancy.

- ASAPB (B probably benign)
- ASAPS (S suspicious)
- ASAPH (H highly suspicious)

SZERENCSÉRE NEM JÖTT DIVATBA!



ASAP

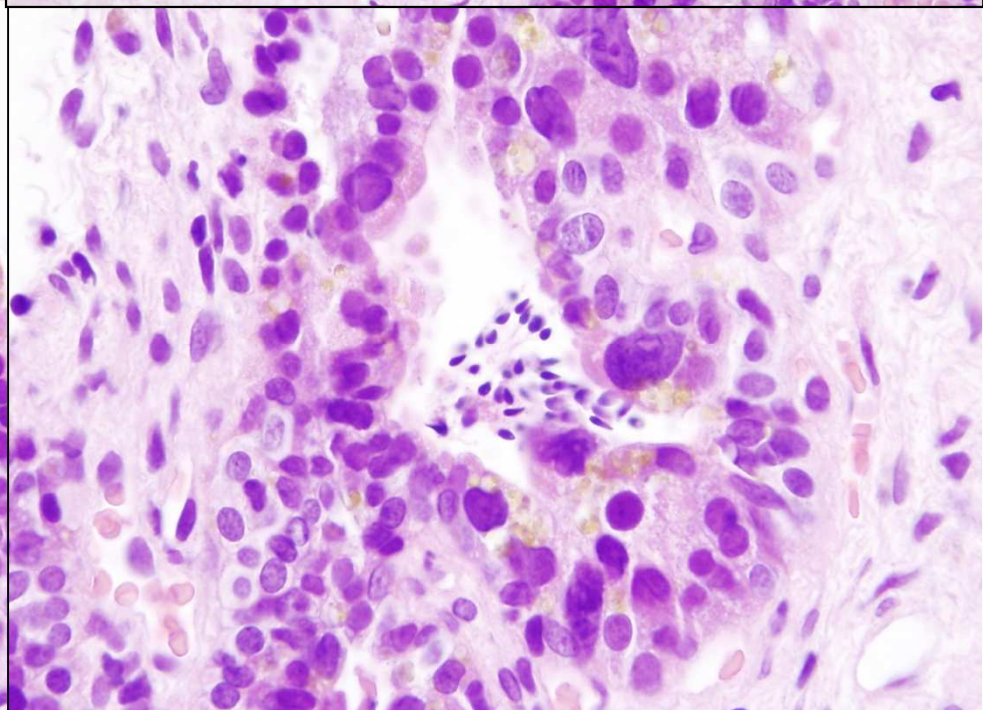
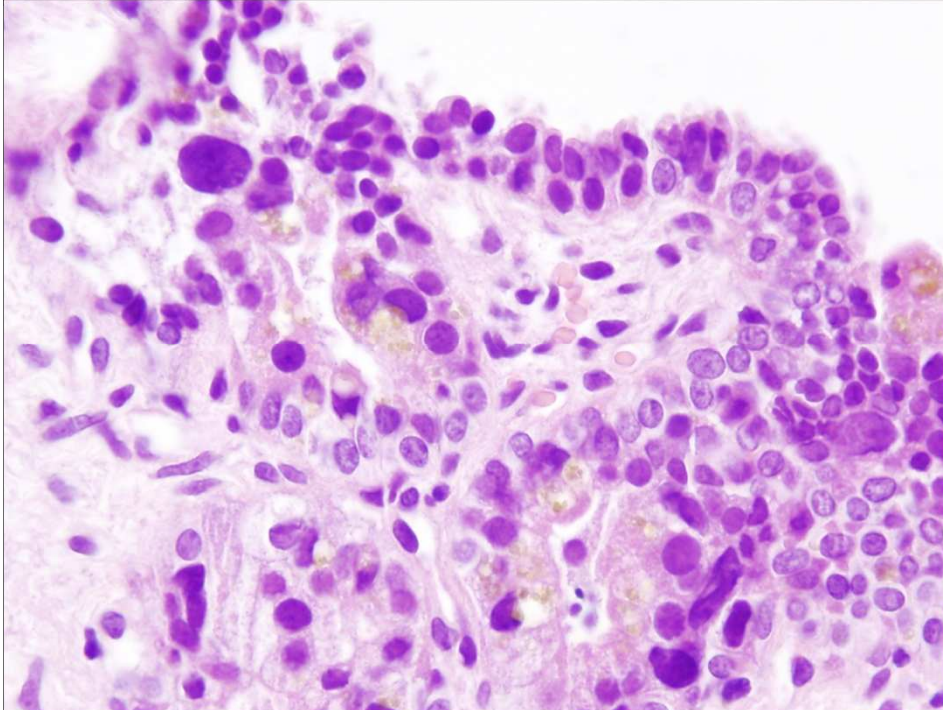
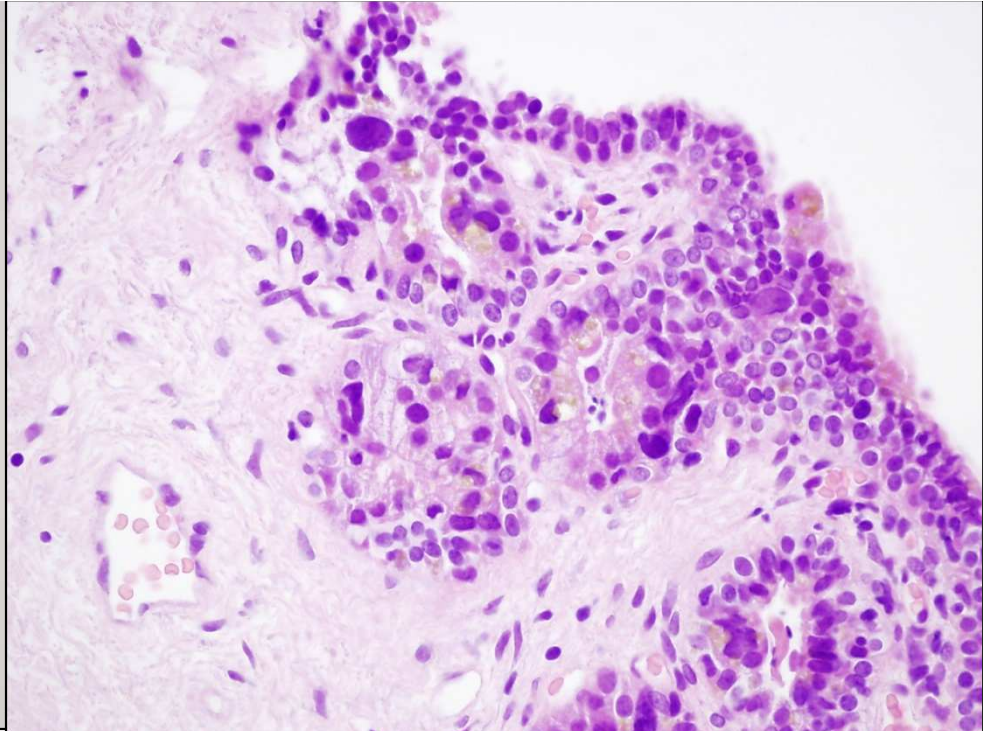
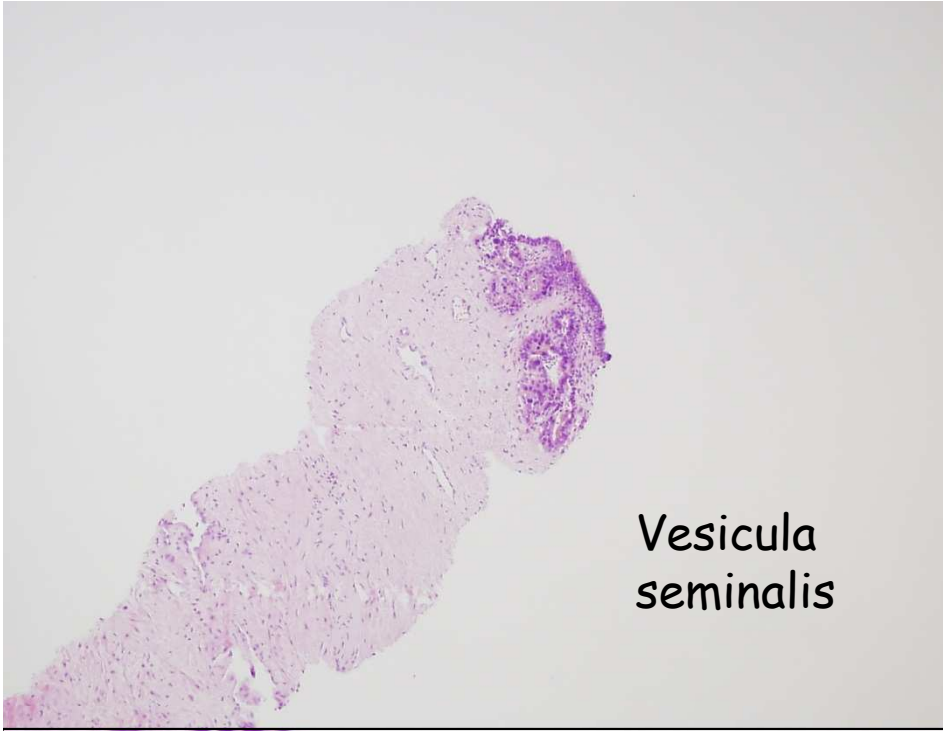


