

# Le pathologiste et le cancer de la prostate



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*Buxelles Janvier 2009*

- Comment gérer les prélèvements : *Lola Martinez*
- Le Gleason
- Les variantes du carcinome prostatique
  - K pseudo hyperplasique
  - K à cellules spumeuses
  - K ductal
  - K atrophique
  - K mucineux
  - K neuroendocrine
  - K traité
- Les lésions pièges
- Les petits foyers sur biopsie
- Prostatectomie
- PIN

# Le langage entre le pathologiste et l'urologue ?

## TNM (2002)

p T1 = T1 clinique, détection histologique

a et b : sur RTU

c : sur PBP

p T2 : stade intra capsulaire

a : unilatéral

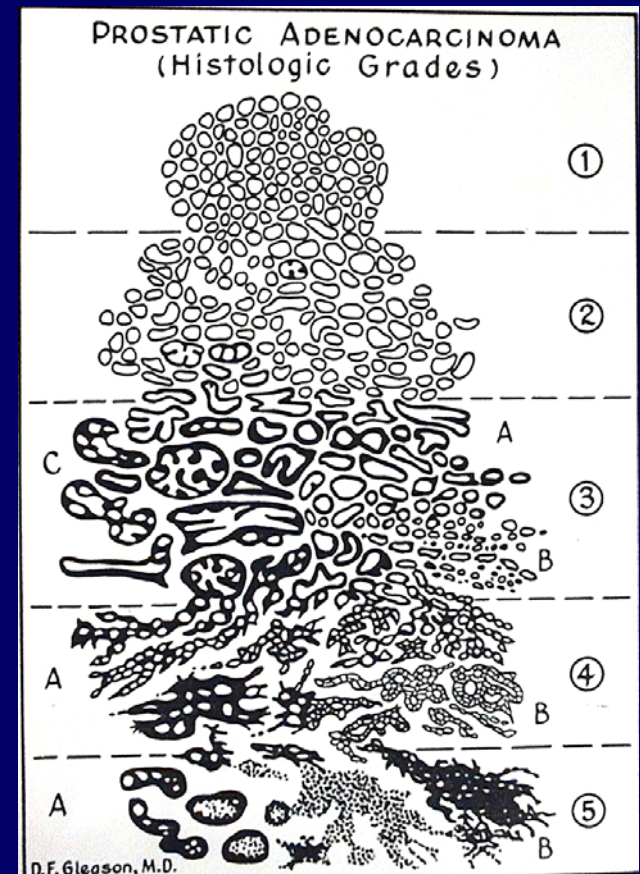
b : bilatéral

p T3 : stade extra capsulaire

a : franchissement capsulaire focal / extensif

b : invasion des Vésicules Séminales

p T4 : atteinte des organes voisins : col vésical- paroi rectale - paroi pelvienne



**1966 D. Gleason**

**.2005 : modifié lors de la conférence de consensus ISUP  
(ref Epstein et col. Am J Surg Pathol, 2005).**

**Critères architecturaux définis à faible grossissement.**

**Le grade retenu est le plus largement représenté**

**5 grades**

**Grades 1 et 2 : carcinome très bien différencié**

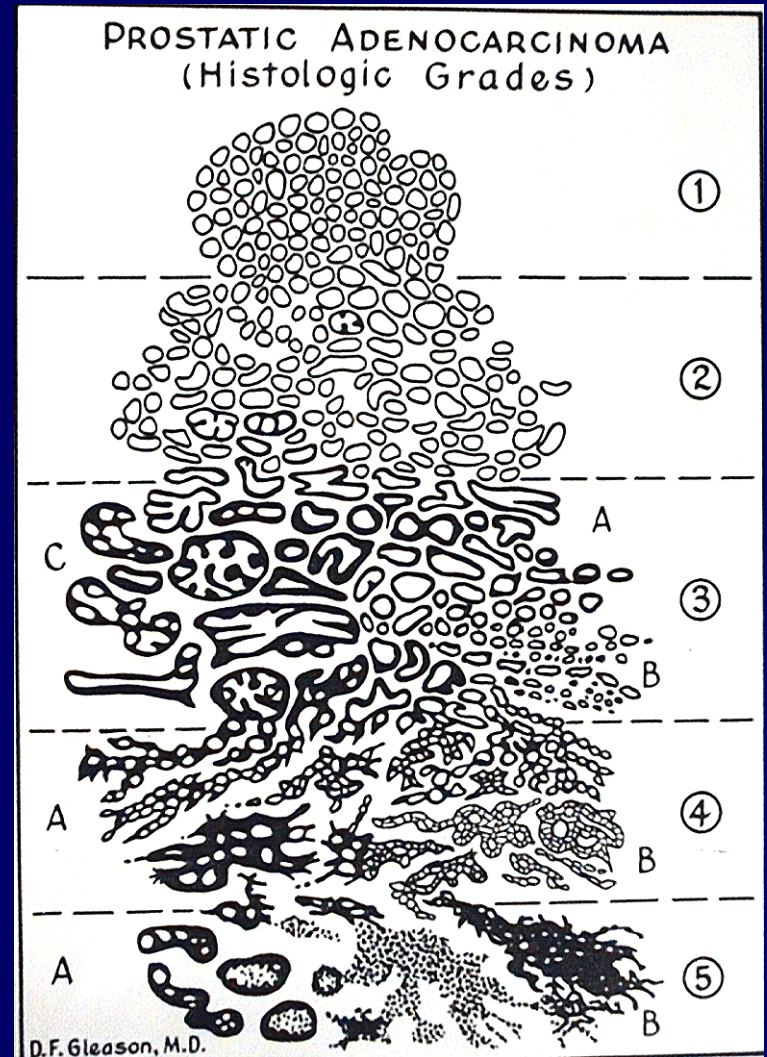
**Grade 3 : Carcinome moyennement différencié**

**Grade 4 : carcinome peu différencié**

**Grade 5 : carcinome indifférencié**

**Un des facteurs prédictifs le plus fort.  
S'applique quelque soit la taille et le type  
du cancer.**

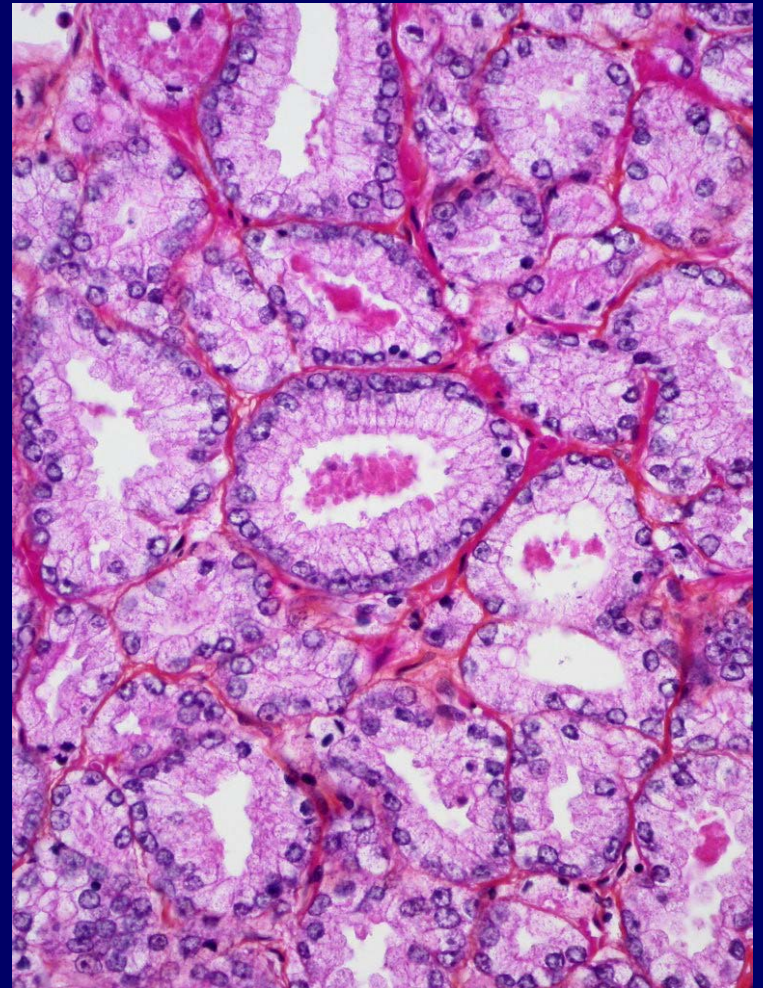
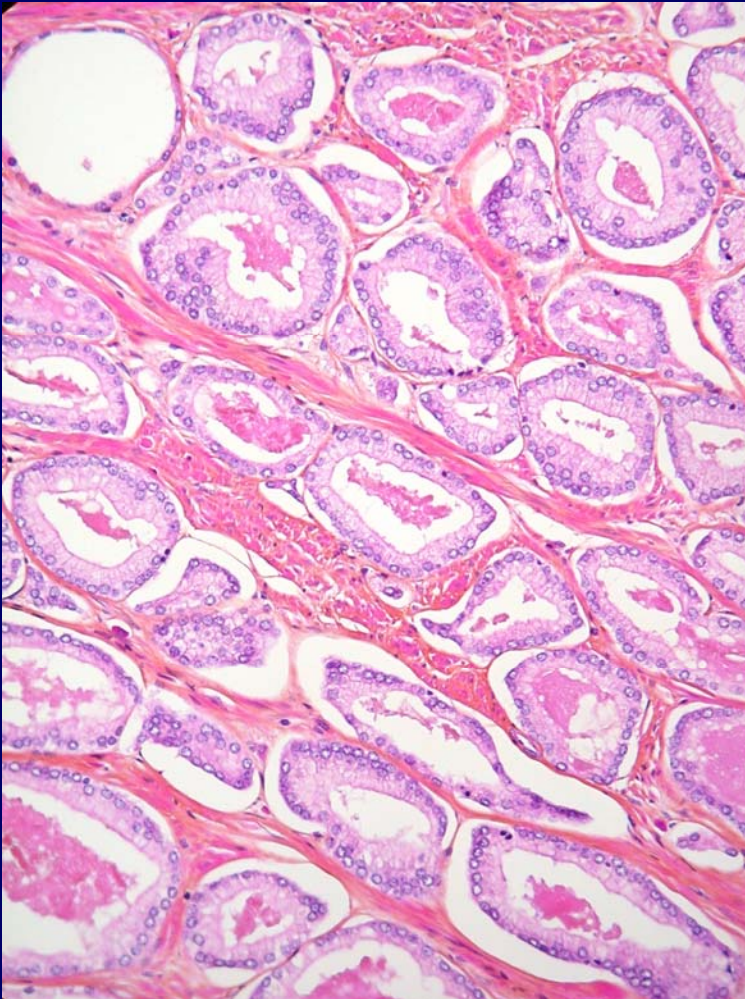
**Reproductibilité inter observateur Exacte  
: 78% Delta +/- 1 : 72 - 87 %**



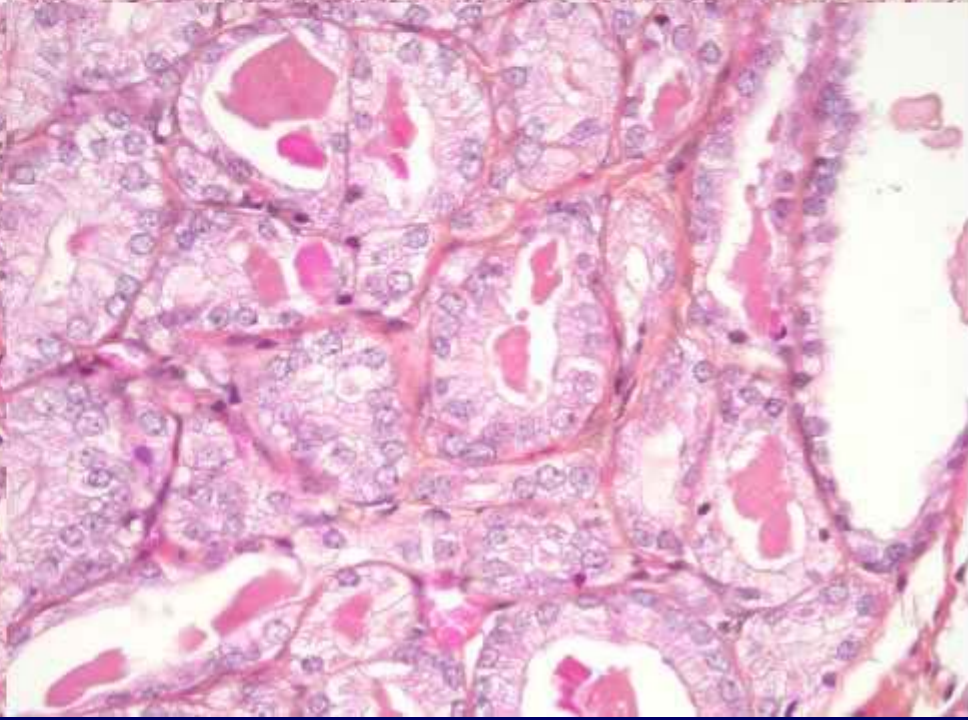
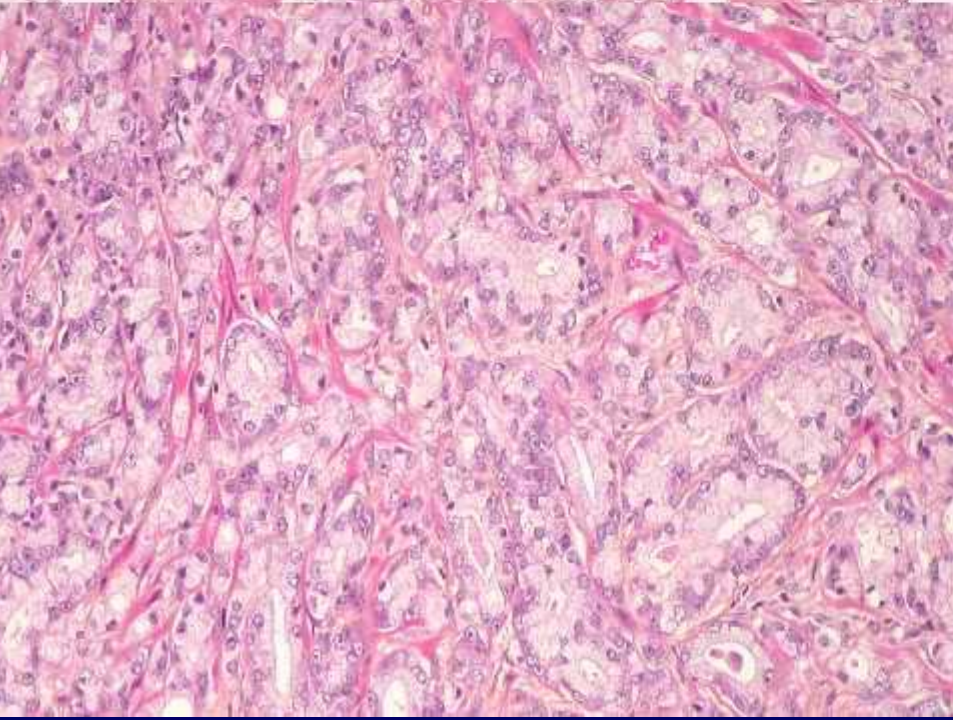
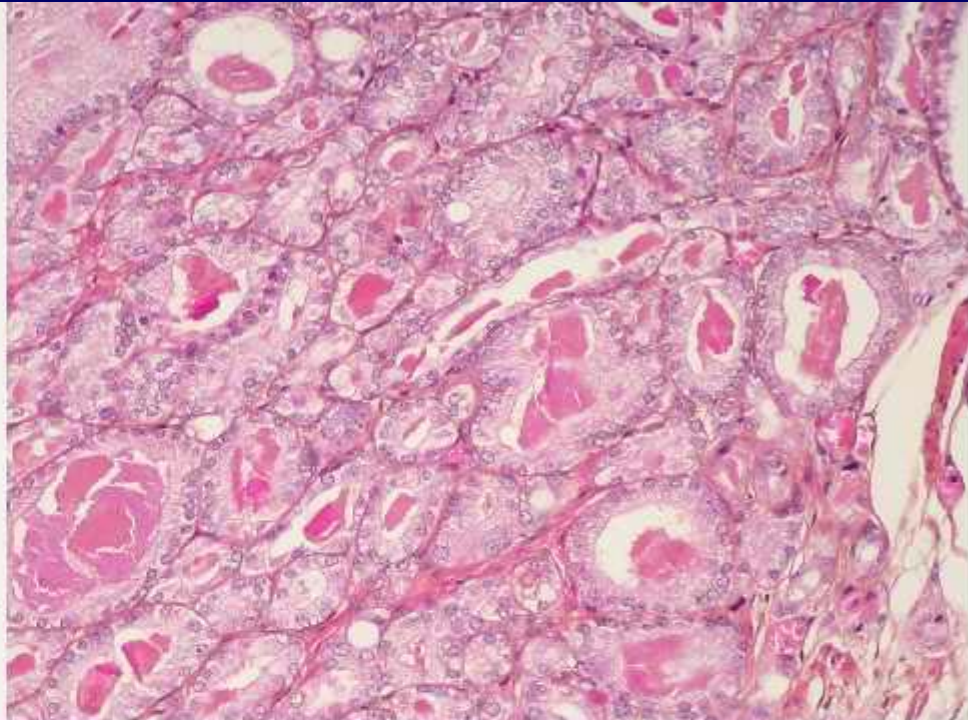
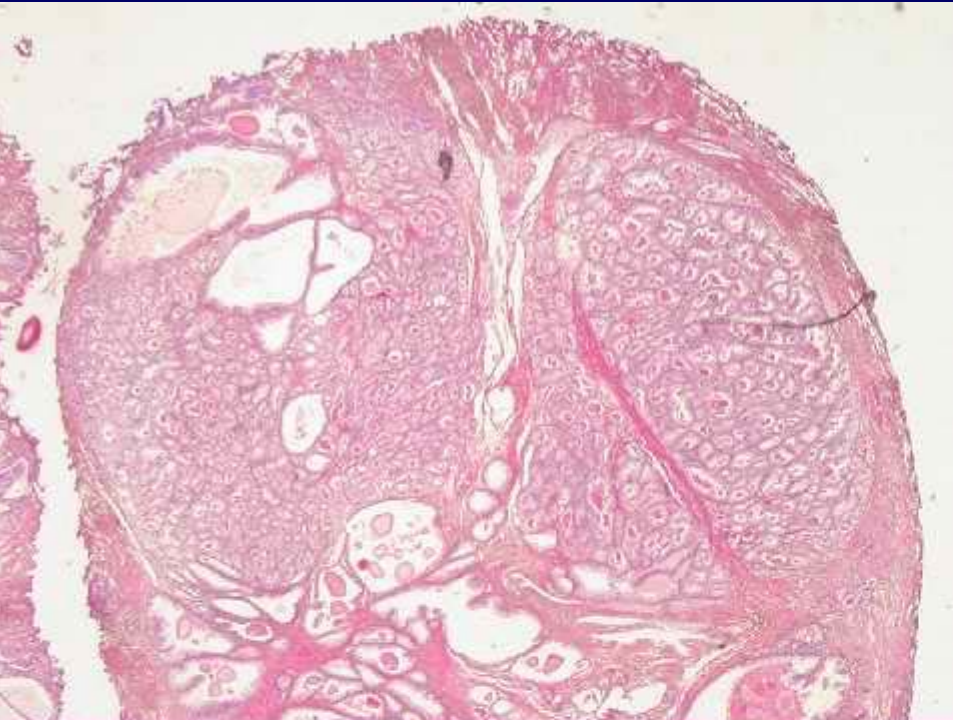