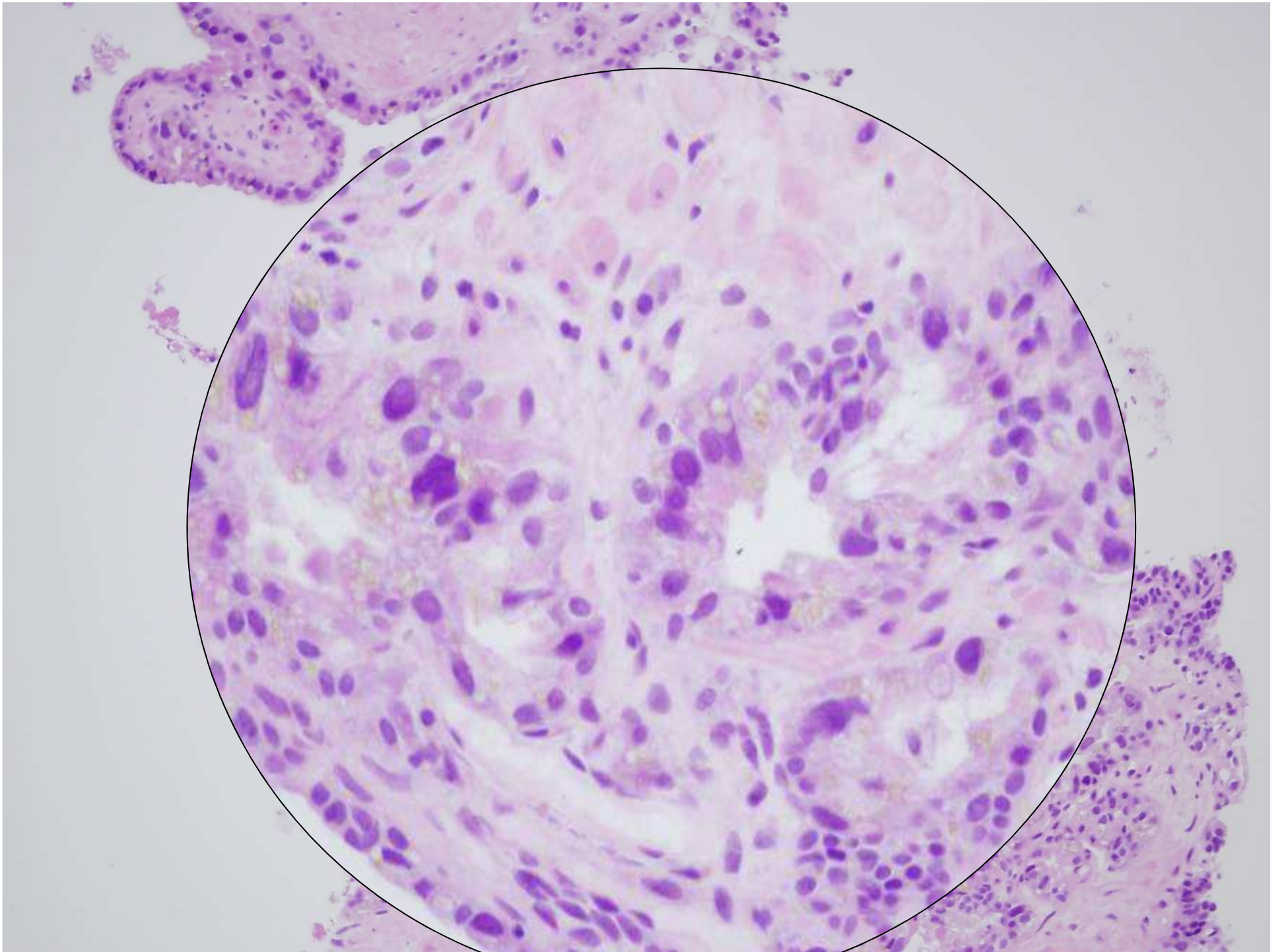
BCK



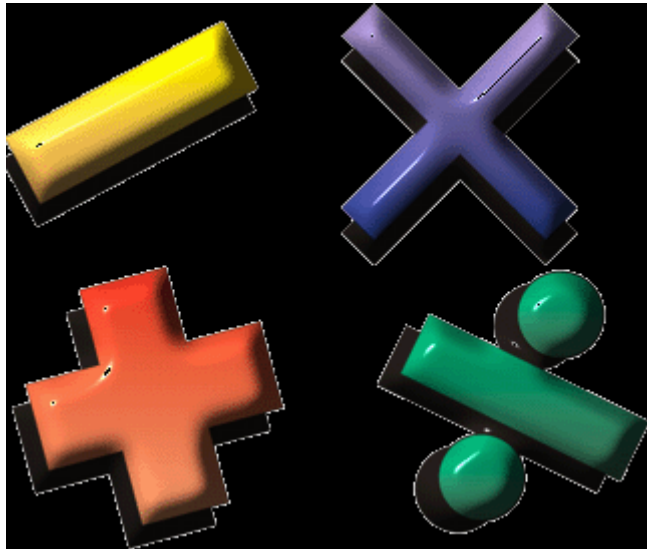
Megoldás : újabb
biopsziát kérni !

Csapdák





Matek



Gleason score meghatározás - Túbiopsziás mintában

A legnagyobb területen látható tumor G_{lgr}-je
+

A legmagasabb G_{lgr}

összege!!!!!!

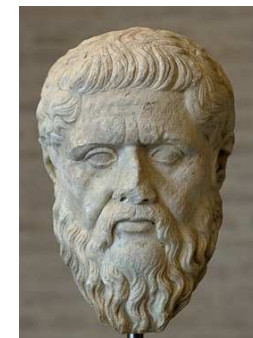
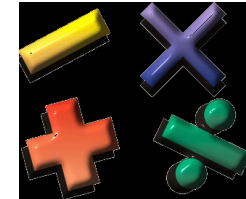
G_{l1}, G_{l2} !!!!!

Gleason Score and Lethal Prostate Cancer: Does $3 + 4 = 4 + 3$?

$$3 + 4 \neq 4 + 3, \text{ mivel}$$

$$3 > 4 = 7a$$

$$4 > 3 = 7b$$



J Clin Oncol. 2009 July 20; 27(21): 3459-3464. Published online 2009 May 11. © 2009 by American Society of Clinical Oncology

Jennifer R. Stark, Sven Perner, Meir J. Stampfer, Jennifer A. Sinnott, Stephen Finn, Anna S. Eisenstein, Jing Ma, Michelangelo Fiorentino, Tobias Kurth, Massimo Loda, Edward L. Giovannucci, Mark A. Rubin, and Lorelei A. Mucci

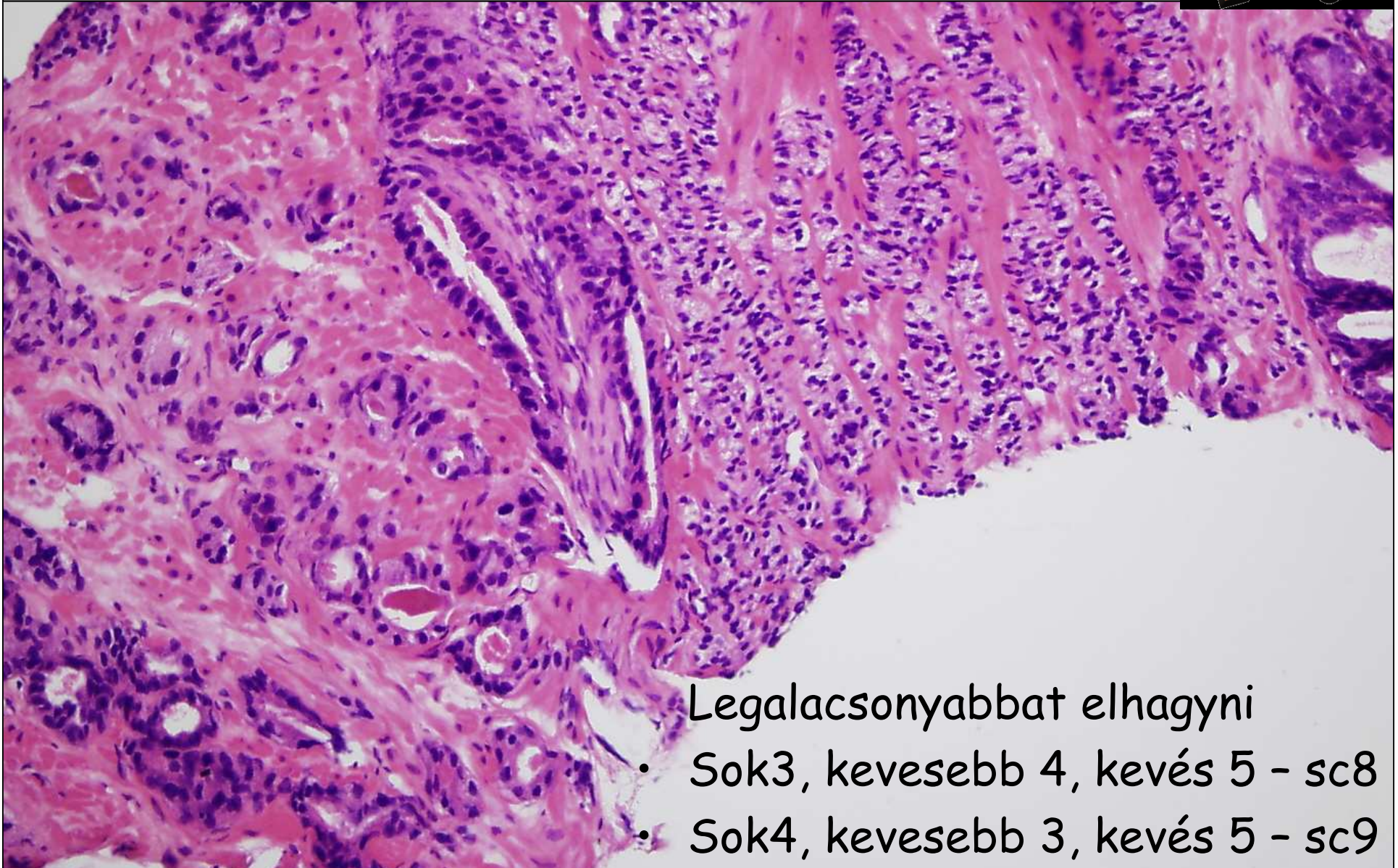
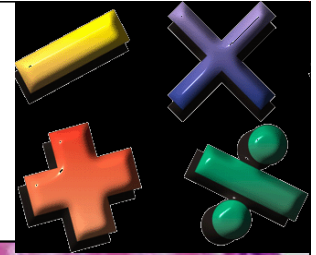
GI update

Mi lehet az értelme?

Margin negative

Organ confined GI 6 is curable (!)

Ha 3 grade van túbiopszia



Legalacsonyabbat elhagyni

- Sok3, kevesebb 4, kevés 5 - sc8
- Sok4, kevesebb 3, kevés 5 - sc9

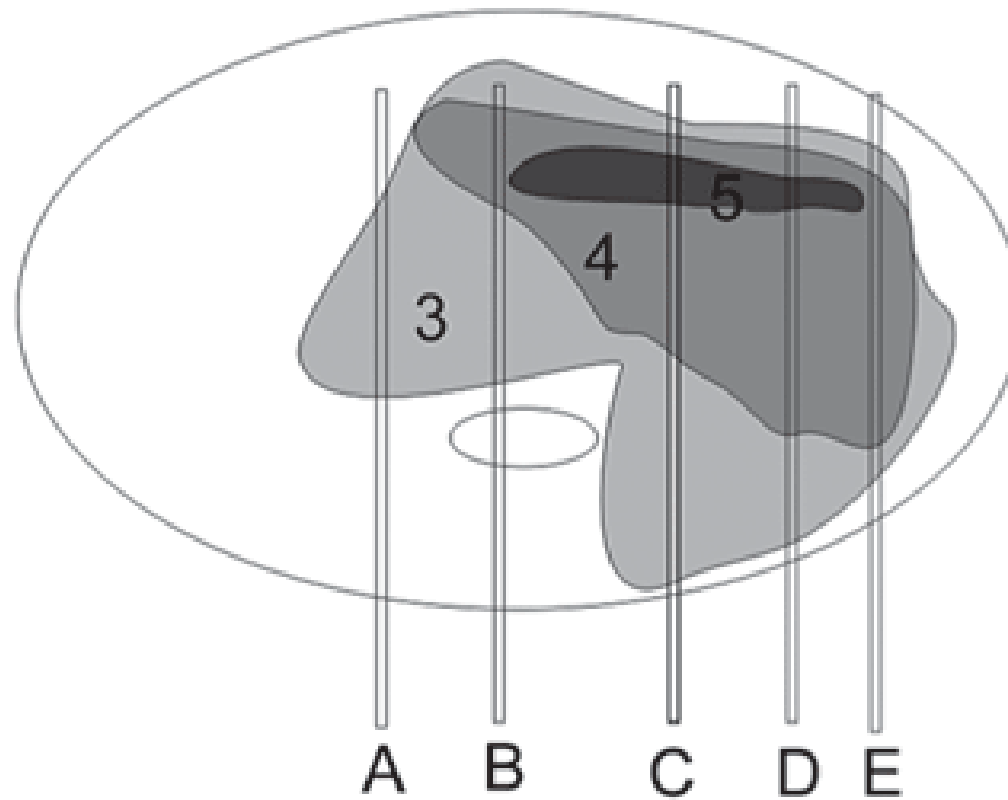


Figure 1 – Differences between the traditional Gleason score (G) and the modified Gleason score in five hypothetical prostatic needle biopsies with prostate cancer.

A) $G = 3 + 3 = 6$, modified $G = 3 + 3 = 6$

B) $G = 3 + 4 = 7$, modified $G = 3 + 4 = 7$

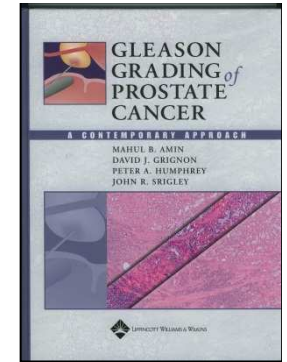
C) $G = 3 + 4 = 7$, modified $G = 3 + 5 = 8$

D) $G = 4 + 3 = 7$, modified $G = 4 + 5 = 9$

E) $G = 4 + 3 = 7$, modified $G = 4 + 3 = 7$

The three shades of grey correspond to prostate cancer in Gleason patterns 3, 4 and 5, from lighter to darker respectively.

Mi szerepeljen a leleten?



Diagnózis

Gleason grade, score

A hengerek tumorosan infiltrált területe
egyenként (!) százalékban

Ha értékelhetetlen a minta, mert rossz
minőségű az anyag

Vagy valami nem teszük, és ismételni kell,
indoklás!

JAJAJAJ

IV. Multiple Needle Biopsy Cores with Different Gleason Scores

A. Submitted as separate, single cores in six containers

1. PROSTATE, LEFT APEX, NEEDLE BIOPSY—ADENOCARCINOMA, GLEASON GRADE 3 + 3 = SCORE OF 6, IN ONE OF ONE CORE, AND INVOLVING 30% OF NEEDLE CORE TISSUE
2. PROSTATE, LEFT MID, NEEDLE BIOPSY—ADENOCARCINOMA, GLEASON GRADE 3 + 4 = SCORE OF 7, IN ONE OF ONE CORE, AND INVOLVING 60% OF NEEDLE CORE TISSUE
3. PROSTATE, LEFT BASE, NEEDLE BIOPSY—BENIGN PROSTATIC TISSUE
4. PROSTATE, RIGHT APEX, NEEDLE BIOPSY—ADENOCARCINOMA, GLEASON GRADE 3 + 3 = SCORE OF 6, IN ONE OF ONE CORE, AND INVOLVING LESS THAN 5% OF NEEDLE CORE TISSUE
5. PROSTATE, RIGHT MID, NEEDLE BIOPSY—ADENOCARCINOMA GLEASON GRADE 3 + 4 = SCORE OF 7, IN ONE OF ONE CORE, AND INVOLVING LESS THAN 5% OF NEEDLE CORE TISSUE
6. PROSTATE, RIGHT BASE, NEEDLE BIOPSY—BENIGN PROSTATIC TISSUE

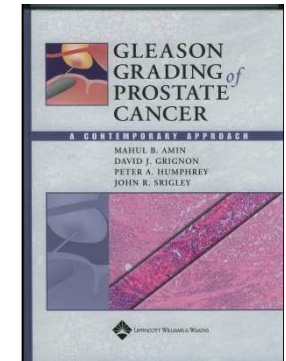
COMMENT: The composite Gleason score for this case based on evaluation of all needle core biopsies is 3 + 4 = score of 7

B. Submitted in two containers

PROSTATE, LEFT, NEEDLE BIOPSIES—BENIGN PROSTATIC TISSUE

PROSTATE, RIGHT, NEEDLE BIOPSIES—ADENOCARCINOMA, GLEASON GRADE 3 + 4 = SCORE OF 7, IN FOUR OF SIX CORES, INVOLVING 40% OF NEEDLE CORE TISSUE (SEE COMMENT)

COMMENT: One core has a Gleason grade 4 + 4 = score of 8



Ez is változóban!!! Legújabb ajánlás: a legrosszabb score-t mutató henger score-ja szerepeljen....