# Gleason grade 2

Les tubes néoplasiques sont ronds régulièrement espacés et de taille relativement uniforme

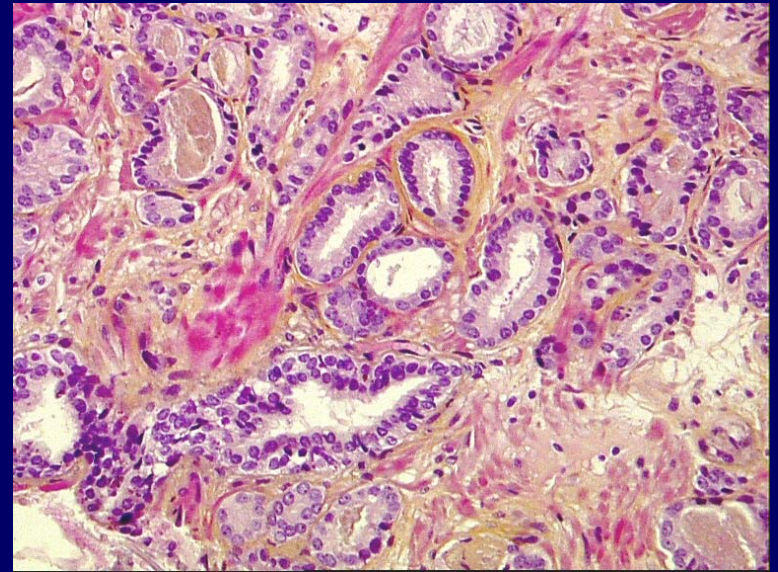
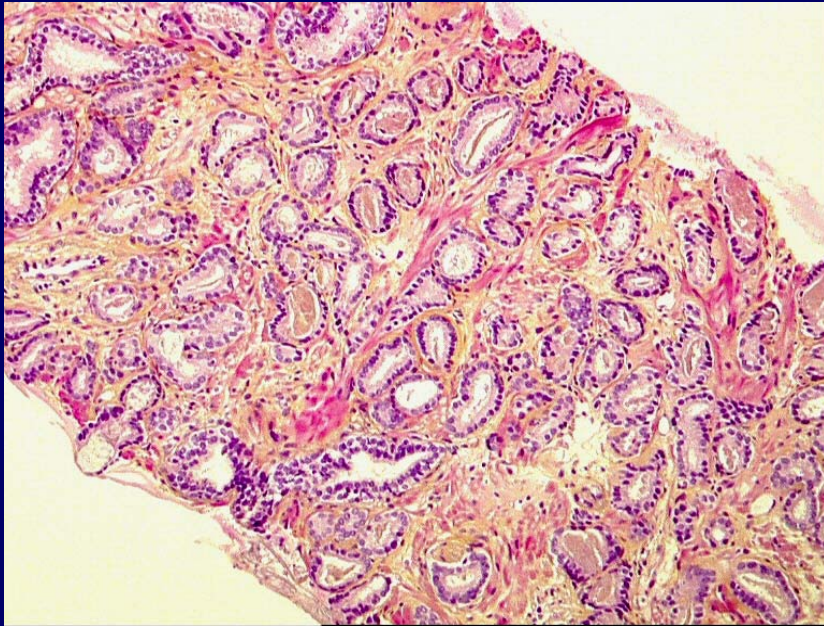








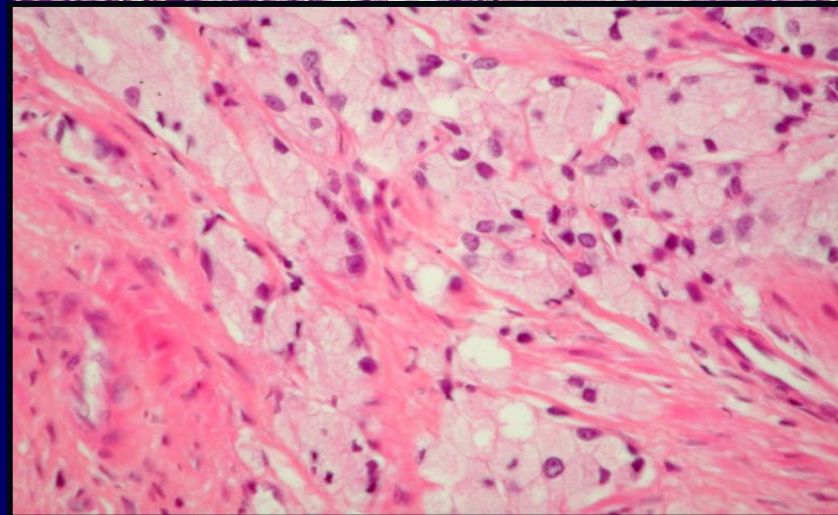
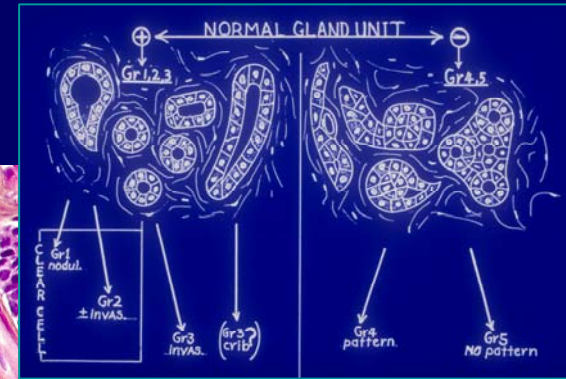
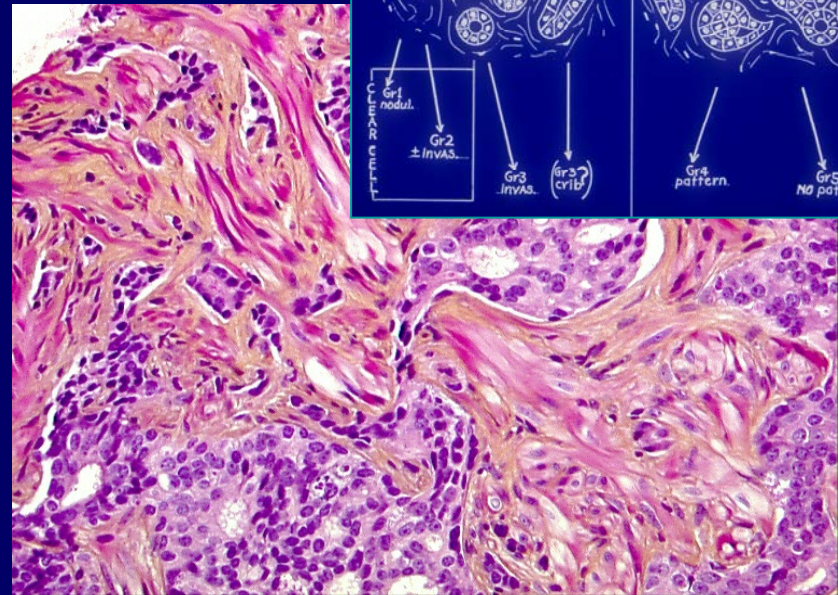
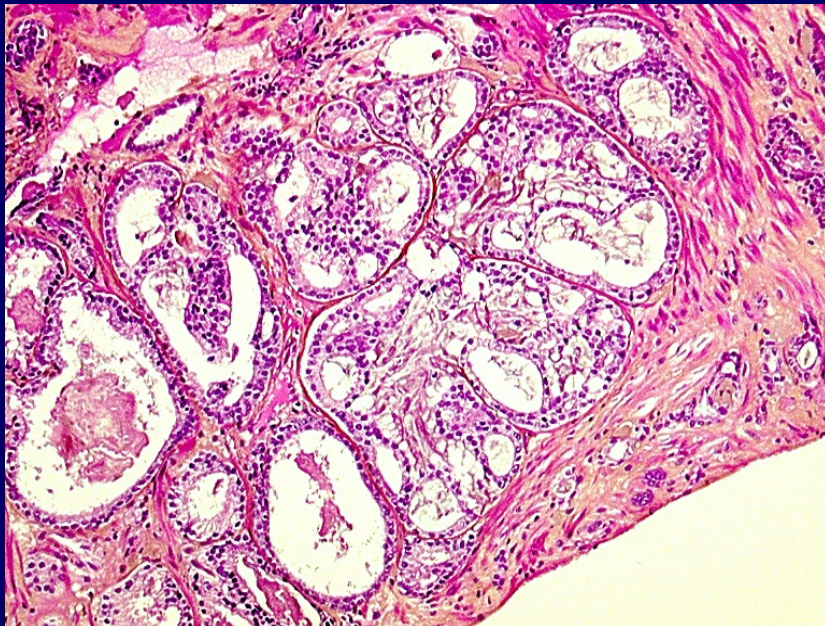
# Gleason : grade 3



- premier grade des cancers de la Zone Périphérique
- foyer tumoral infiltrant
- glandes séparées de plus d'un diamètre glandulaire
- taille irrégulière, anguleuses
- cytoplasme souvent foncé



# Gleason : grade 4



- glandes fusionnées
  - Fusion et Fusion est Fusion
- cordons et massifs polyadénoïdes



# Grading of Invasive Cribriform Carcinoma on Prostate Needle Biopsy

*An Interobserver Study among Experts in Genitourinary Pathology*

Mathieu Latour, MD,\* Mahul B. Amin, MD,§ Athanase Billis MD,|| Lars Egevad MD, PhD,¶  
David J. Grignon, MD,# Peter A. Humphrey, MD, PhD,\*\* Victor E. Reuter, MD, ††  
Wael A. Sakr, MD, ‡‡ John R. Srigley MD, §§ Thomas M. Wheeler, MD,|||  
Ximing J. Yang, MD, PhD,¶¶ and Jonathan I. Epstein, MD\*†‡

*(Am J Surg Pathol 2008;32:1532–1539)*

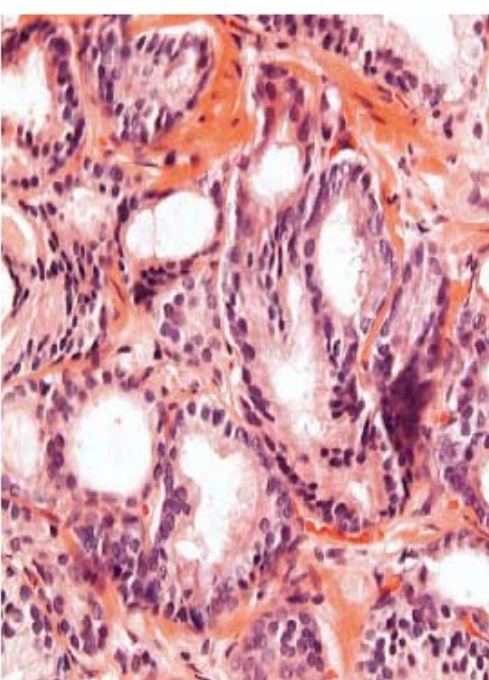


FIGURE 2. Consensus pattern 4 image

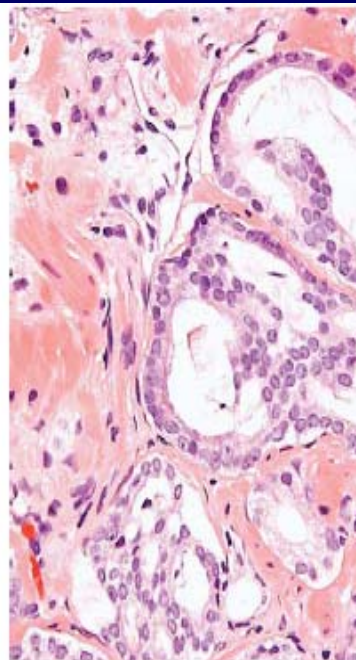


FIGURE 1. Consensus pattern 4 image (GP4:7, GP5:5).

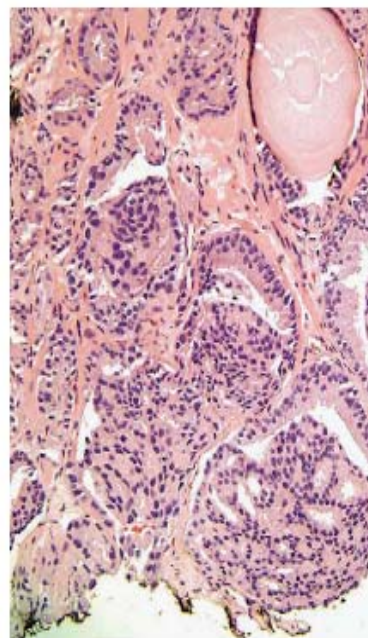


FIGURE 3. Consensus pattern 4 image (GP4:0, GP5:2).

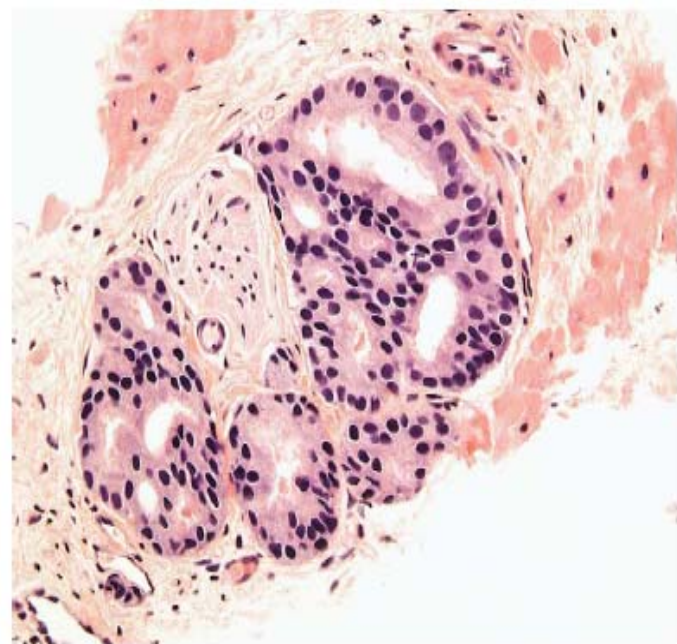


FIGURE 9. Favor pattern 4 image (GP4:6, GP3:4). Irregular



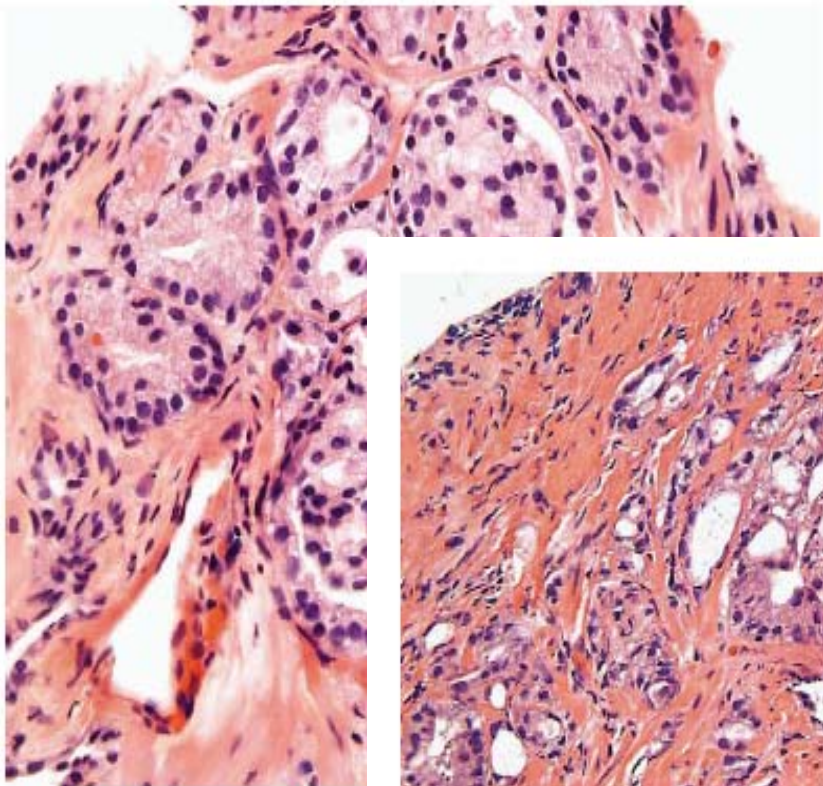


FIGURE 16. Equivocal ima

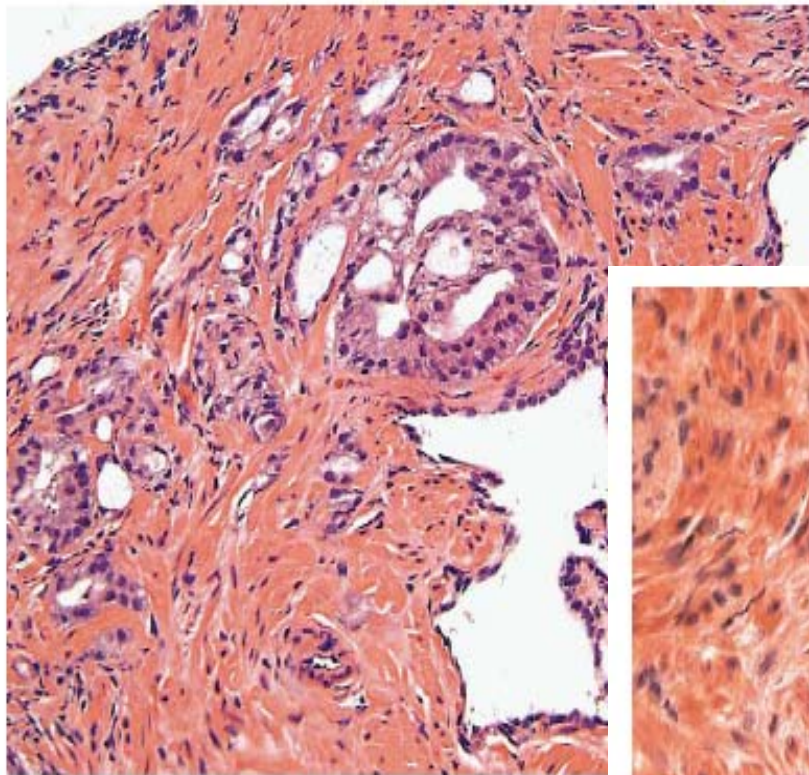


FIGURE 15. Equivocal image (GP4:5, GP3:5).