Score meghatározás

Túbiopszia

- Ha egy dobozban több henger:
legrosszabb rész score-ja
- Ha felmerül, hogy egy henger apró darabokra törött, a hengerekben látható score-átlaga

Score meghatározás

- Ha a 2. Gl. grade alacsonyabb és kevesebb 5 %-nál, elhagyható.
- Ha a 2. Gl. Grade magasabb az elsőnél, bármilyen kevés is, beleszámolandó a score-ba.

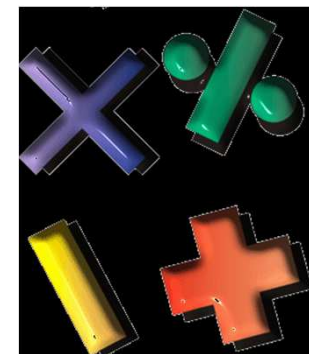
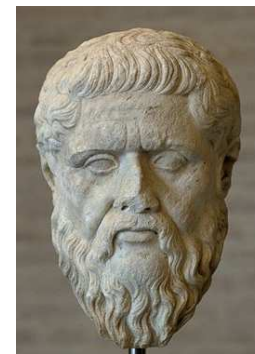
Score meghatározás

Prostatectomia



Ha 3 grade van - prosztatatectomia

- Ha a 3. grade kevés is, azt számolni kell (egyések szerint nem)



- Humprey

- Score 6 kis 5-el rosszabb mint a 6, de jobb mint a 8 - szerinte 6.5
- Score 8 kis 5-tel rosszabb mint 8, de jobb mint 9 - 8.5

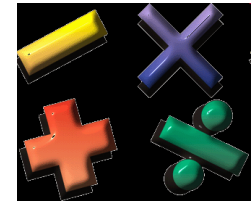
J Urol. 2009 Oct;182(4):1364-70. Epub 2009 Aug 14.

**Tertiary Gleason patterns and biochemical recurrence after prostatectomy:
proposal for a modified Gleason scoring system.**

[Troock BJ](#), [Guo CC](#), [Gonzalgo ML](#), [Magheli A](#), [Loeb S](#), [Epstein JI](#).

Department of Urology, The Johns Hopkins Hospital, Baltimore, Maryland 21231,

- Gleason score 6,
- 6.5 (Gleason score 6 with tertiary Gleason component),
- 7 (Gleason score 3 + 4 = 7),
- 7.25 (Gleason score 3 + 4 = 7 with tertiary Gleason component),
- 7.5 (Gleason score 4 + 3),
- 8 (Gleason score 4 + 3 with tertiary Gleason component or Gleason score 8),
- 8.5 (Gleason score 8 with tertiary Gleason component),
- 9 (Gleason score 4 + 5 or 5 + 4) and 10.



Gleason score meghatározás

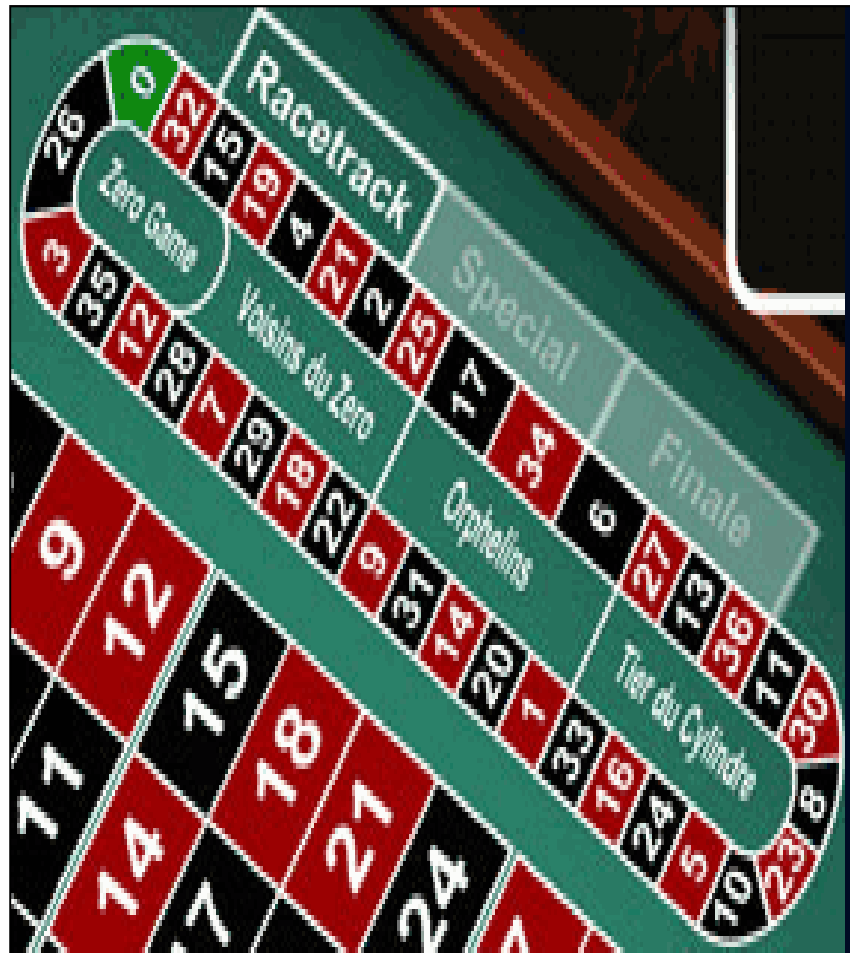
- TUR, vagy prostatectomia után

A 2 legnagyobb területen látható tumor Glgr összege.

A legmagasabb Glgr jelenlétét , ha sem az első, sem a második legnagyobb területet adó típus, külön megjegyzésben meg kell említeni

Legújabb módi: ha a legrosszabb legalább 5 %-nyi területet érint, azt kell a score-ba tenni!!!!

Konszenzus? Nincs. Van, aki úgy számol,
mint a core biopsziák esetében.