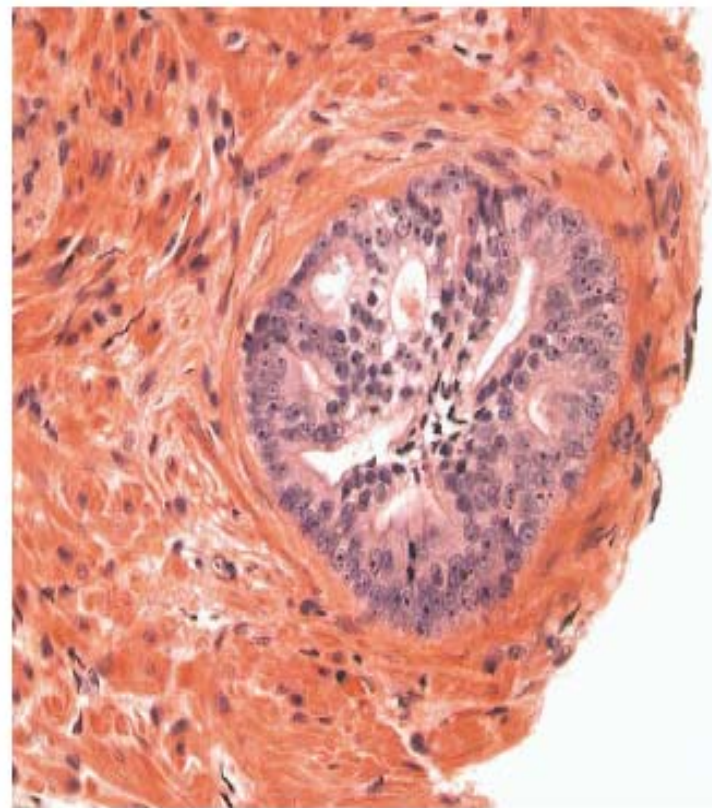


FIGURE 14. Favor pattern 3 image (GP4:4, GP3:6). Regular



# Gleason : grade 5

- **Masses tumorales fusionnées**

- **Forme anaplasique**

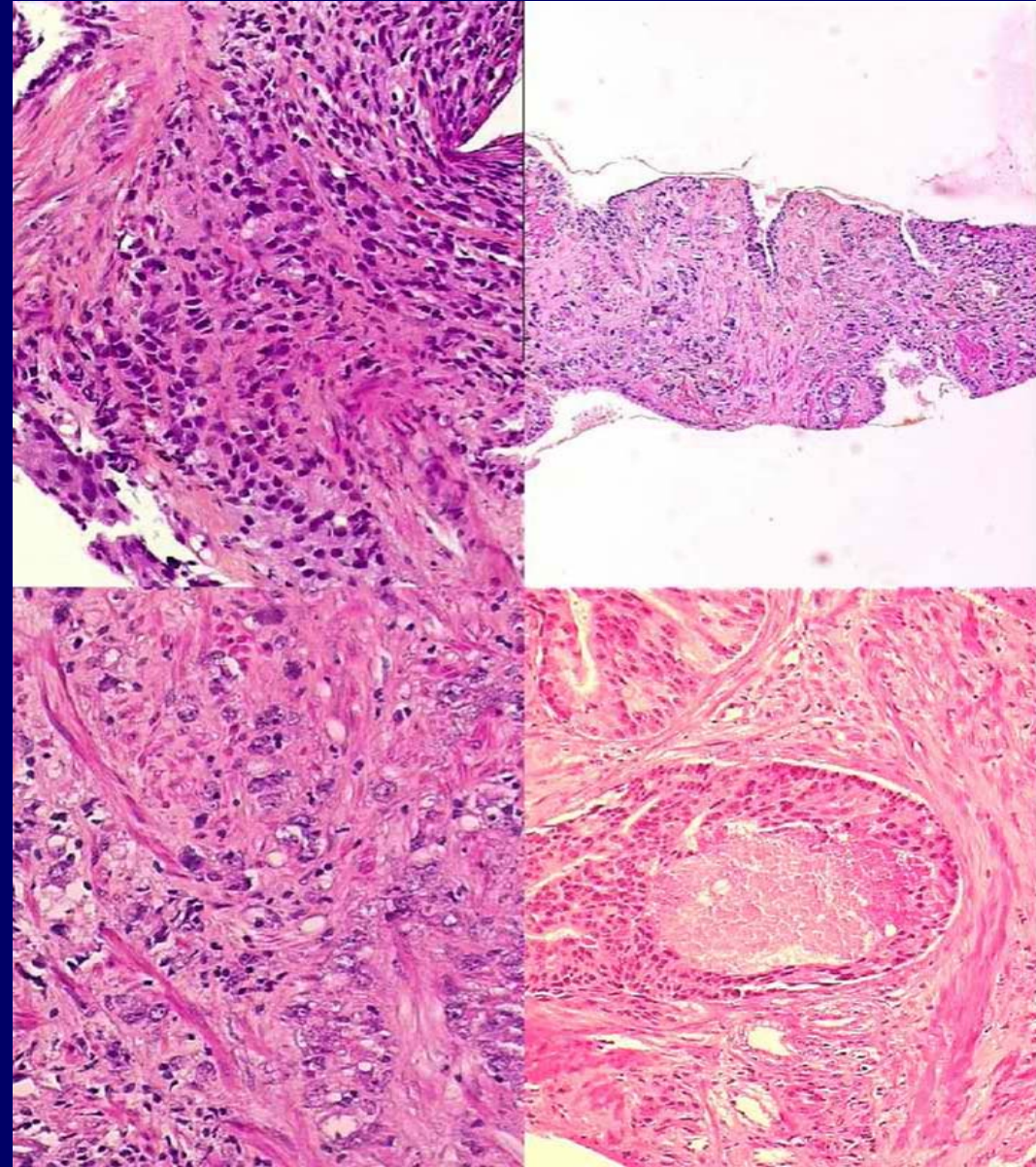
- **Comédo carcinome**

  - 1 seul acini avec de la  
nécrose

- **Carcinome à cellules**

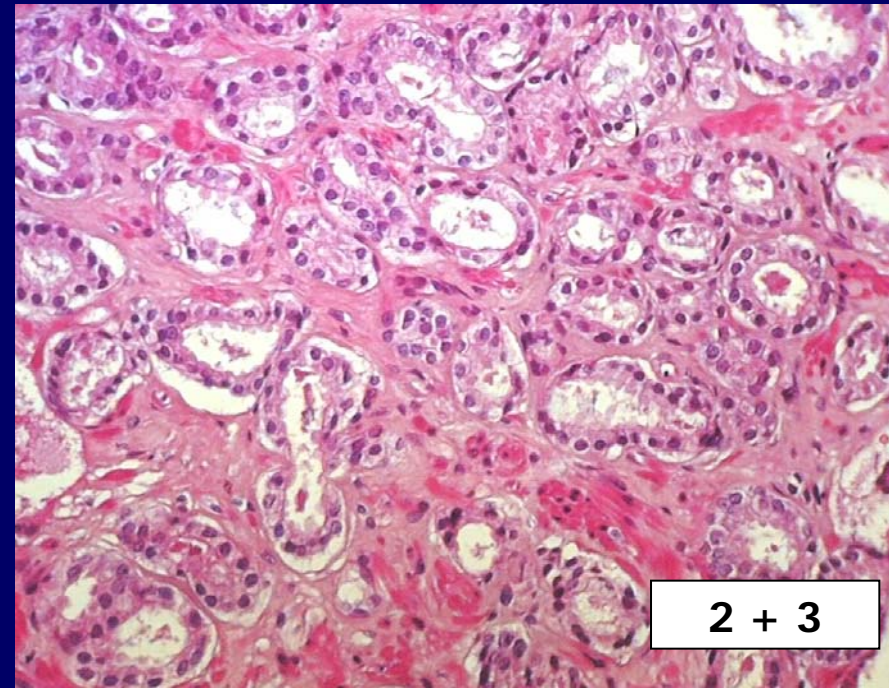
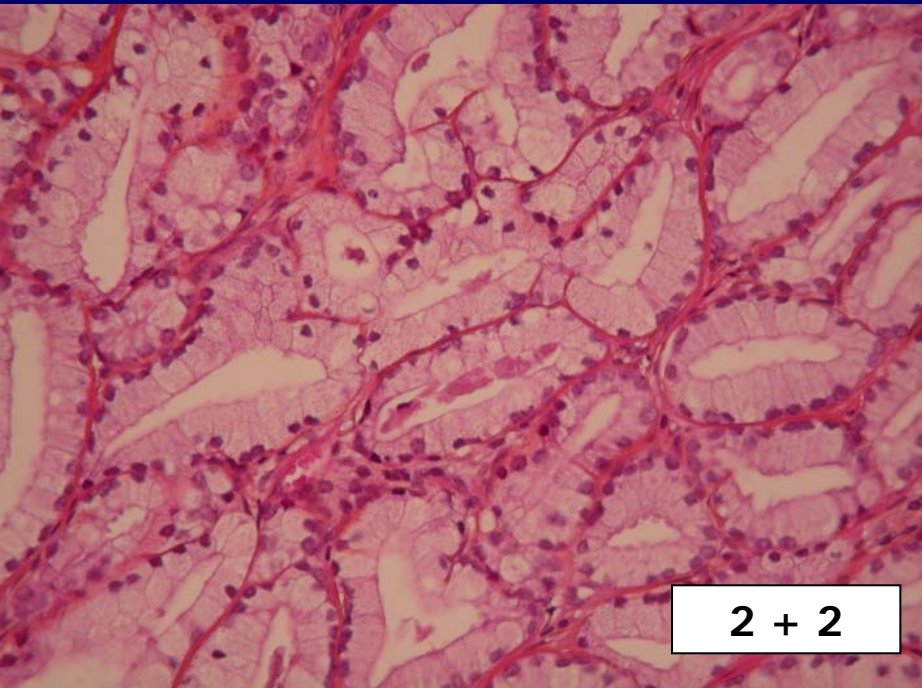
  - indépendantes

- **Carcinome à petites cellules**



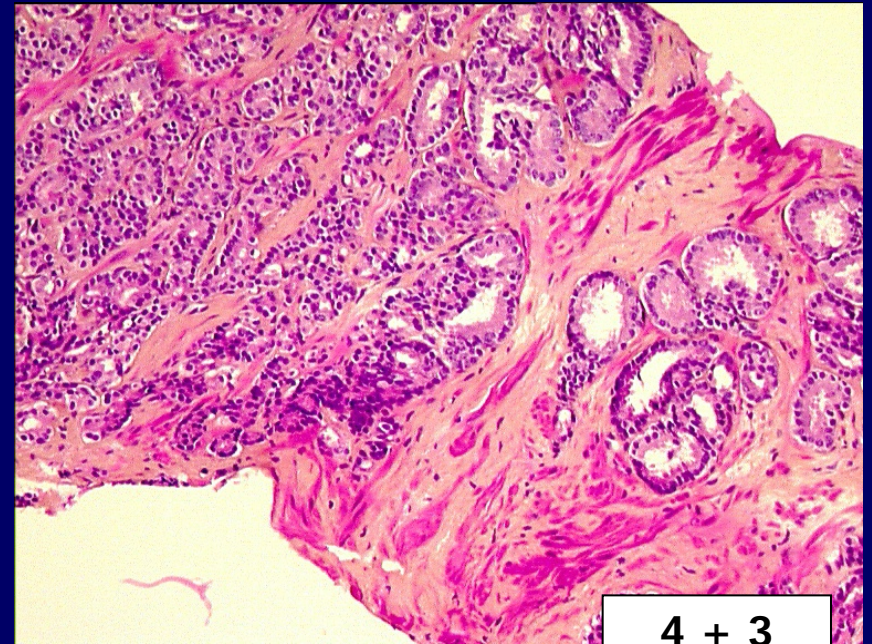
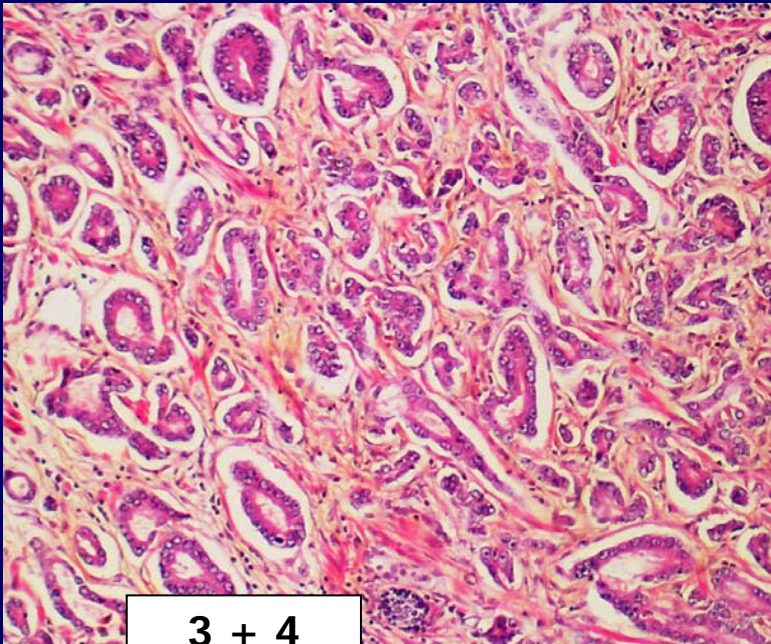


**score : somme de 2 grades  
les plus représentés**





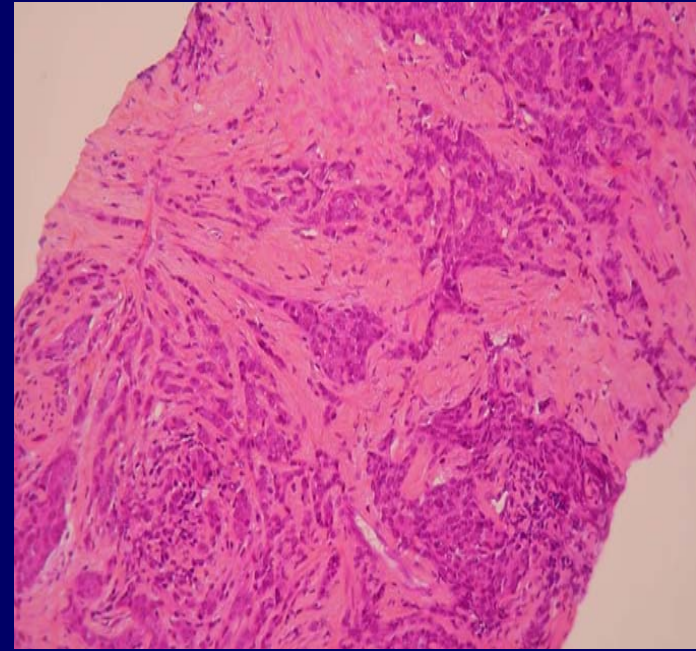
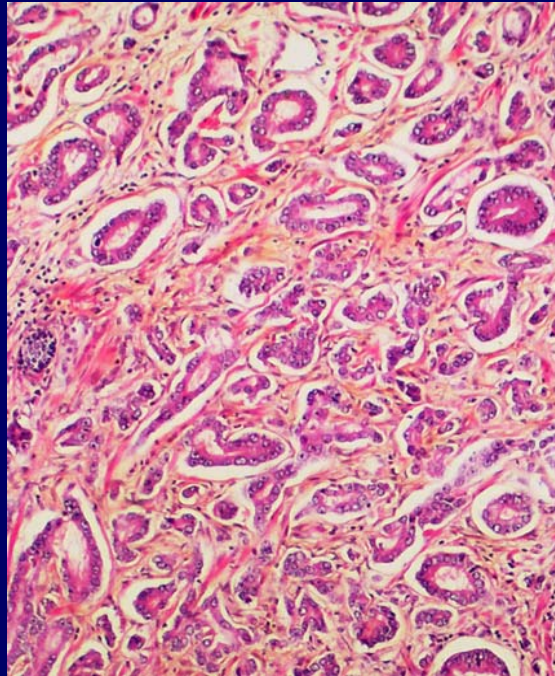
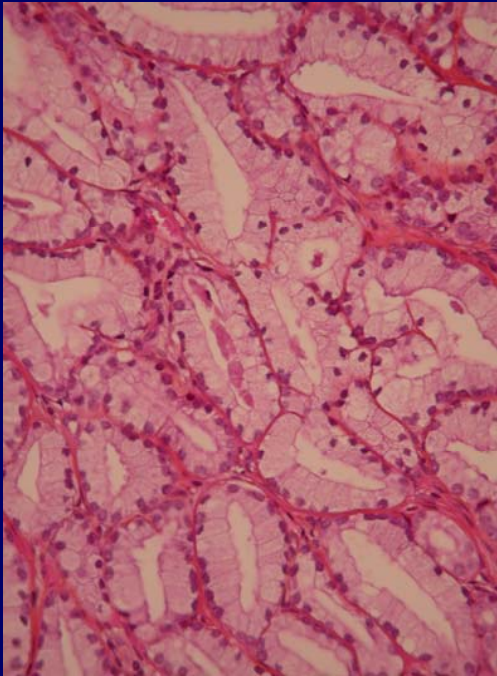
# score : somme de 2 grades les plus représentés



attention en composant le score: bien séparer 3+4 de 4+3



**score : somme de 2 grades les plus représentés ou d'un grade tertiaire si élevé**



**Si présence d'un 3° type architectural : compter le plus représenté + le plus péjoratif.**

**10% grade 4, 10% grade 5, 80% grade 3 :  $3 + 5 = 8$ .**

# Pourcentage de grade 4 et/ou 5

*Should we replace the Gleason Score with the amount of high-grade prostate cancer?*

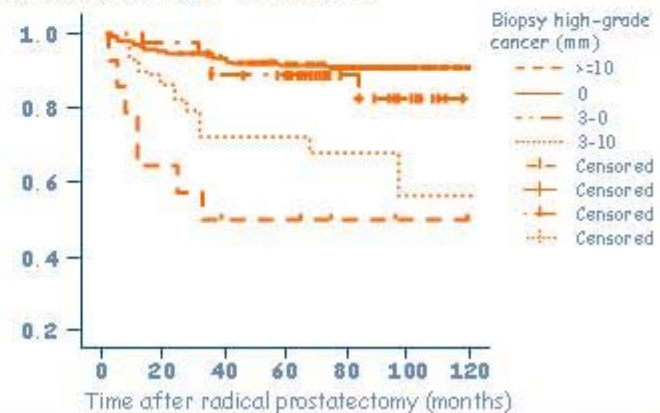
Cox proportional hazards model for clinical progression of disease after radical prostatectomy using clinical and histopathologic variables as assessed in the biopsy specimen

| Variables préopératoires             |      | Progression clinique après PR |              |                     |              |
|--------------------------------------|------|-------------------------------|--------------|---------------------|--------------|
|                                      |      | Analyse Univariée             |              | Analyse Multivariée |              |
|                                      |      | HR                            | p            | HR                  | p            |
| Score de Gleason sur les biopsies    | 2-6  | <b>Baseline*</b>              |              |                     |              |
|                                      | 7    | <b>2.809</b>                  | <b>0.076</b> |                     | <b>ns</b>    |
|                                      | 8-10 | <b>1.984</b>                  | <b>0.512</b> |                     | <b>ns</b>    |
| Longueur de tumeur, mm               |      | <b>1.037</b>                  | <b>0.098</b> |                     | <b>ns</b>    |
| Longueur de cancer de haut grade, mm |      | <b>1.074</b>                  | <b>0.004</b> | <b>1.074</b>        | <b>0.004</b> |