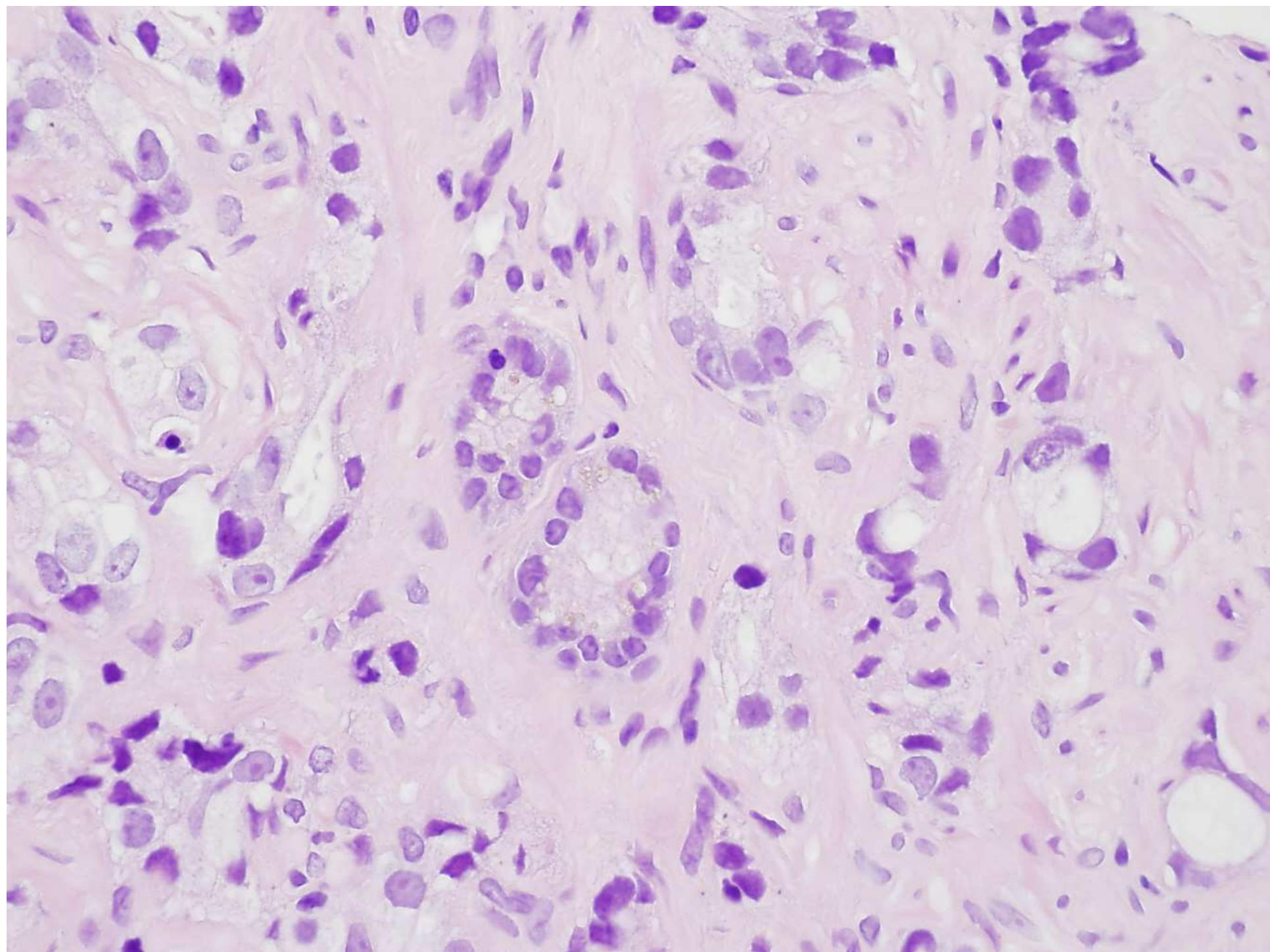


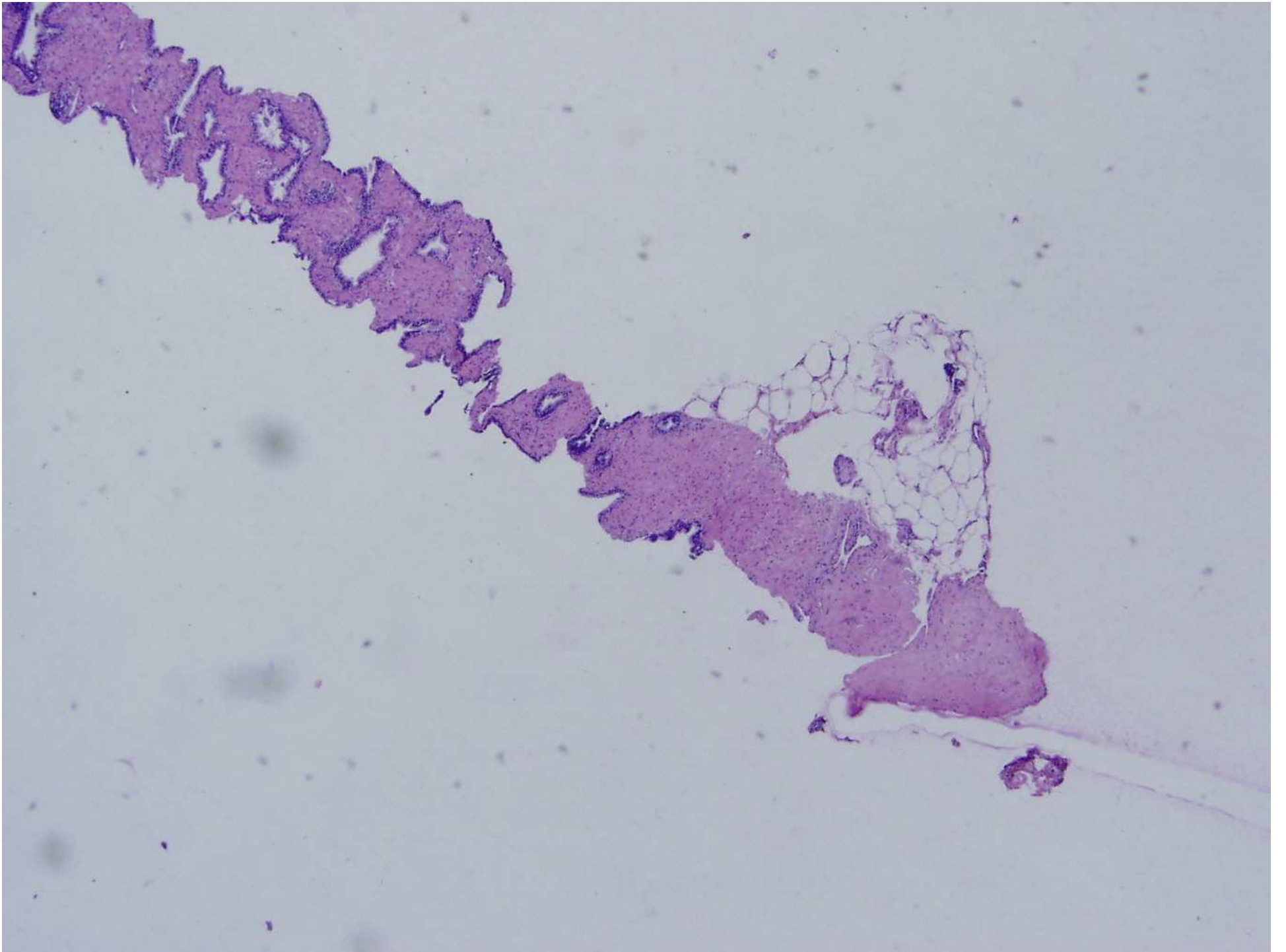
Stage

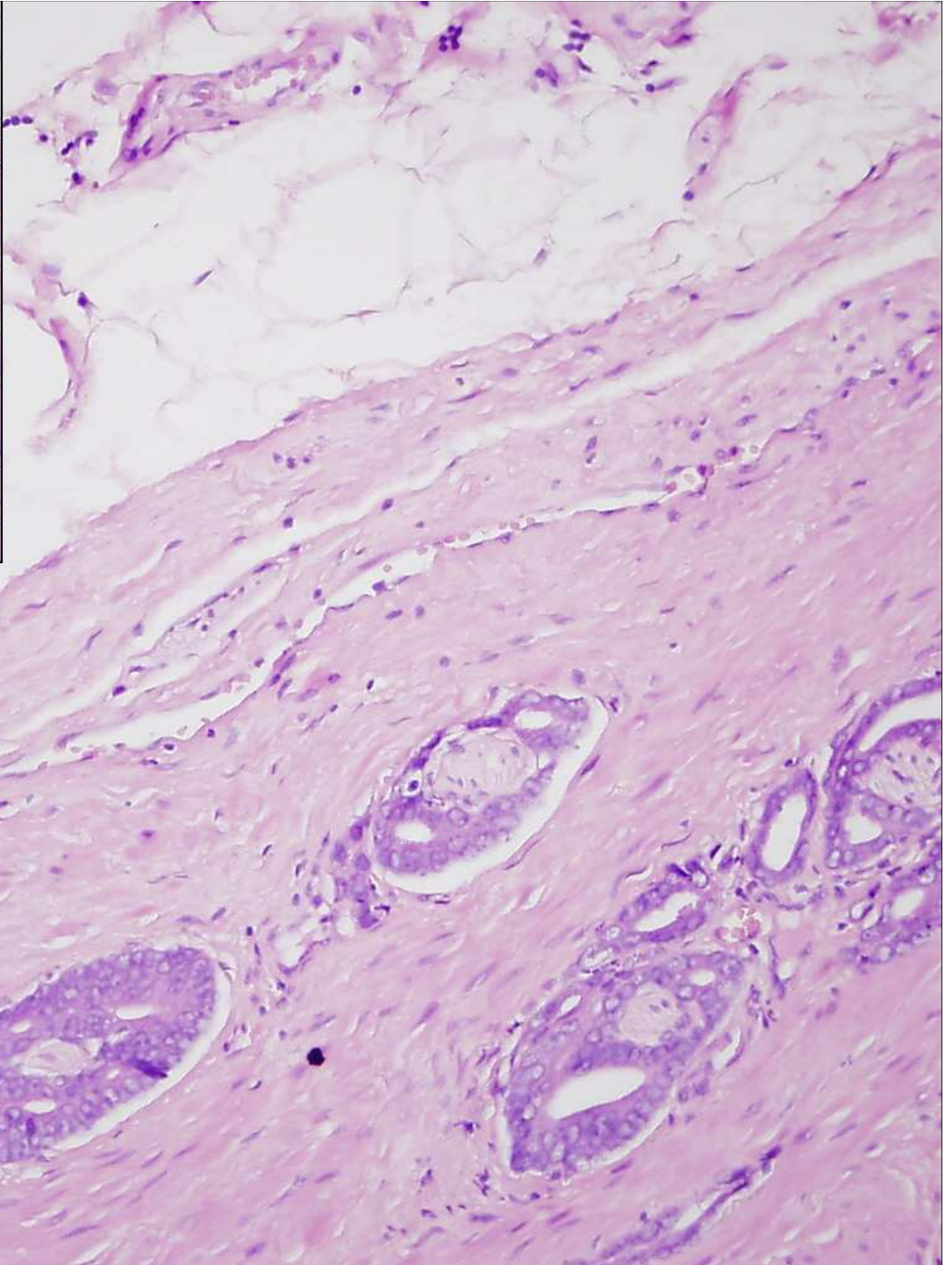
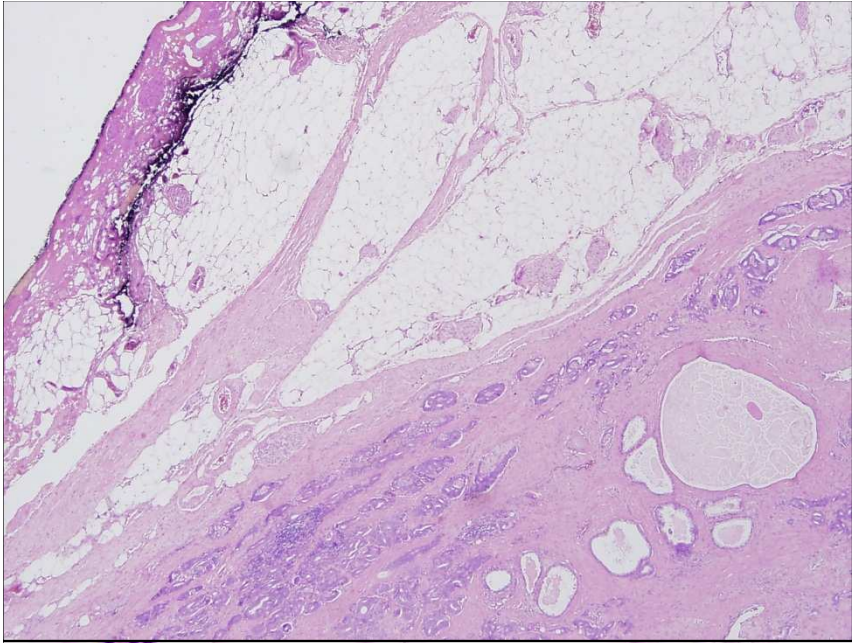
Adható?

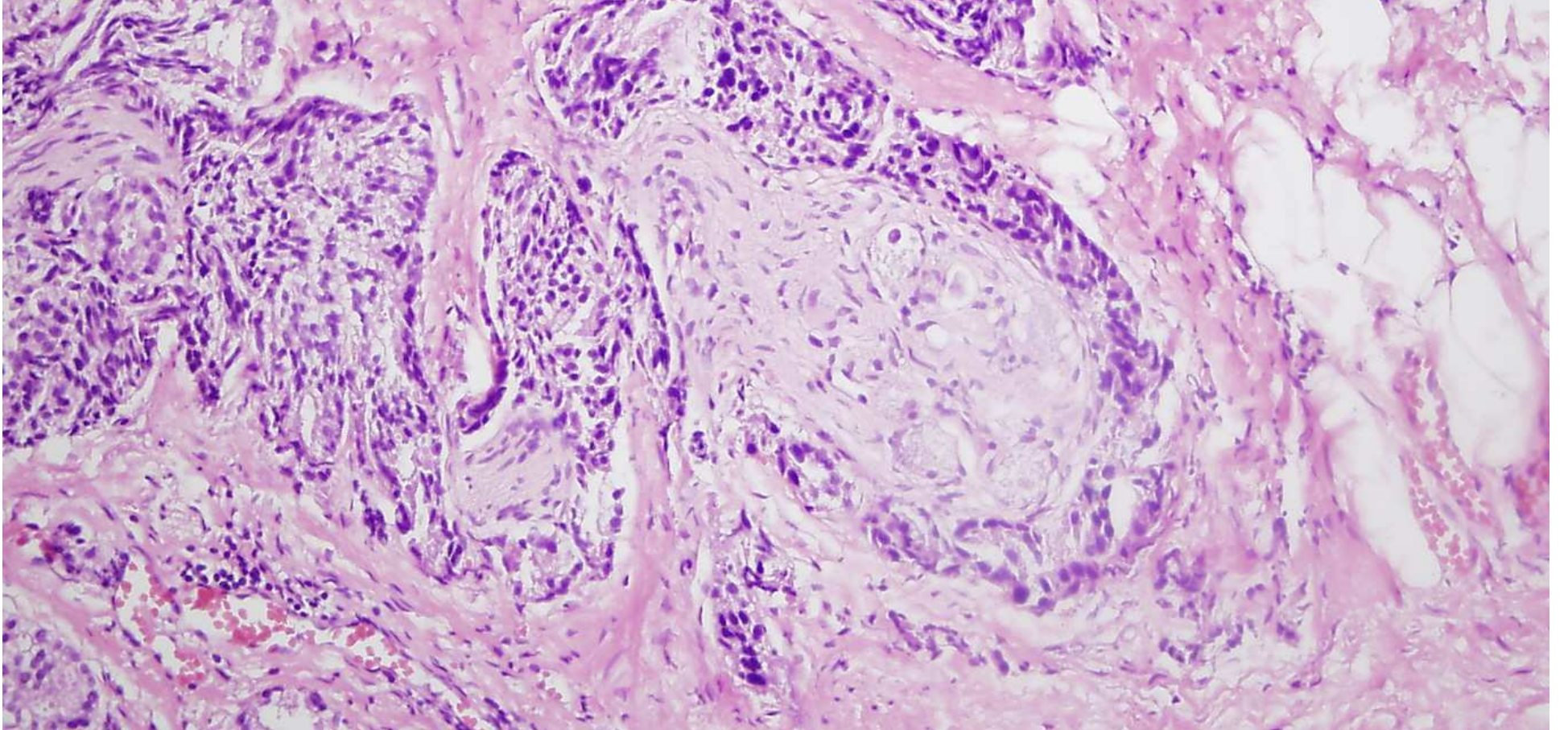
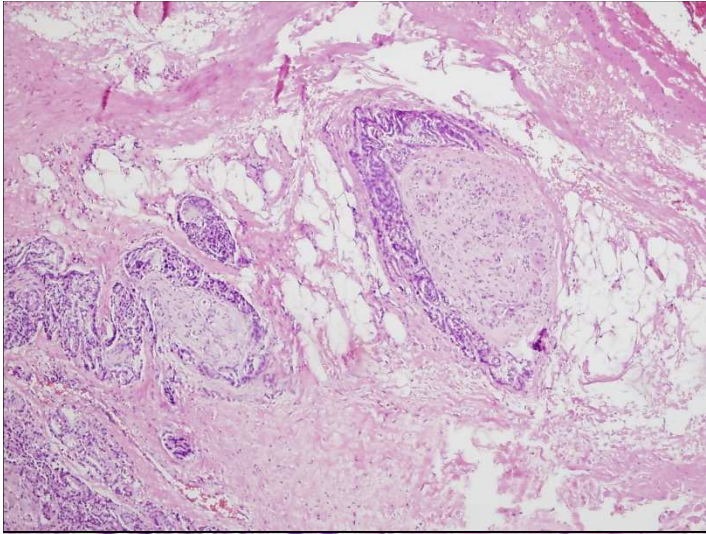
Szükséges?