Biochemical relapse free survival



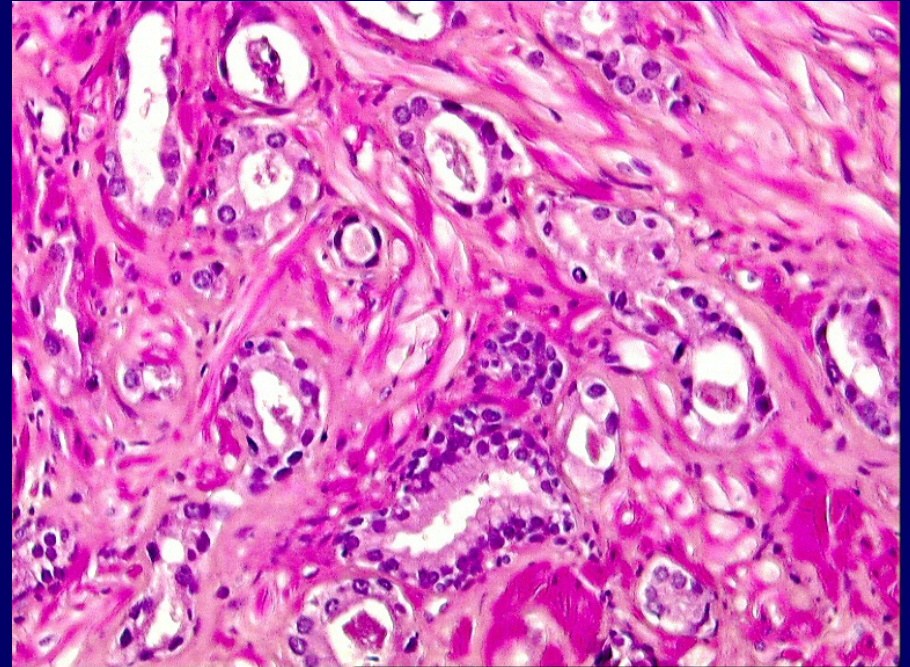
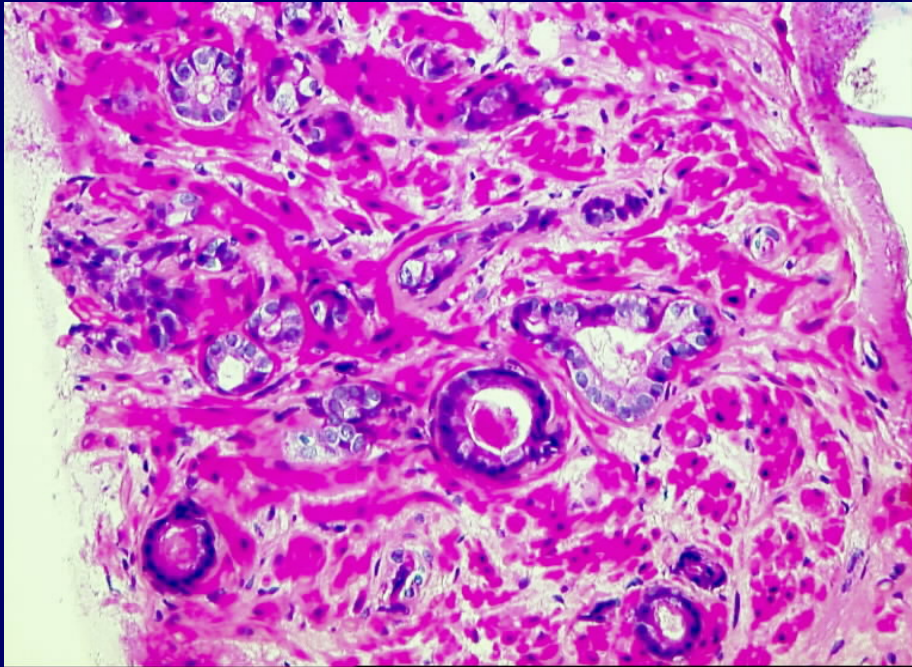
Biochemical relapse free survival



| Les variantes                | Grade de Gleason |
|------------------------------|------------------|
| pseudo - atrophique          | Grade 3          |
| pseudo - hypertrophique      | Grade 3 ou 2     |
| canalaire (ductal)           | Grade 4          |
| à cellules spumeuses         | Grade 3 - 4      |
| mucineux                     | Grade 4          |
| à cellules en bague à chaton | Grade 5          |
| Cancer traité                | Non gradé        |
| Petites cellules             | Non gradé        |
| Basaloïde                    | Non gradé        |



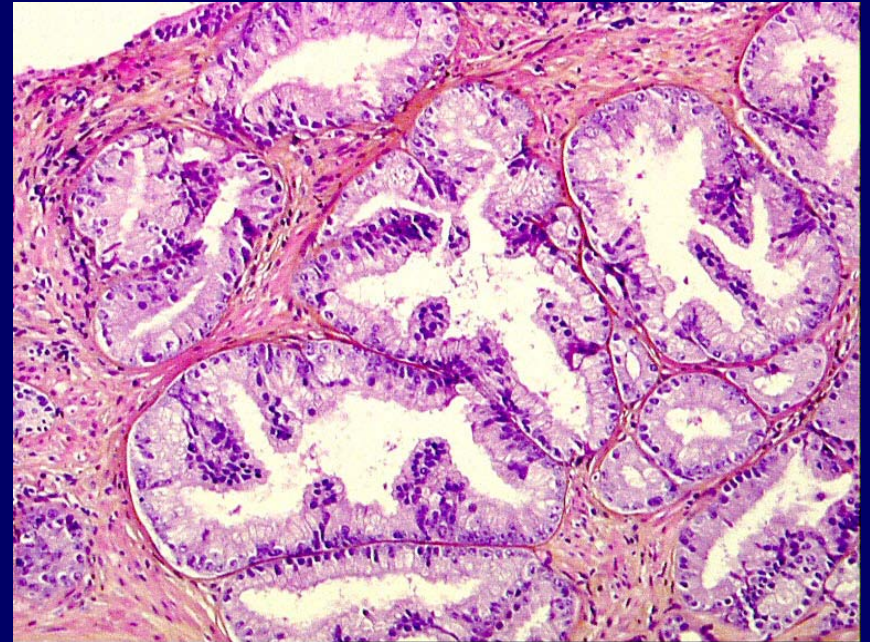
# Carcinome pseudo atrophique



- **spontané ou après un bref traitement hormonal**
- **glandes petites, écrasées**
- **cytoplasme peu abondant, foncé**
- **Diagnostic différentiel : atrophie**
- **S'aider des marqueurs des cellules basale**

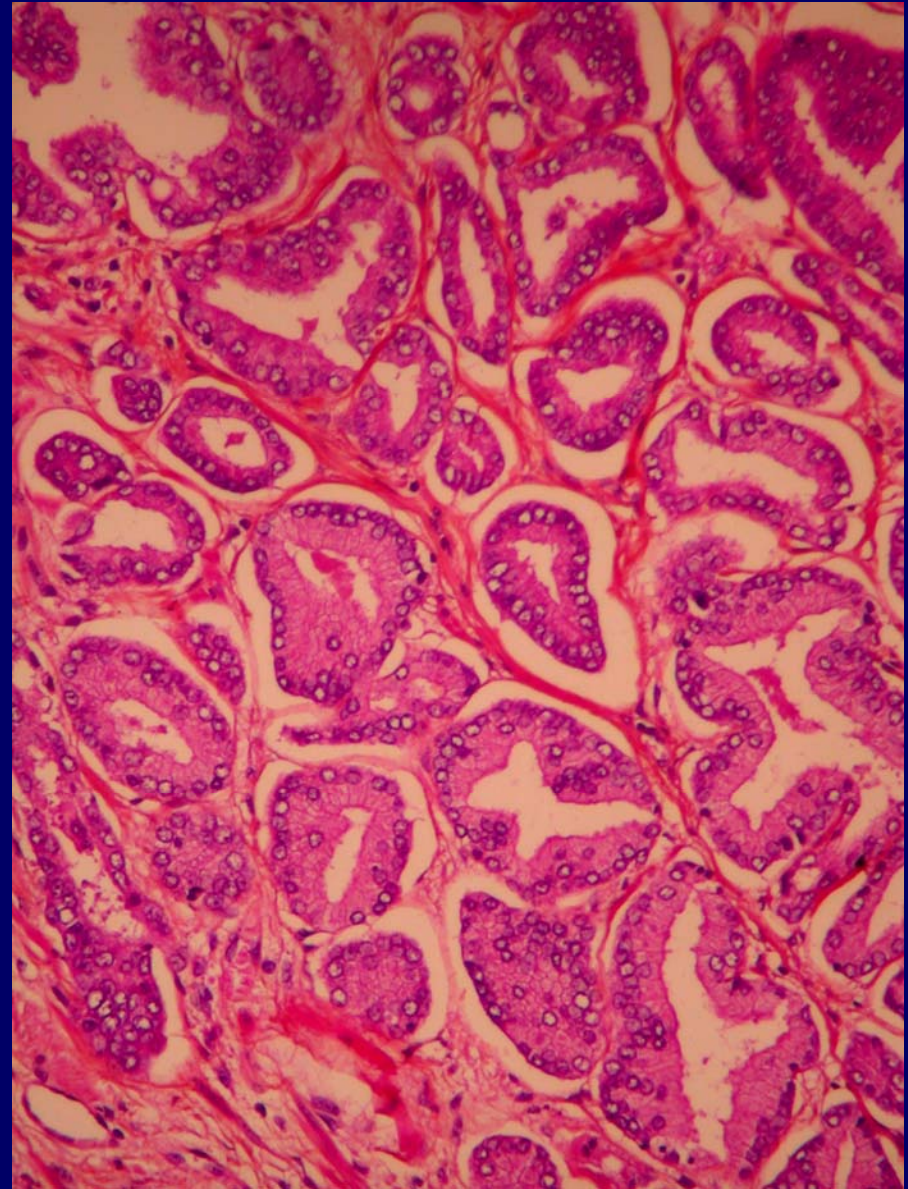
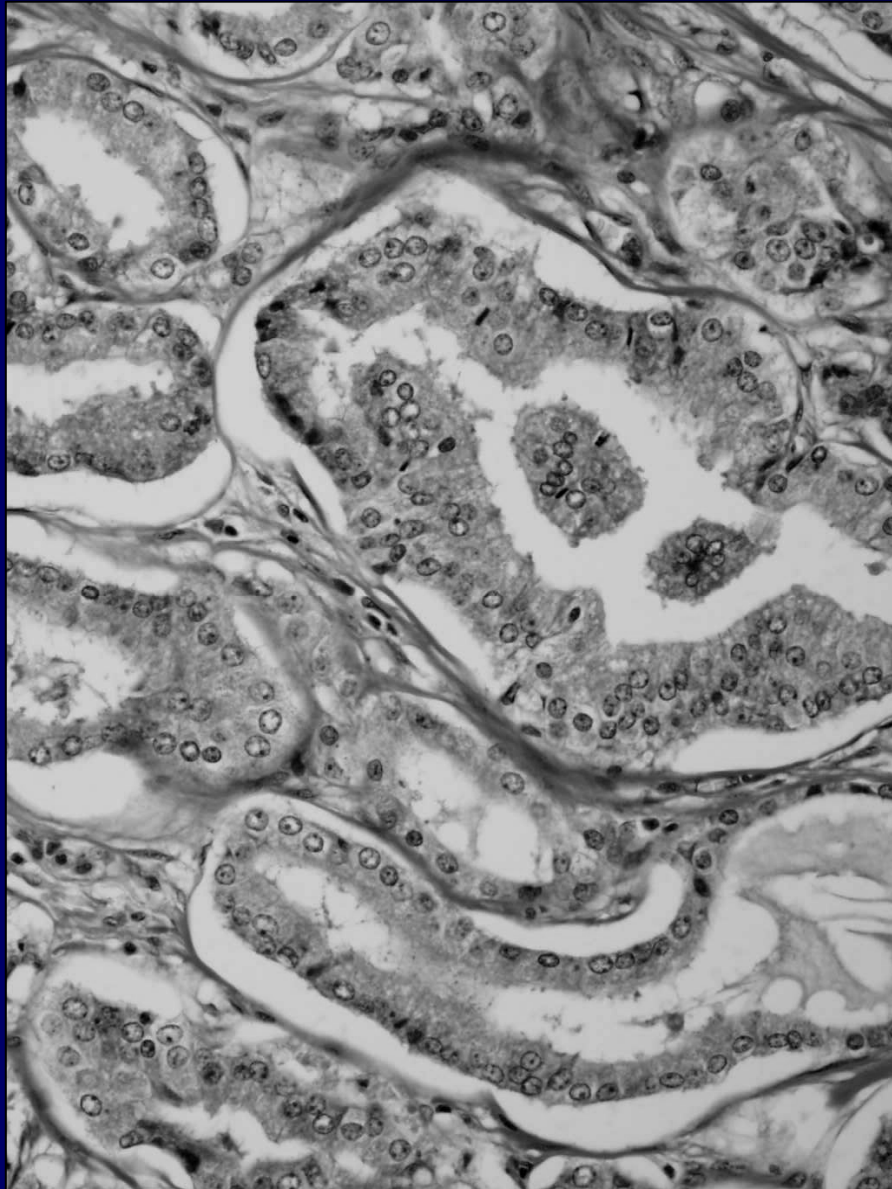
# Carcinome pseudo hyperplasique

- rare sur PBP (RTU)
- diagnostic difficile
- glandes flexueuses
- épithélium assez clair
- s'aider des immunomarquages (perte des cellules basales)



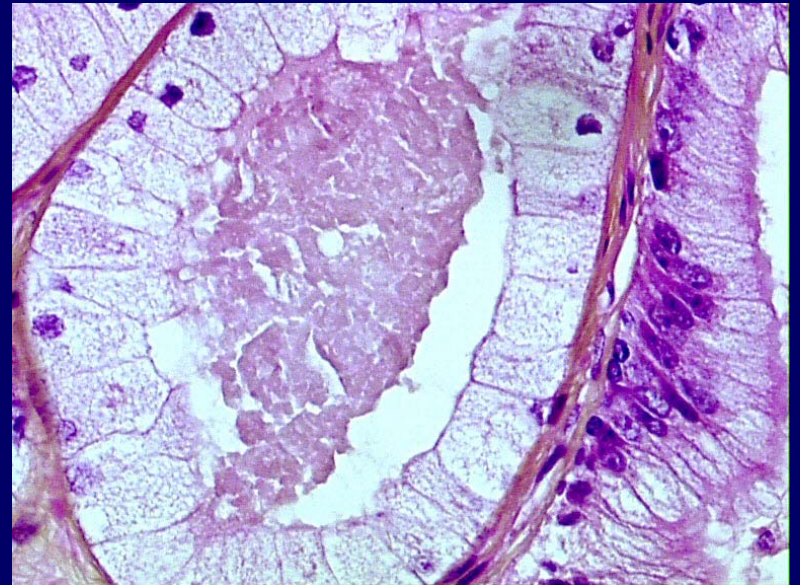
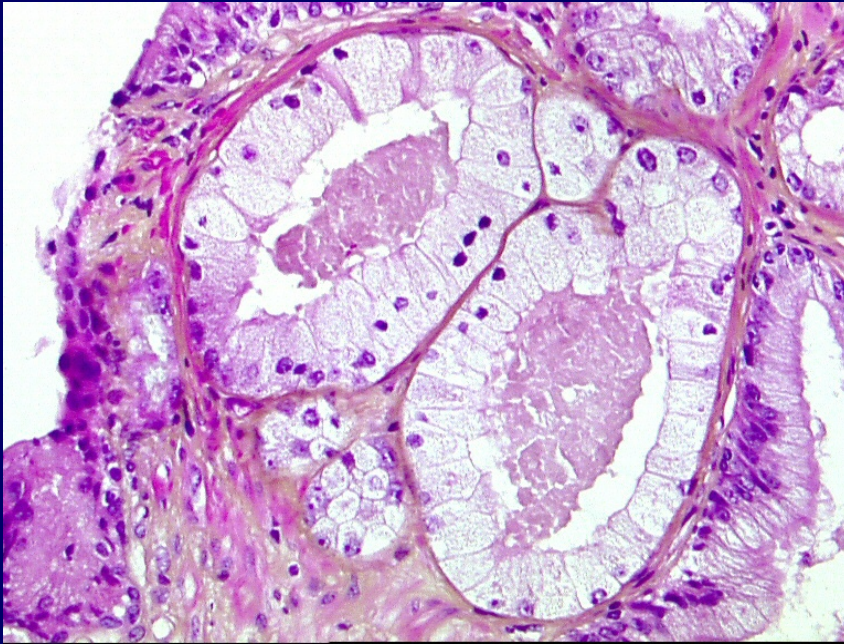