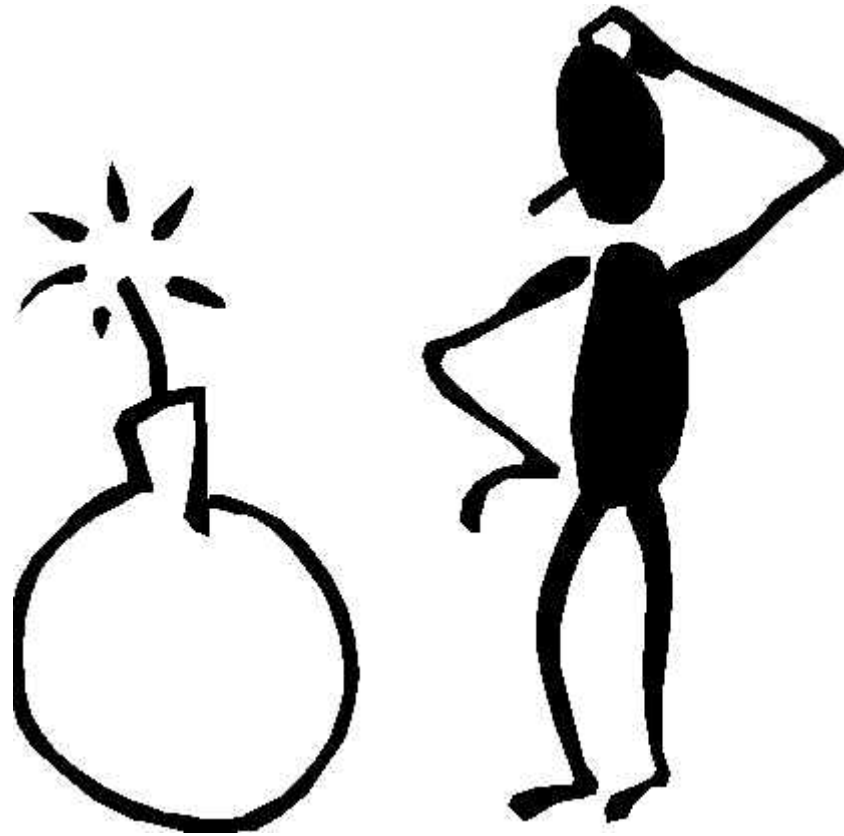




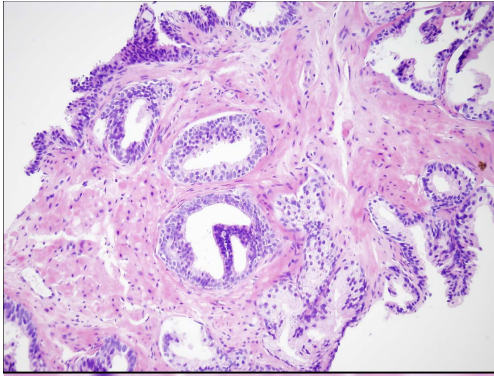


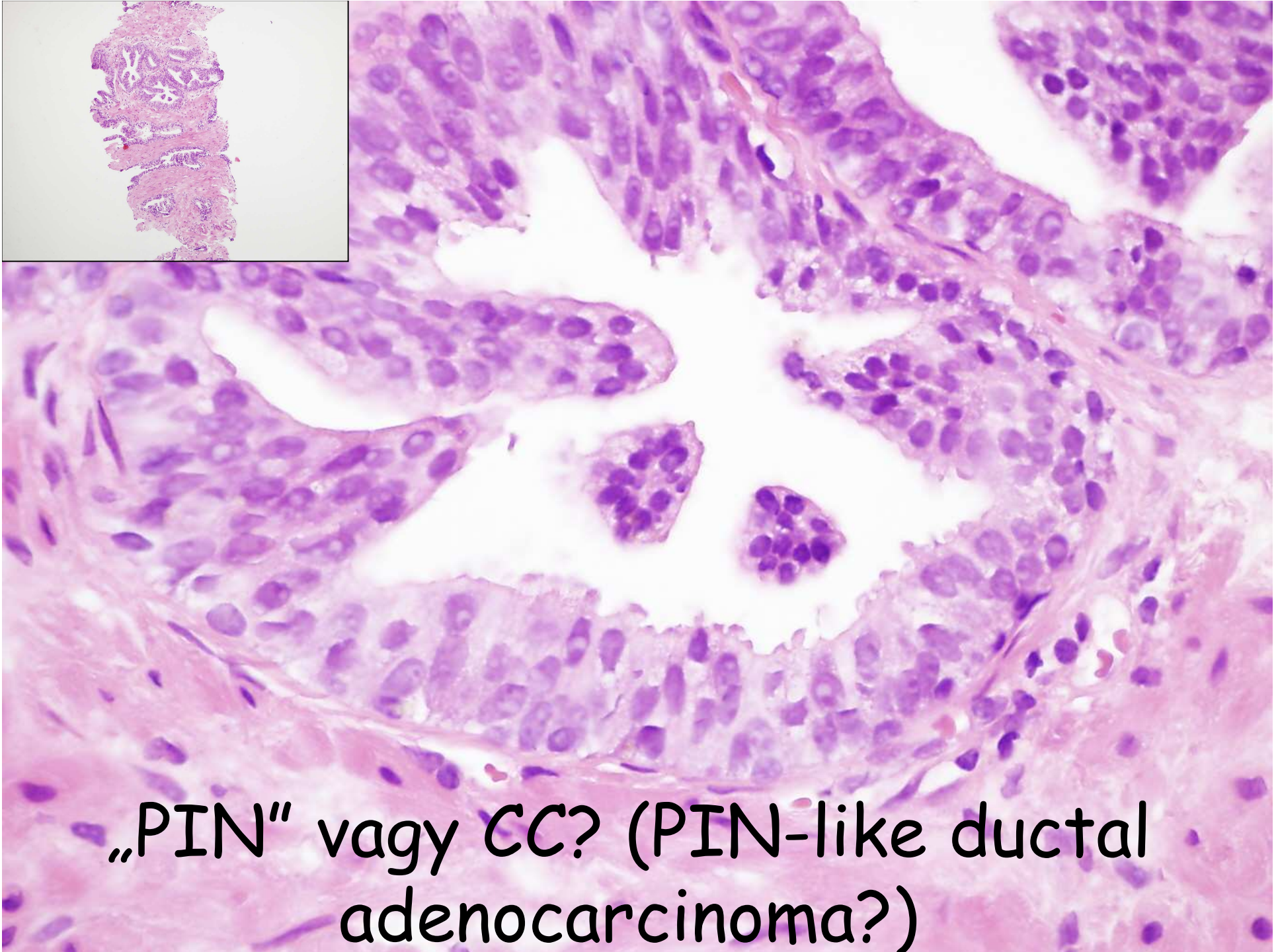


A legnagyobb probléma...

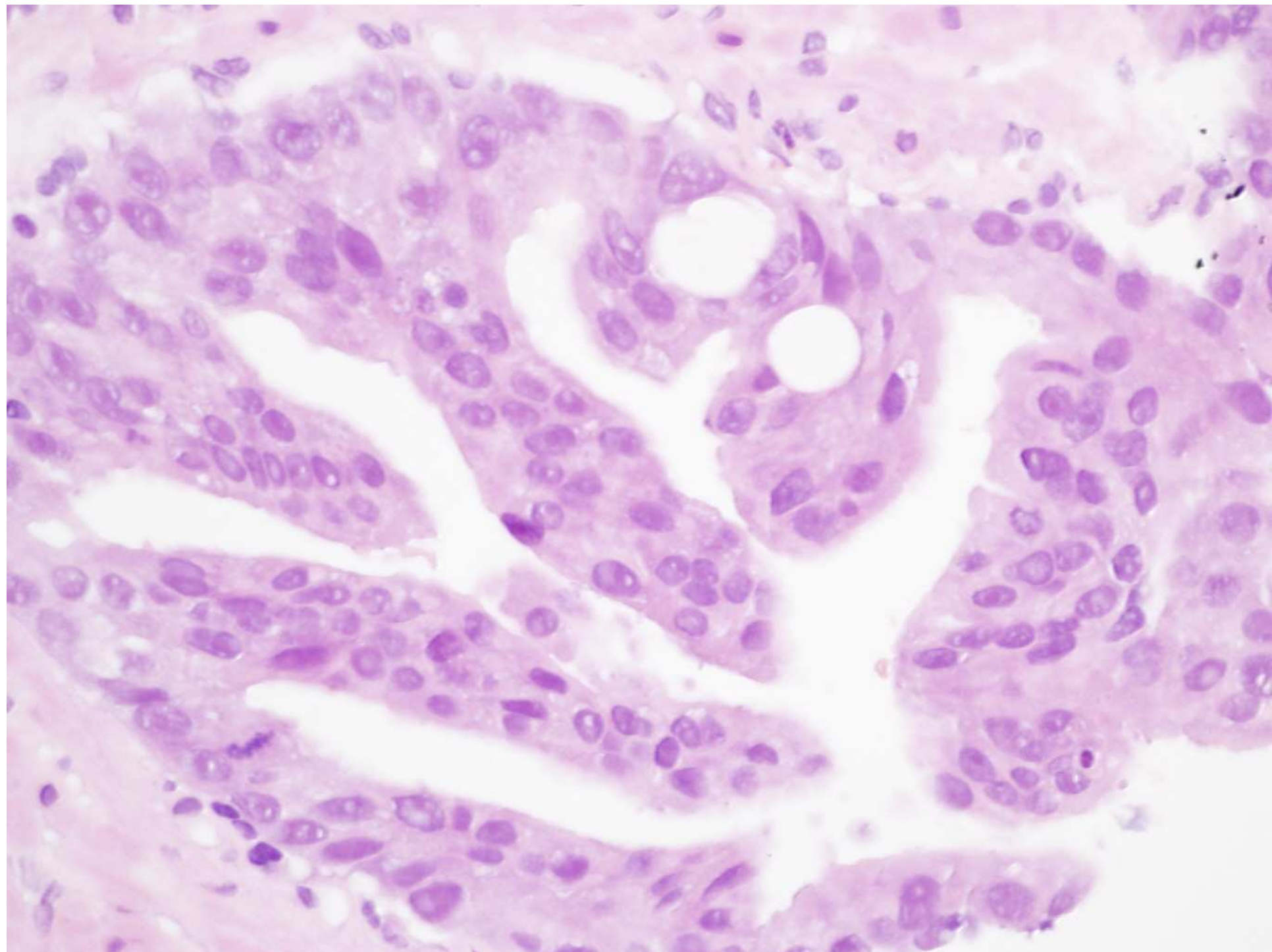


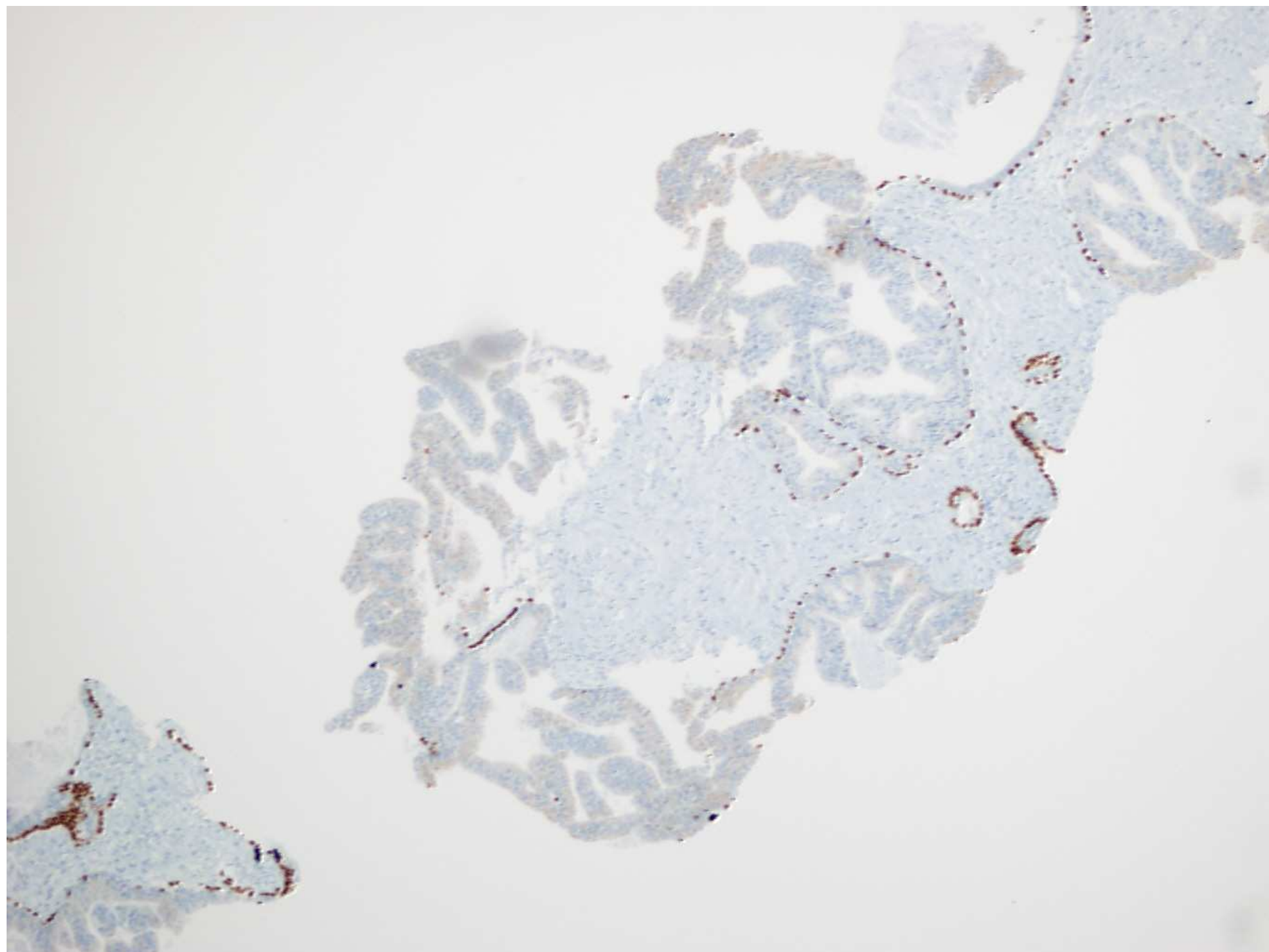
„PIN” vagy CC?

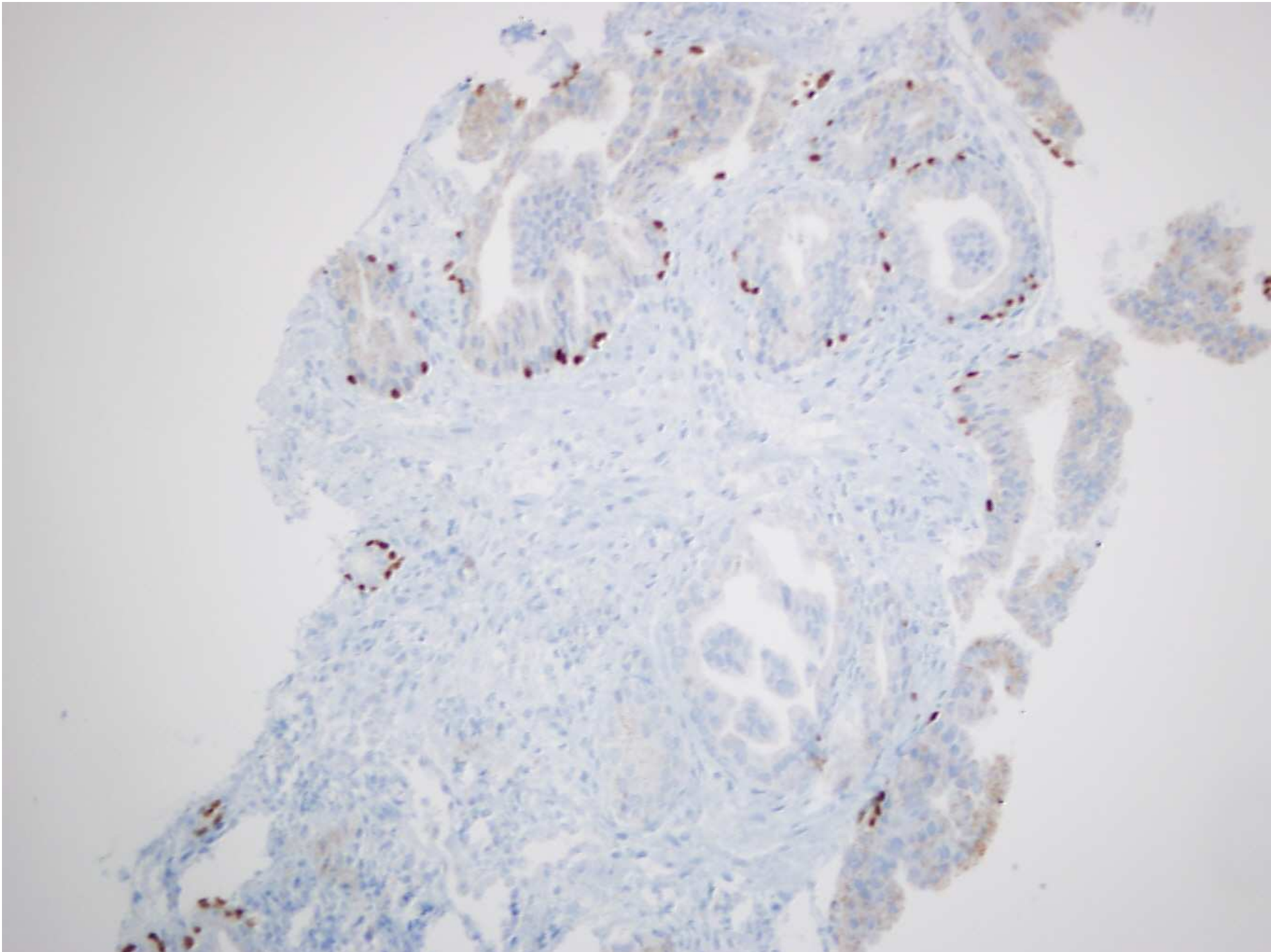




„PIN” vagy CC? (PIN-like ductal adenocarcinoma?)







Tutorial courses:

www.pathology.jhu.edu/prostate

www.pathology.ks.se/egevad/gleason.html

Reynolds

That's odd. This bottle
of Viagra was full two
days ago.