# Carcinome pseudo-hyperplasique





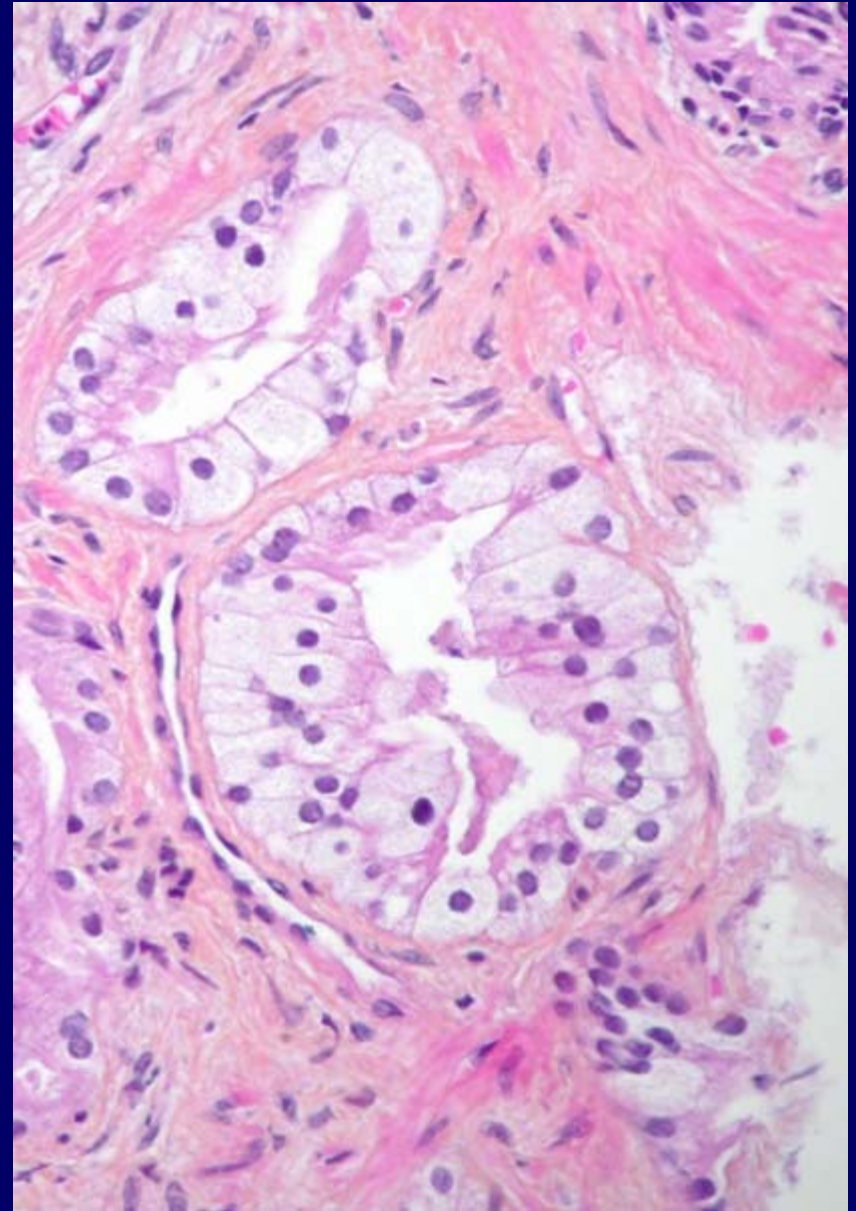
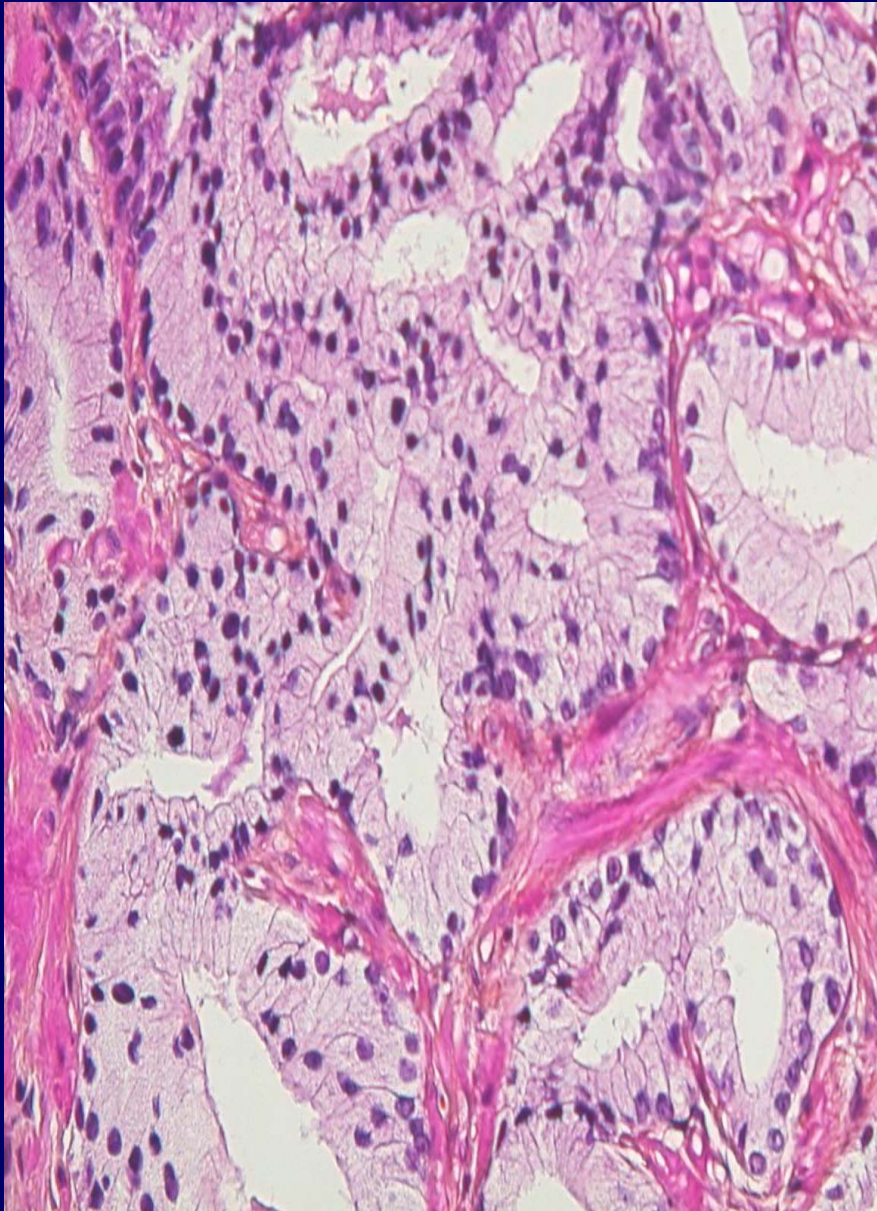
# Carcinome à cellules spumeuses



- la plus fréquente des variantes
- cytologie rassurante mais trompeuse
- glandes claires
- cellules à cytoplasme abondant, micro vacuolaire
- noyau très petit, foncé - nucléole peu visible

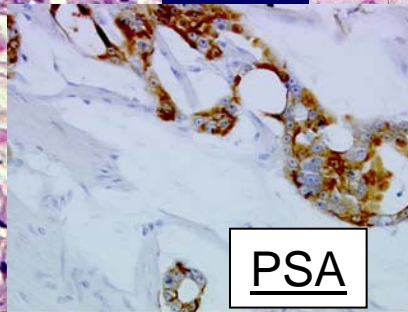
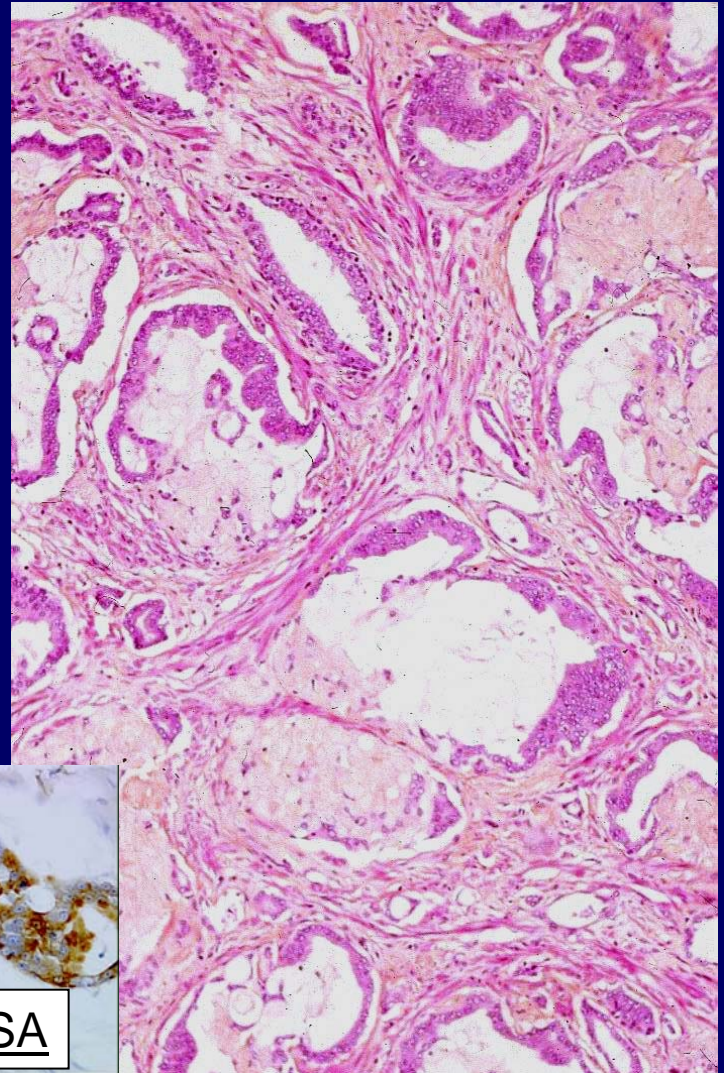
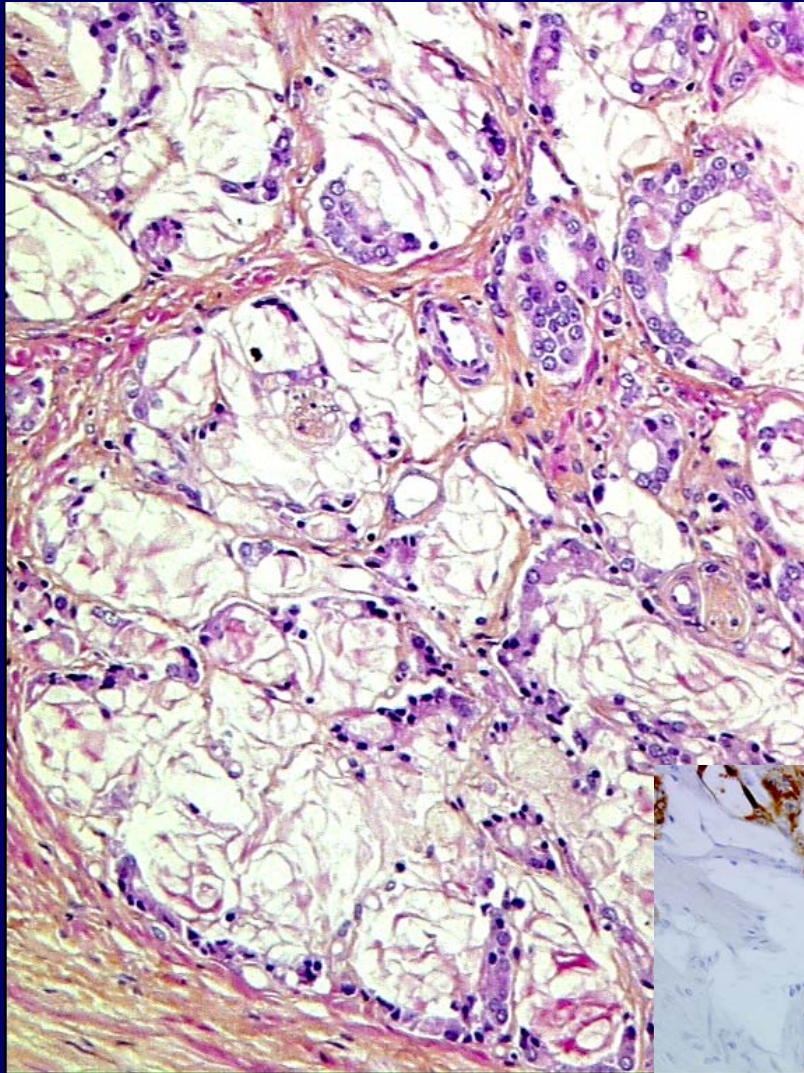


# Carcinome à cellules spumeuses





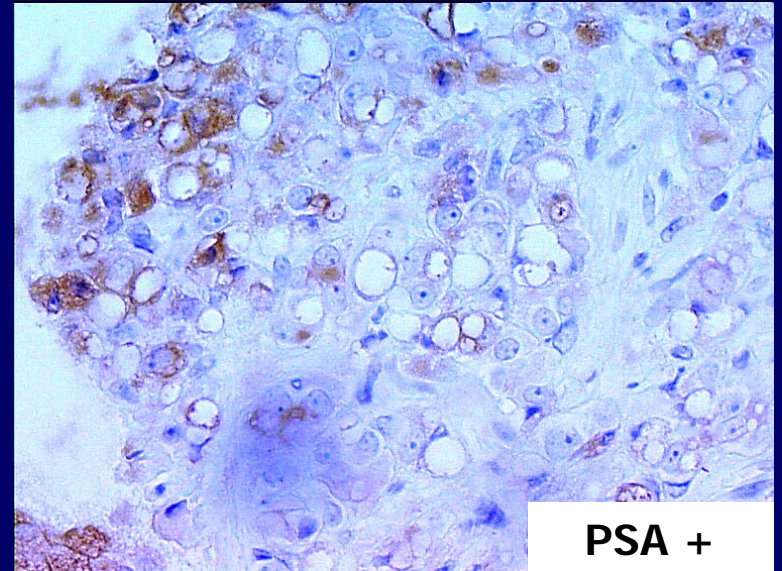
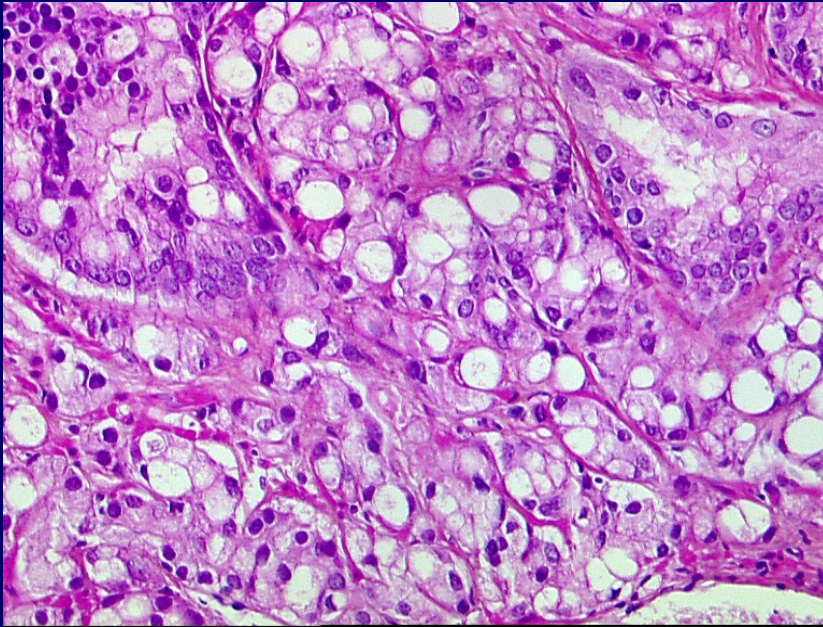
# Carcinome mucineux



PSA



# Carcinome à cellules en bague à chaton (signet ring cell)

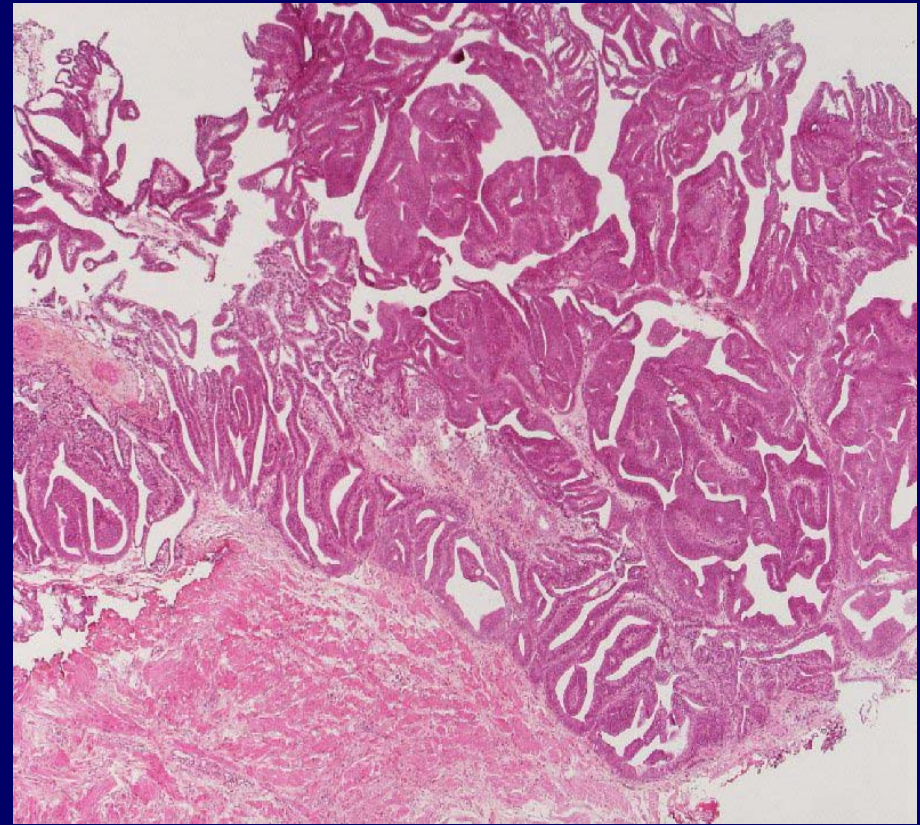
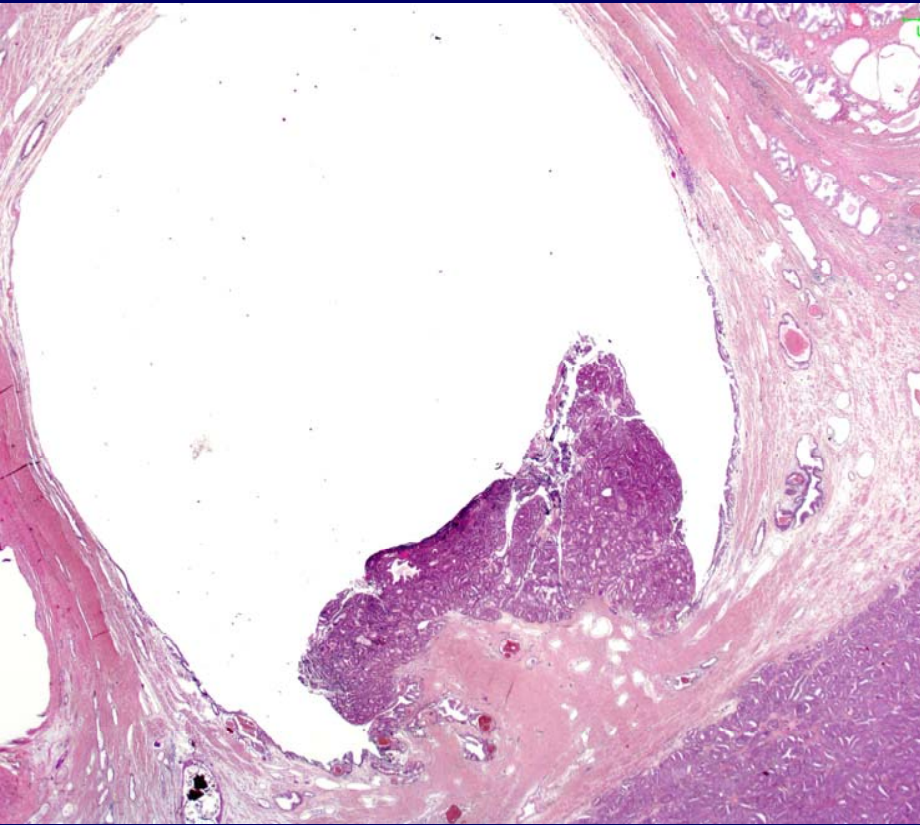


- exceptionnel en forme pure
- associé à une forme clinique évoluée
- vacuole claire intracytoplasmique
- PSA et PAP + (mucine -)



## carcinome ductal (ancien endométrioïde)

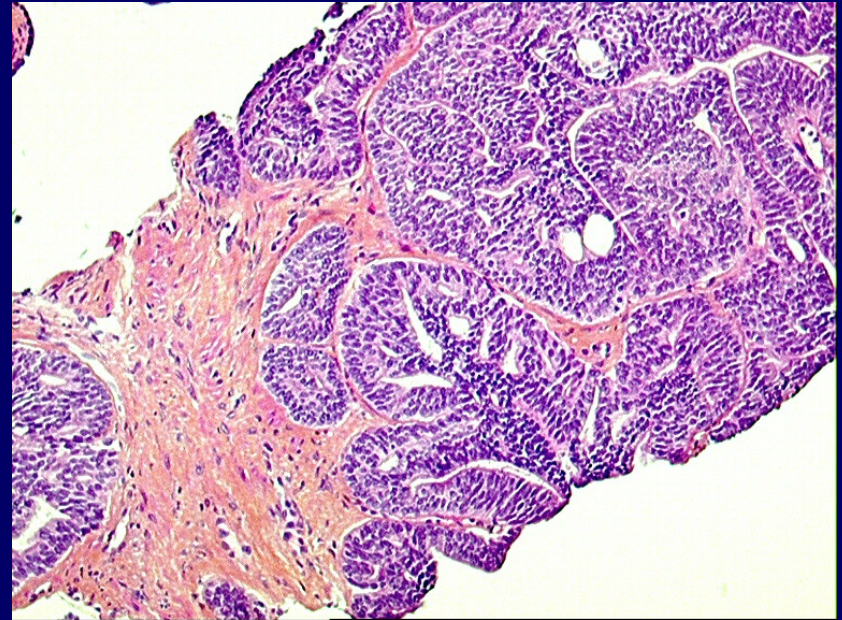
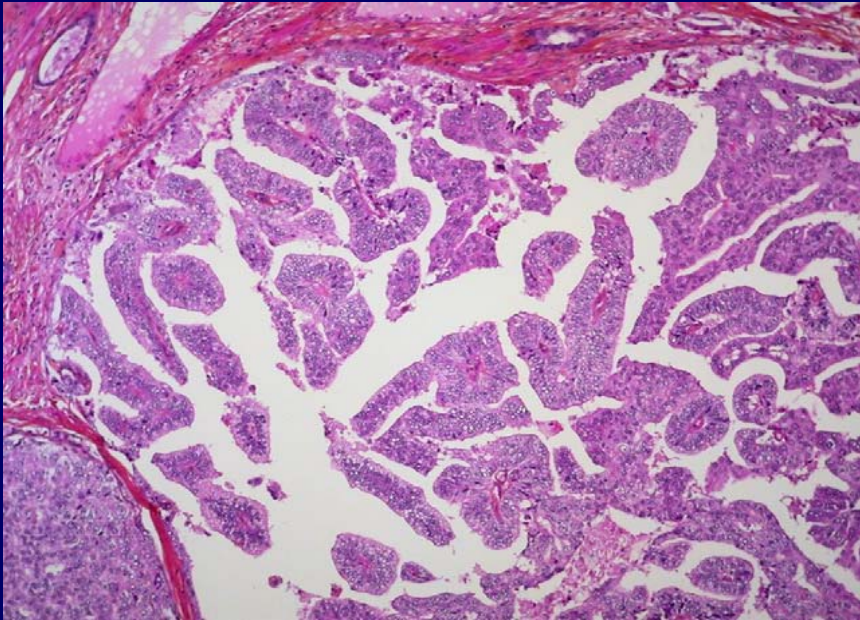
Polype endouretal chez un patient âgé révélateur d'un carcinomes des grands canaux périphériques





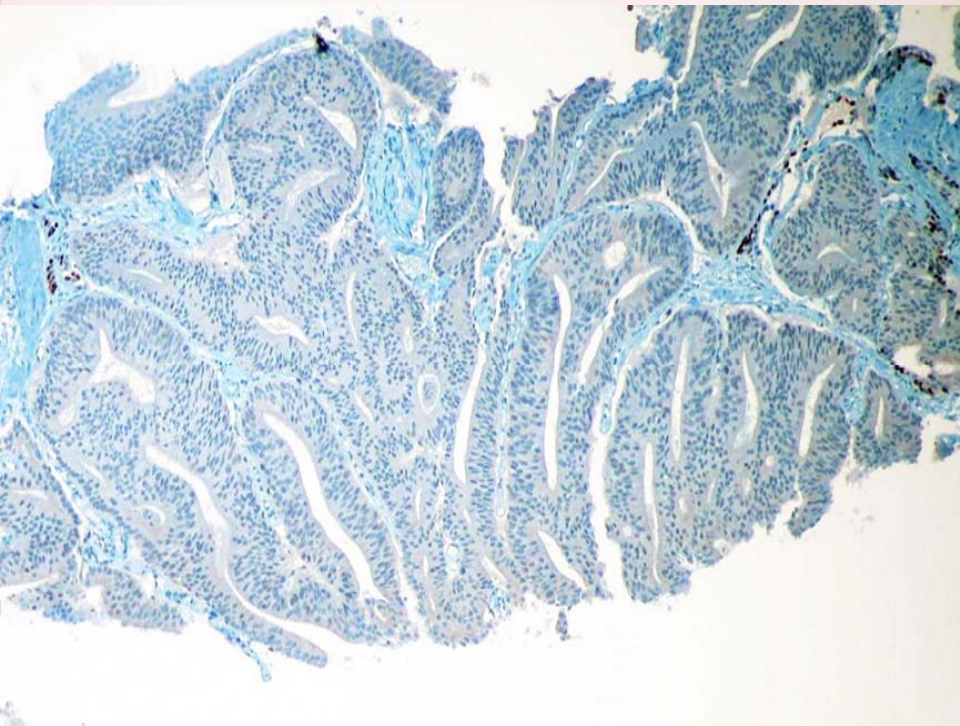
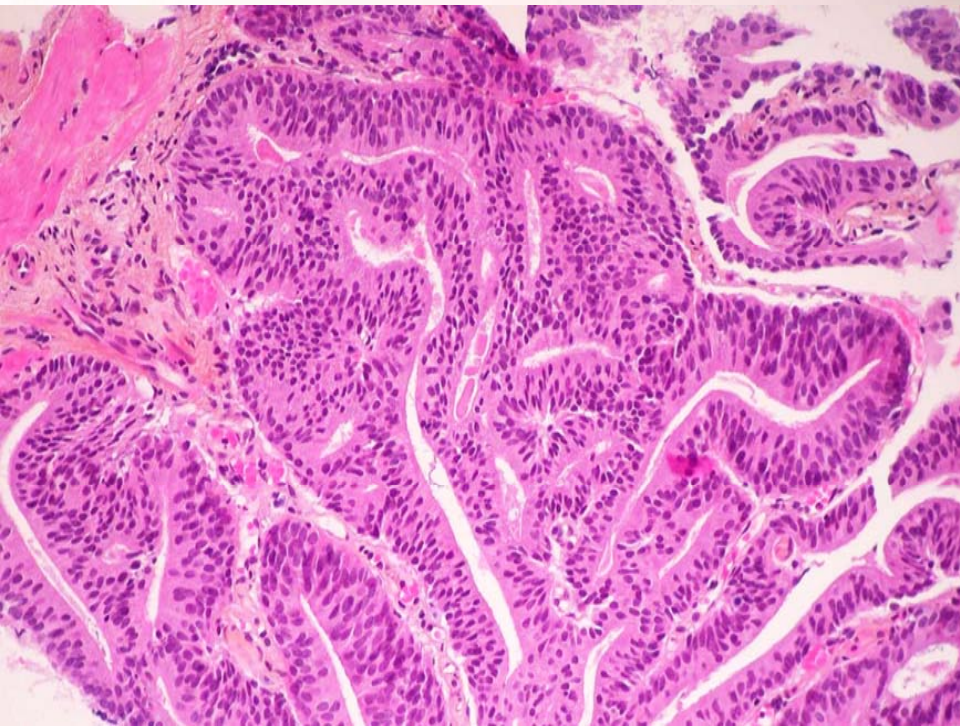
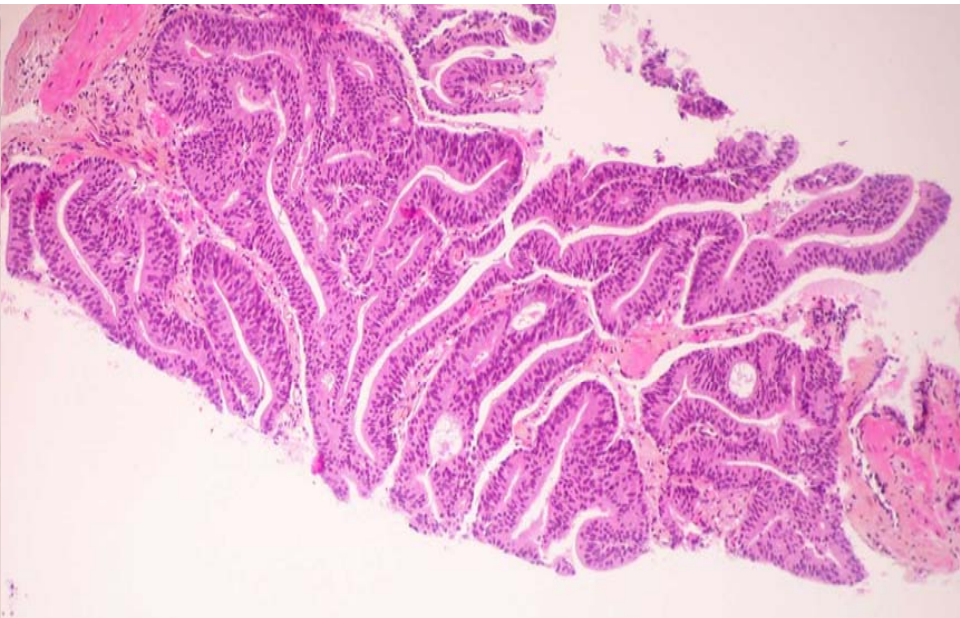
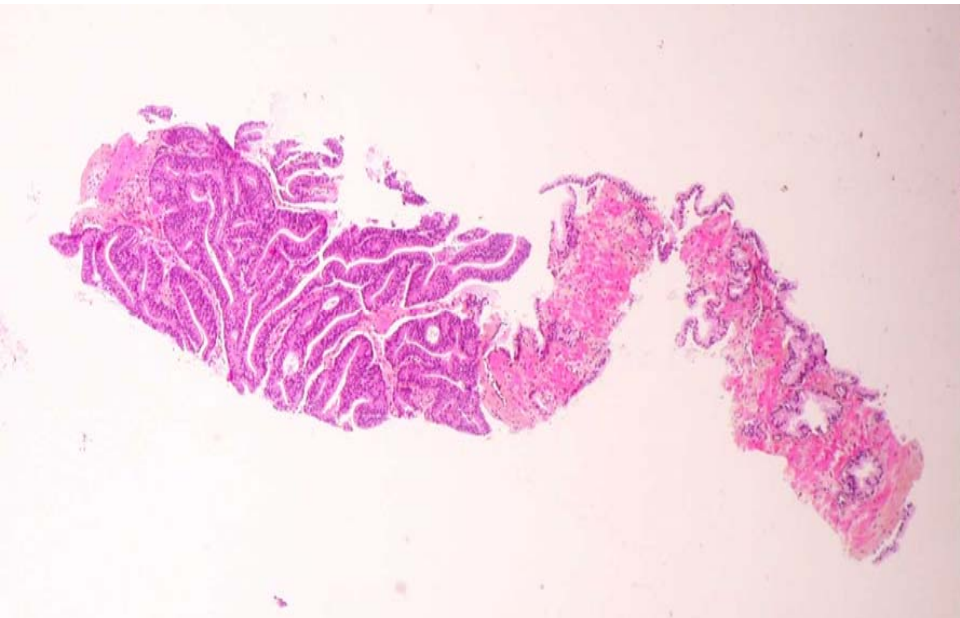
# carcinome ductal périphérique

Aspect intraductal et carcinome invasif





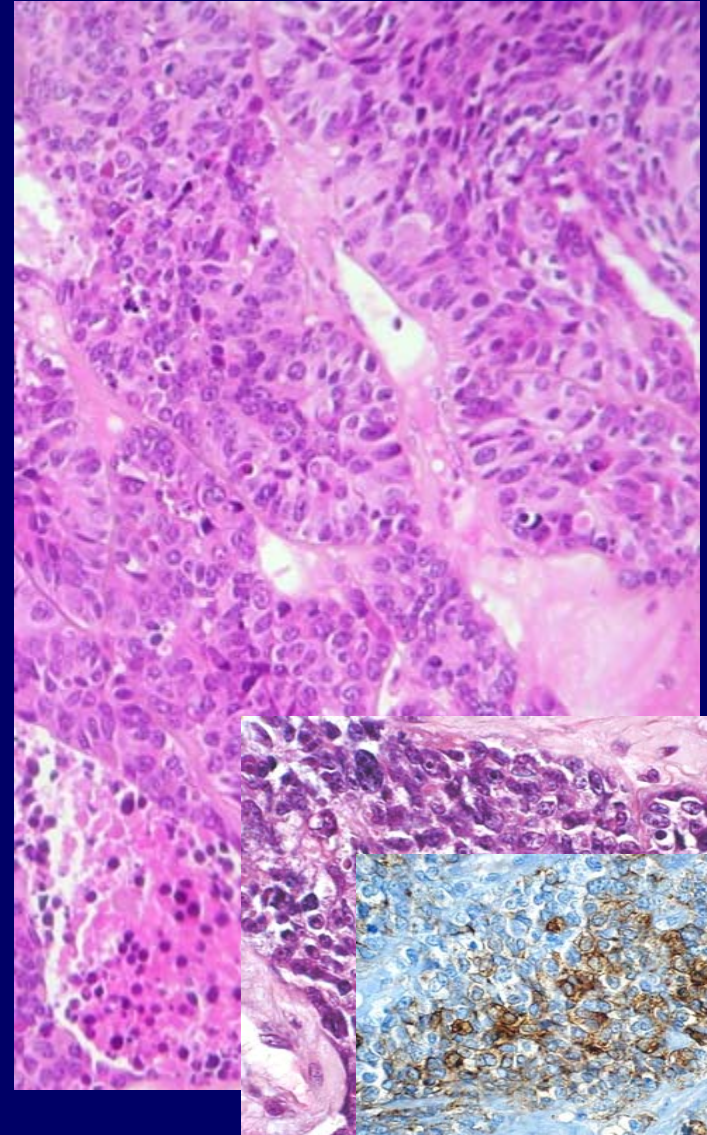
# Carcinome intra ductal sur biopsie ou PIN ???





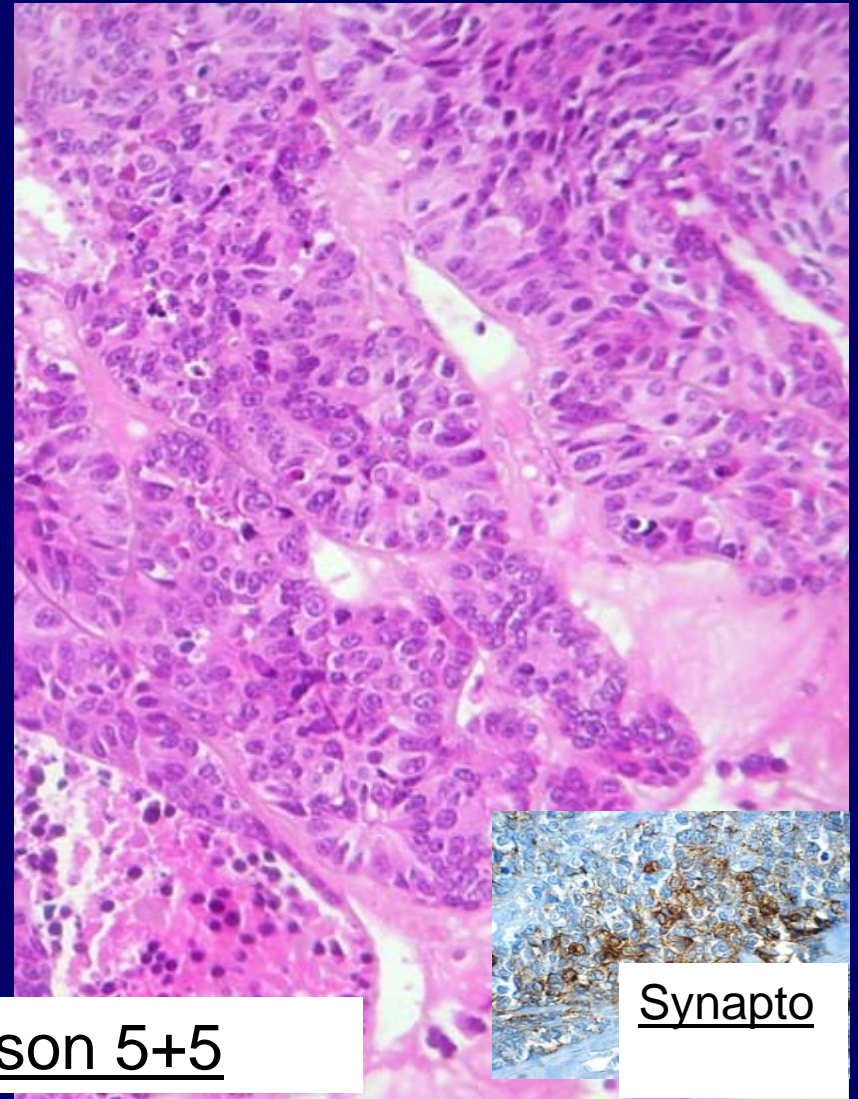
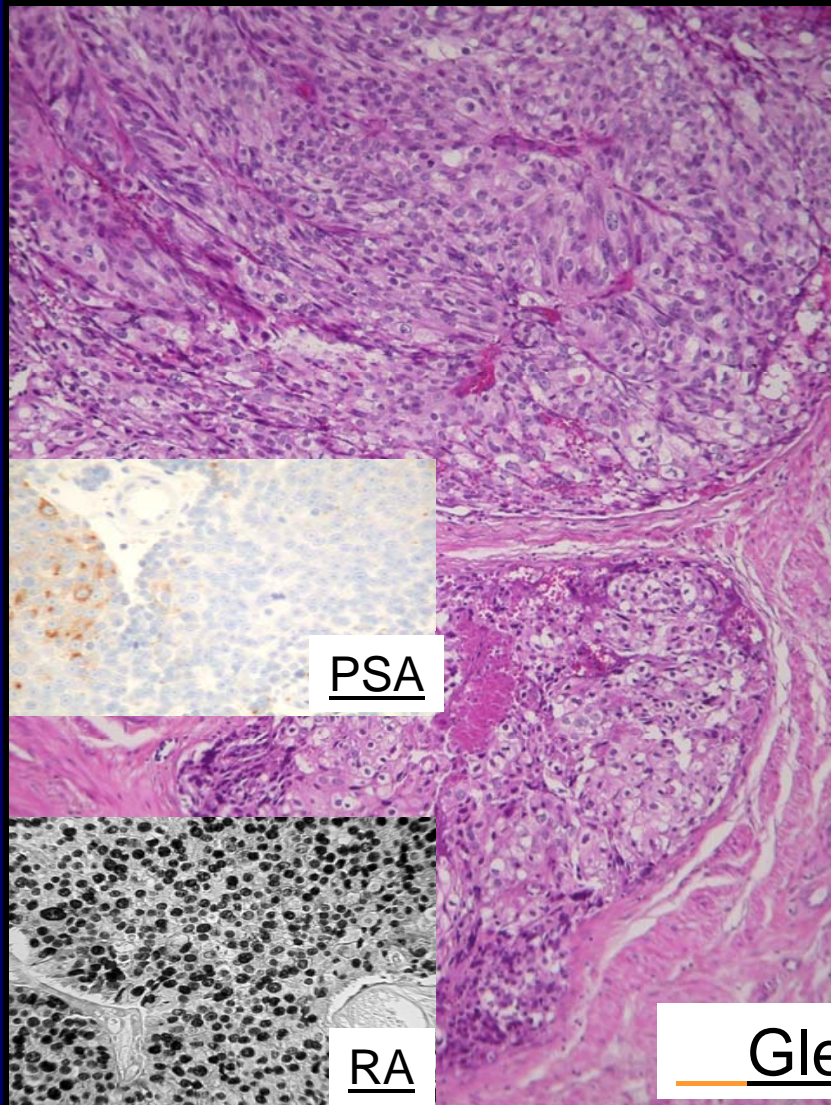
# Carcinome neuro endocrine

- De novo (rare)
- Aspect identique au poumon (cellules petites ou intermédiaires)
- Marqueurs neuro endocrines (Chromogranine ou Synaptophysine) variables
- 50 % association avec contingent acineux
- Grading 5 ou pas de grading
- Chimiothérapie ?





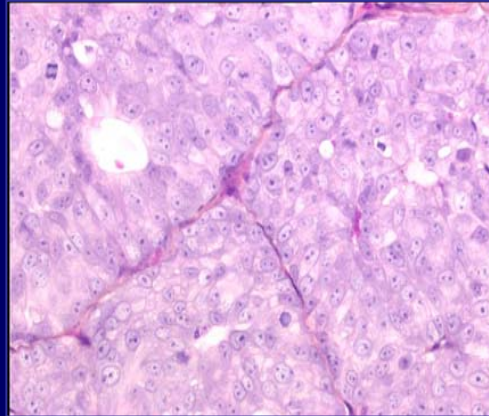
# Carcinome neuro endocrine en échappement après traitement hormonal





# ECHAPPEMENT HORMONAL MODIFICATIONS MORPHOLOGIQUES

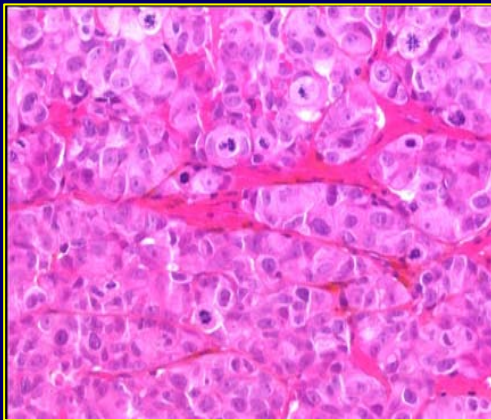
PAC120-HD



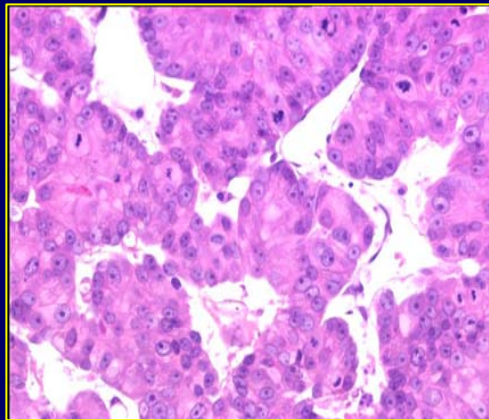
Formes mixtes



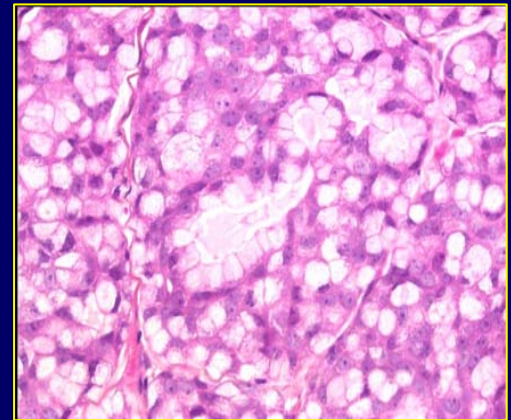
PAC120-HID



Compacte



Neuroendocrine

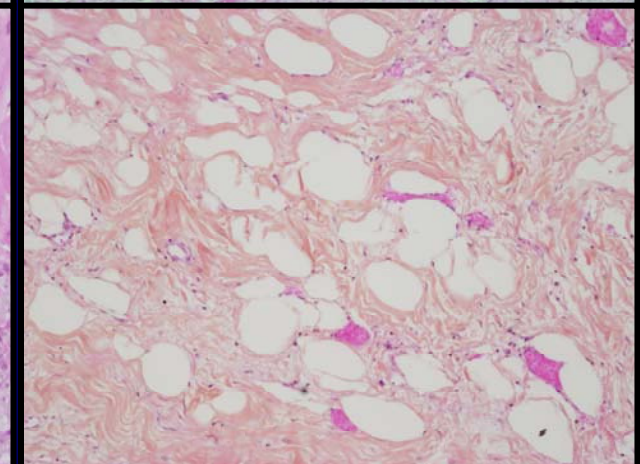
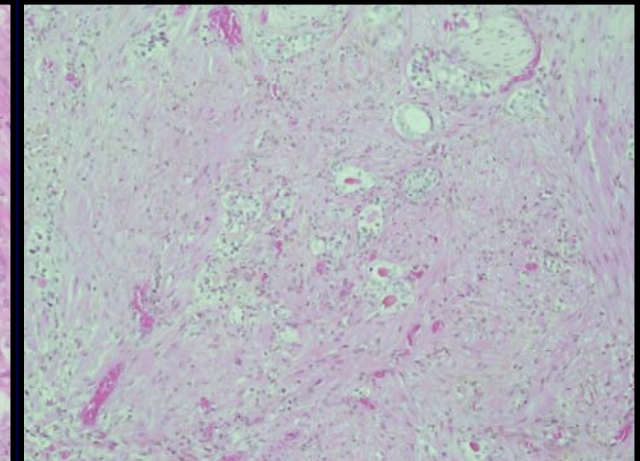
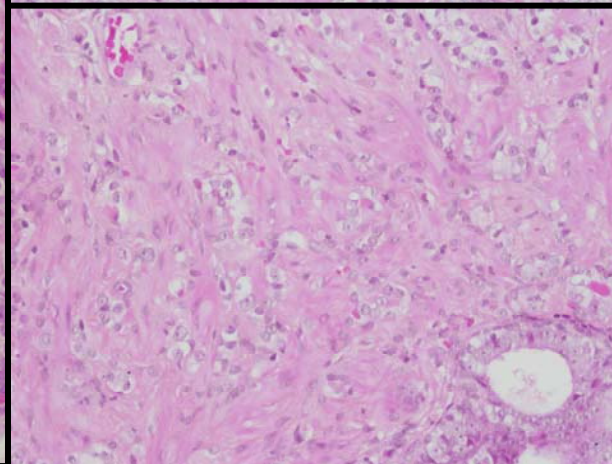
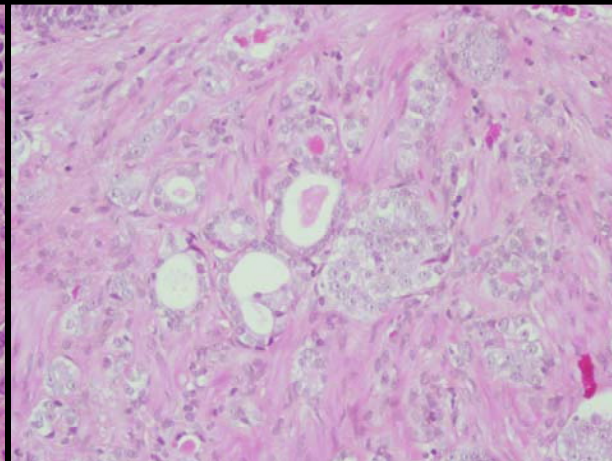
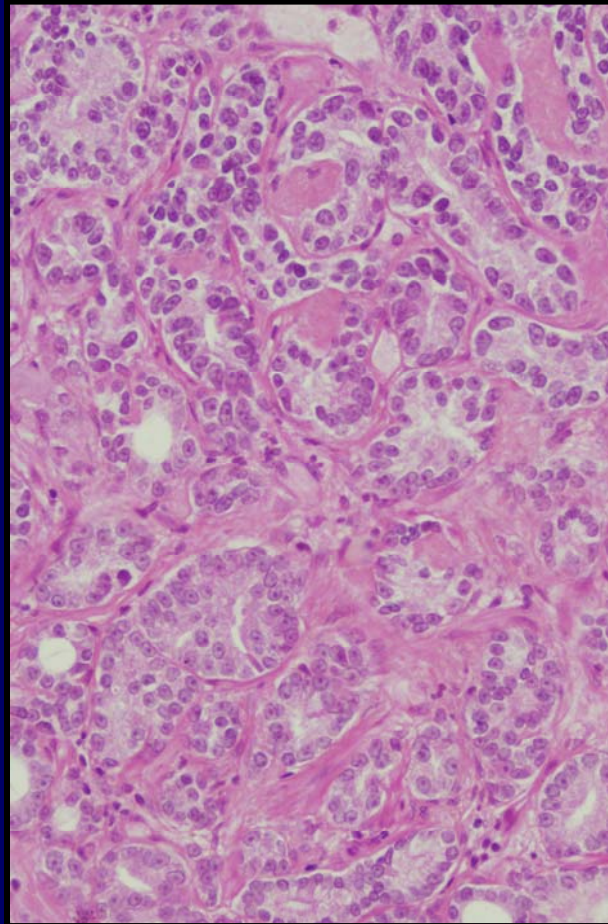


Mucosécrétante

Avril 2006

Août 2006

Septembre 2007



**Carcinome Traité: ne pas grader**  
**Risque de surgrading**



# Finastéride : Possible prévention du cancer par le finastéride ???

## Etude PCPT: Prostate Cancer Prevention Trial

1901 cancers: 778 F, 1123 P

Gleason > 7 sur biopsies

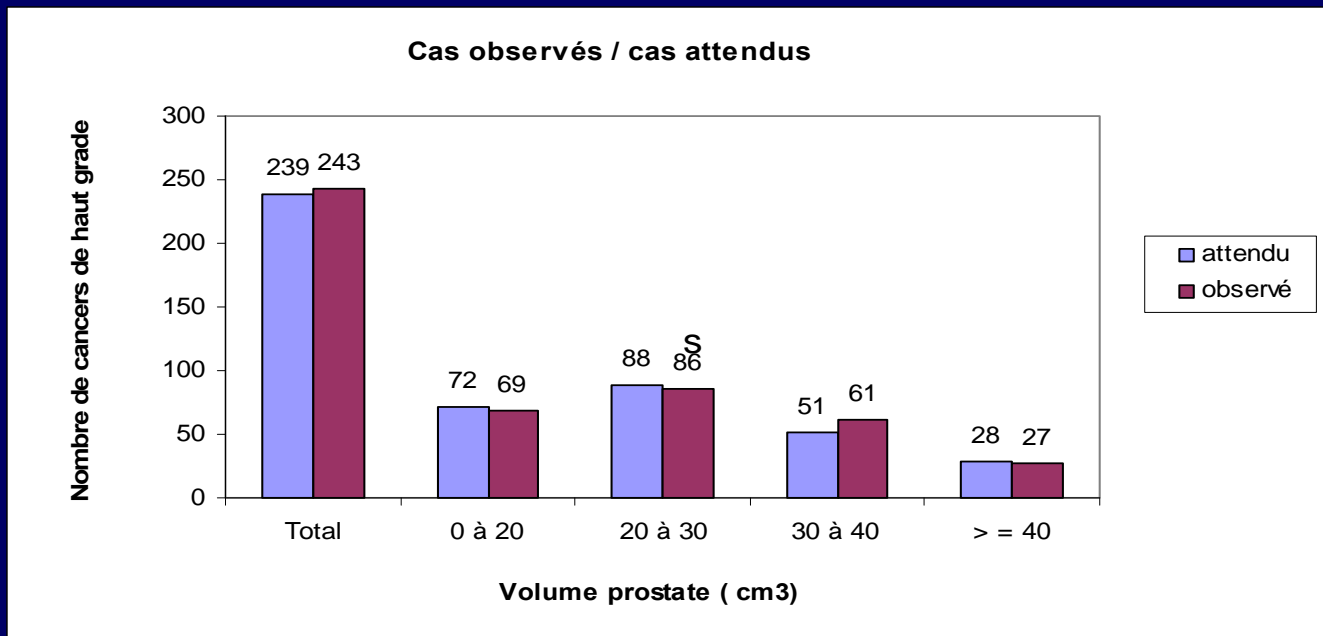
37,4% F

22,7% P

Les cancers de haut grade sont plus réquents dans le Groupe Finastéride

Biais?? Surgrading, surdetection

| Gleason Score     | All Cancers               |                        |
|-------------------|---------------------------|------------------------|
|                   | Finasteride Group (N=757) | Placebo Group (N=1068) |
| 2                 | 4 (0.5)                   | 9 (0.8)                |
| 3                 | 1 (0.1)                   | 8 (0.7)                |
| 4                 | 15 (2.0)                  | 38 (3.6)               |
| 5                 | 69 (9.1)                  | 118 (11.0)             |
| 6                 | 388 (51.3)                | 658 (61.6)             |
| 7                 | 190 (25.1)                | 184 (17.2)             |
| 8                 | 45 (5.9)                  | 25 (2.3)               |
| 9                 | 36 (4.8)                  | 24 (2.2)               |
| 10                | 9 (1.2)                   | 4 (0.4)                |
| 7, 8, 9, or 10    | 280 (37.0)                | 237 (22.2)             |
| Not graded‡       | 46                        | 79                     |
| All cancers       | 803                       | 1147                   |
| All men evaluated | 4368                      | 4692                   |



- Sous finasteride le volume de la glande est diminué de 25%
- Les biopsies sont faites pour des taux de PSA:2

• En utilisant des modèles mathématiques avec ajustement du volume de la glande et du nombre de biopsies on a pu constater que l'augmentation du nombre de cancer de haut grade chez les patients sous finastéride pouvait être un artefact par biais d'échantillonnage

*Peter H. Gann Detection Bias Due to the Effect of Finasteride on Prostate Volume: A Modeling Approach for Analysis of the Prostate Cancer Prevention Trial J Natl CancerInst sept 2007*



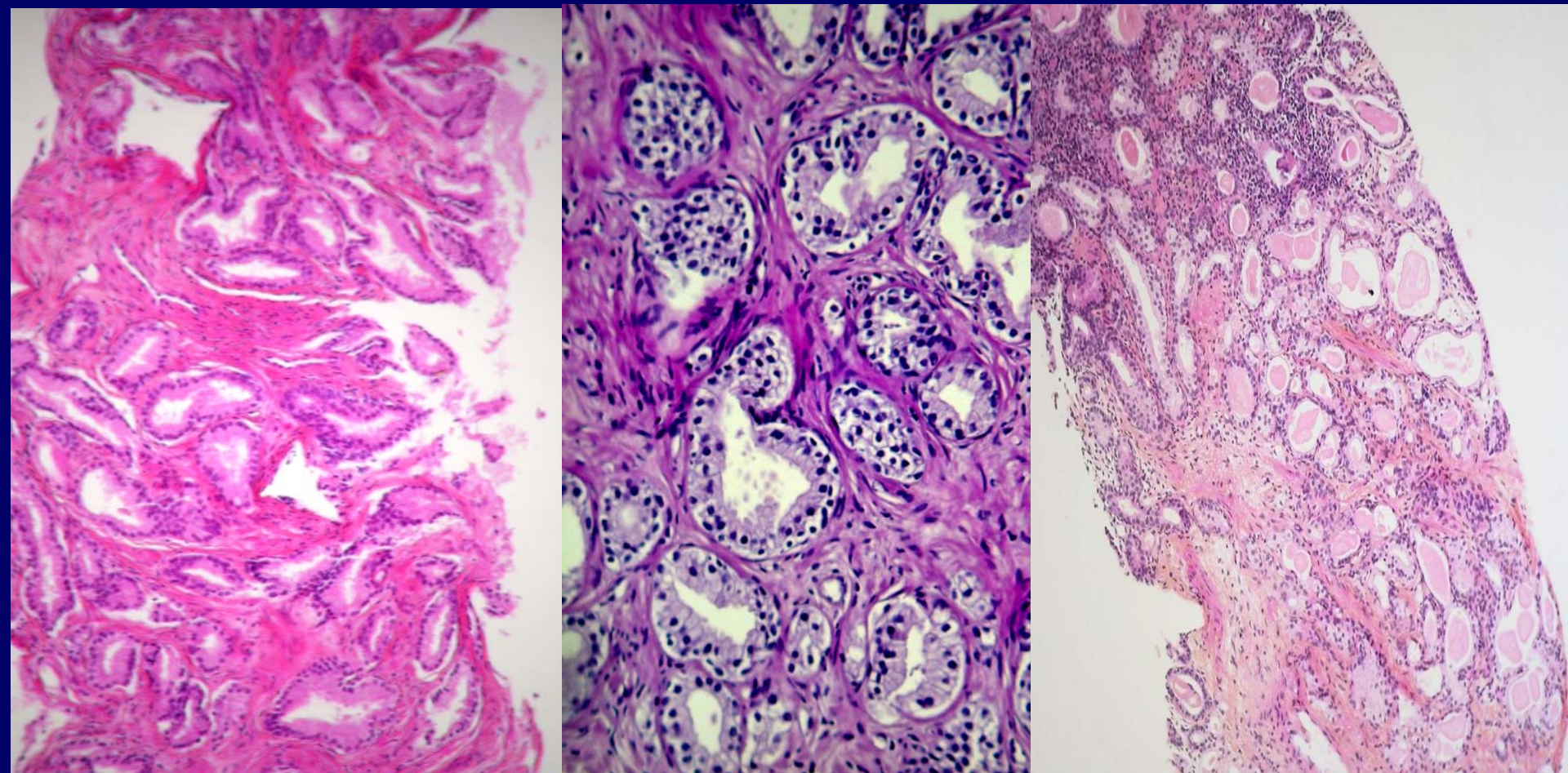
**Effects of finasteride on prostate volume and selective inhibition of low-grade cancer, rather than effects on tumor morphology, may have contributed to the increase in high-grade cancers with finasteride in the PCPT.**

**Although induction of high-grade cancer cannot be excluded, the results suggest that high-grade cancer was detected earlier and was less extensive in the finasteride group than in the placebo group.**

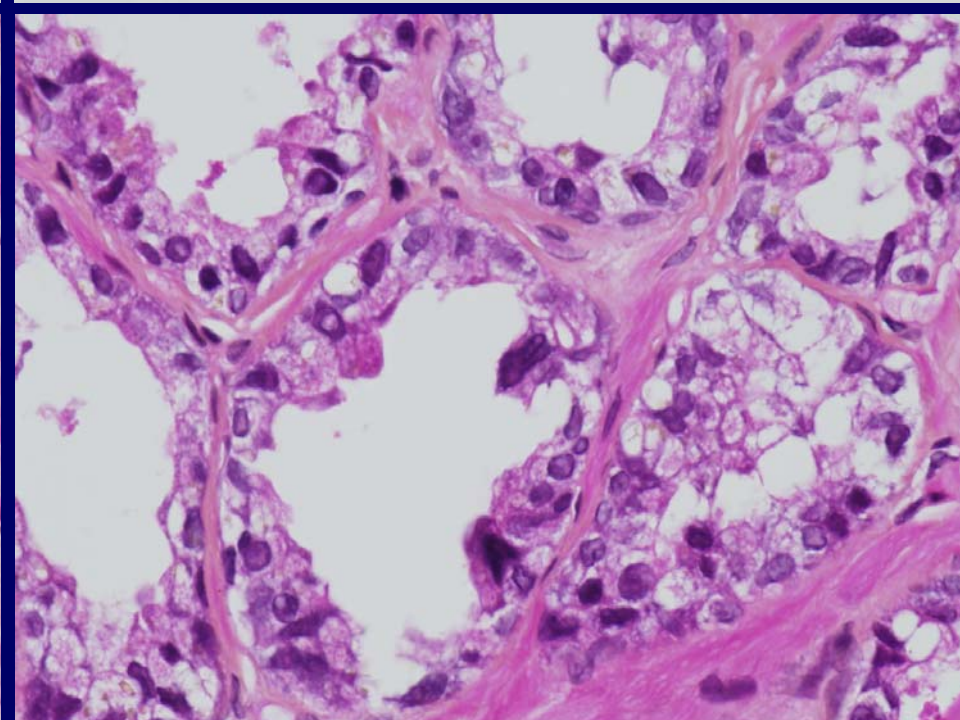
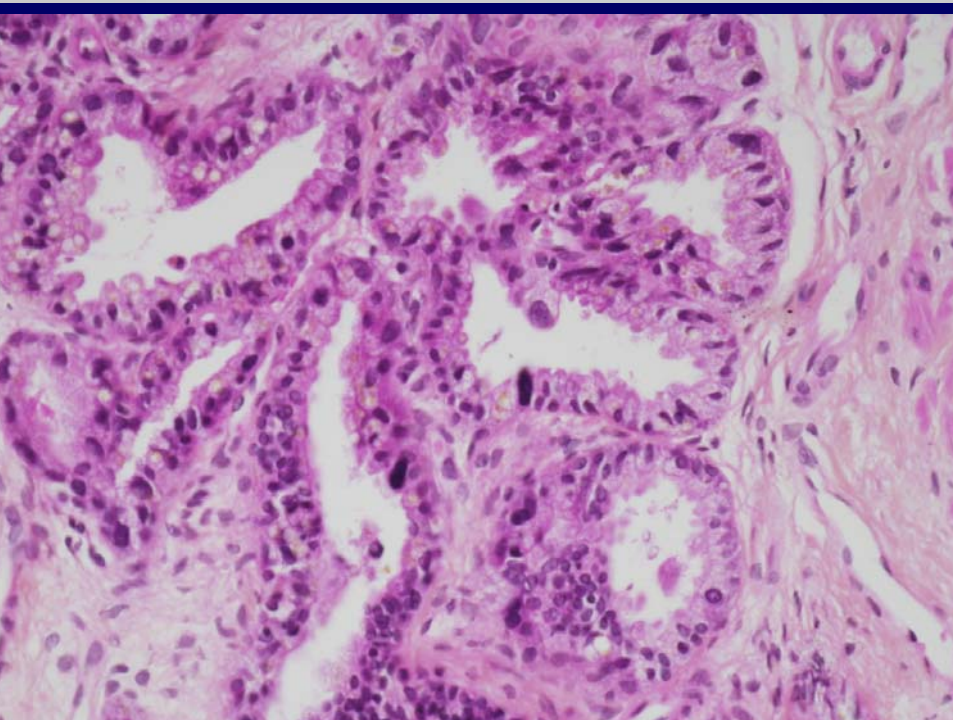
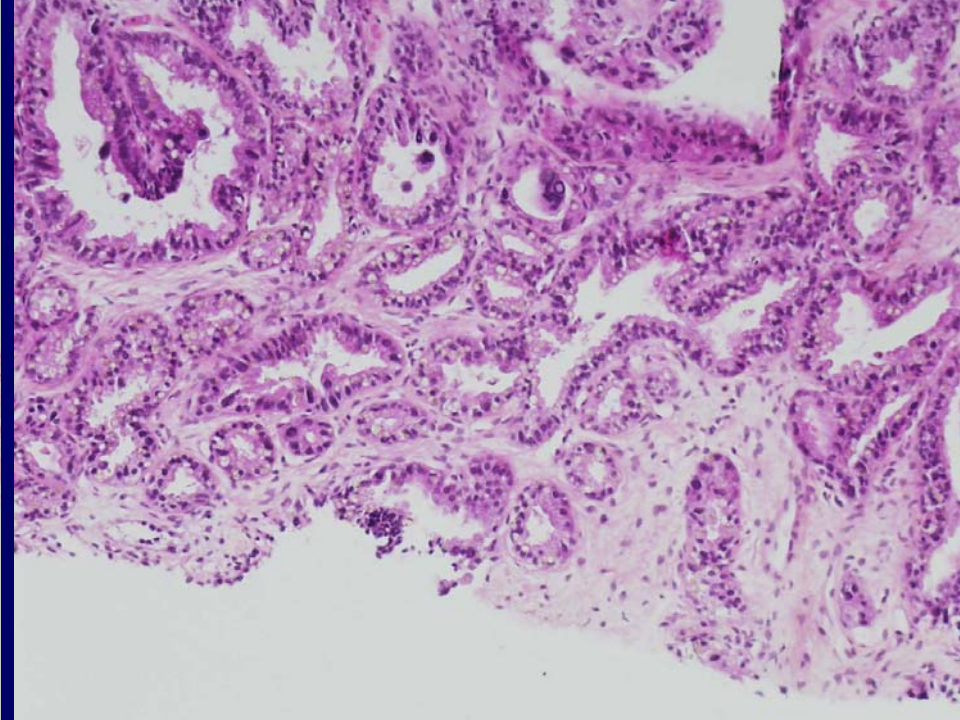
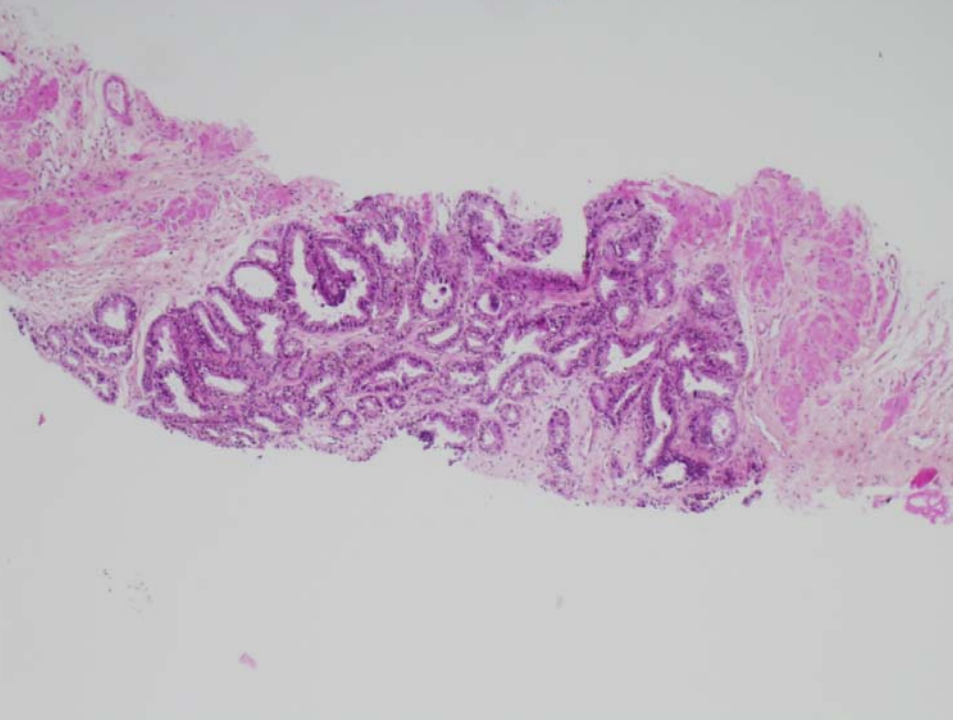
*Lucia MS , Epstein JI ,Thompson IM J Natl Cancer Inst. 2007 Sep 19*

# Les lésions pièges : une hantise sur les biopsies

- Ne pas qualifier de cancer des lésions qui n'en sont pas



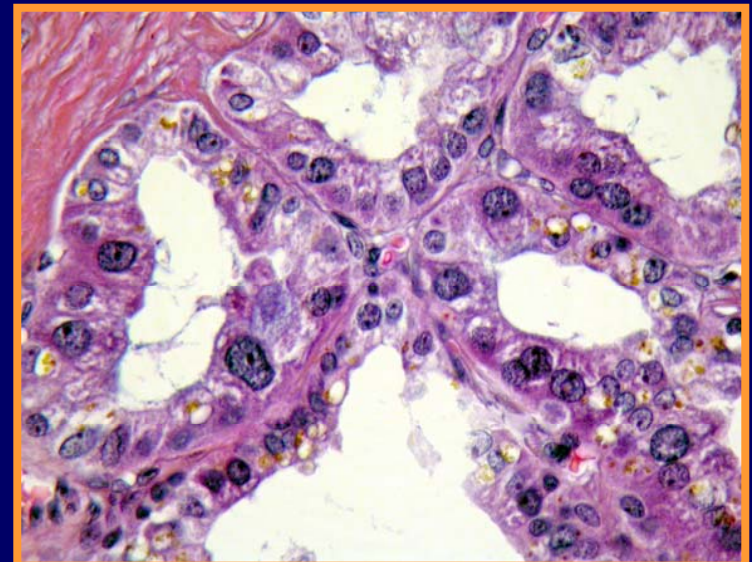
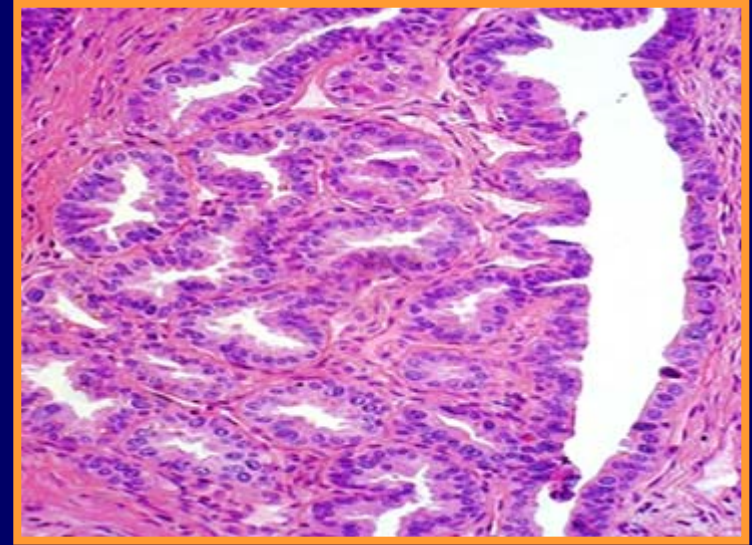




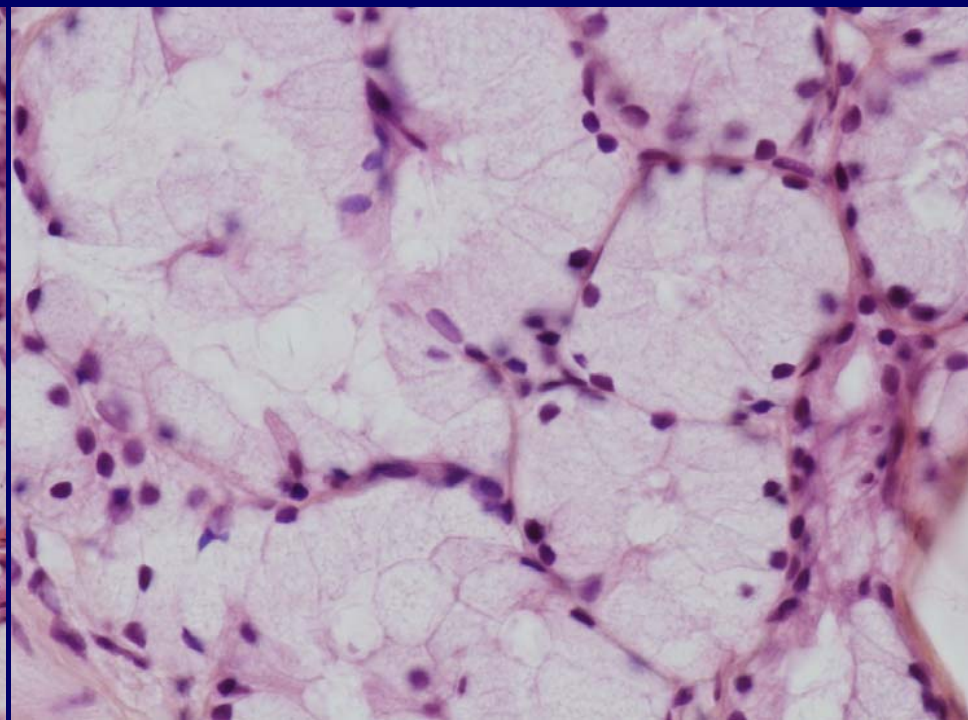
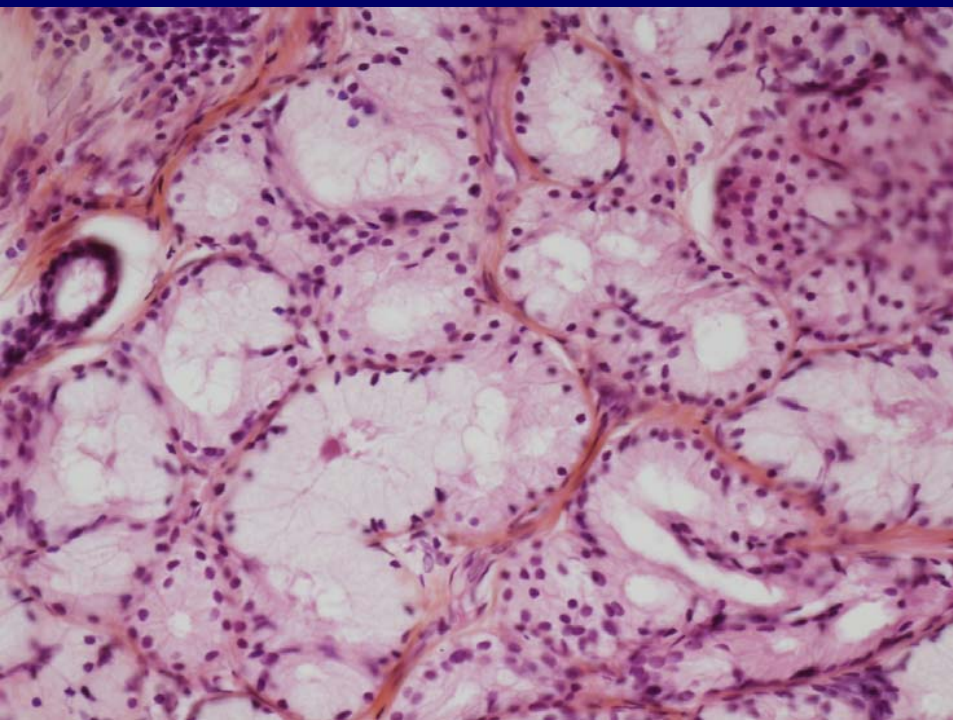
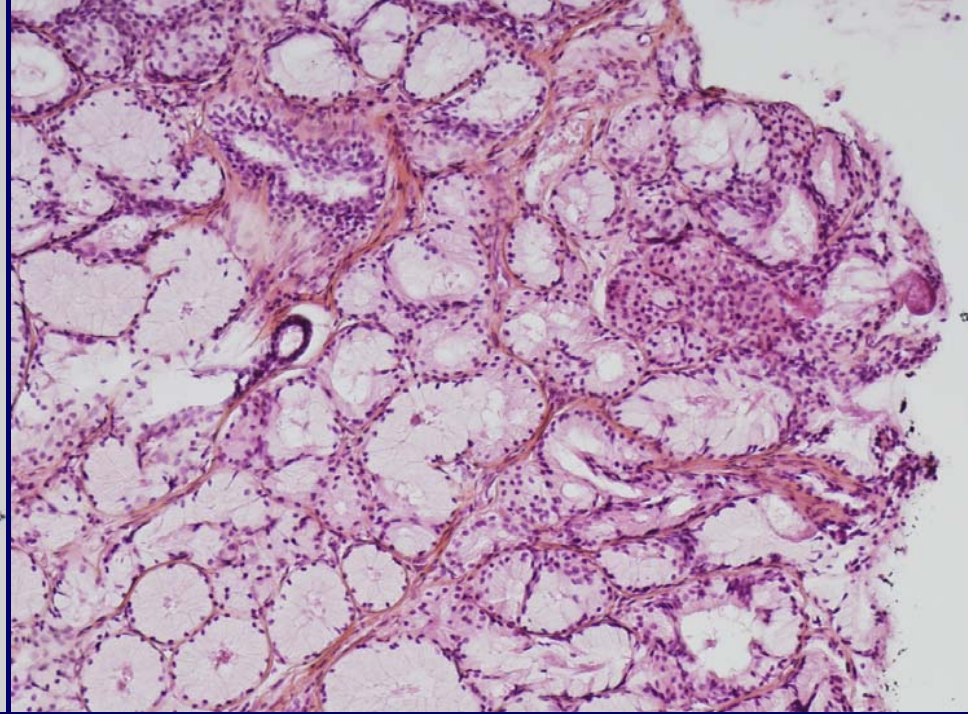
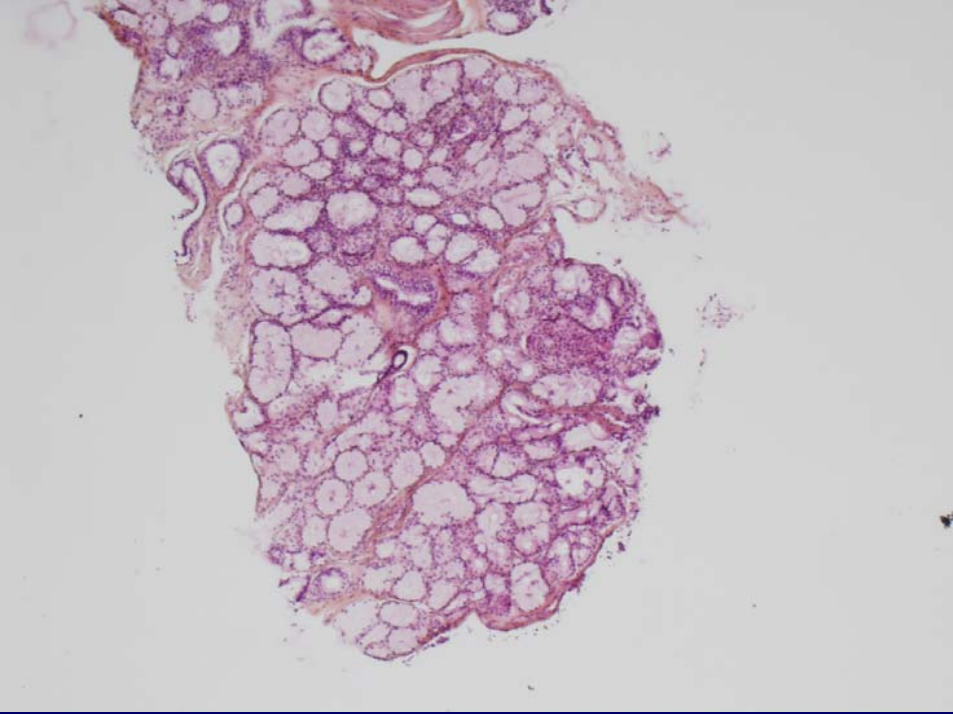


# Vésicules séminales / canaux éjaculateurs

- **Sur biopsies de la base**
- **Architecture organoïde**
- **Atypies nucléaires majeures**
- **Pigment cytoplasmique brun : lipofuscines**



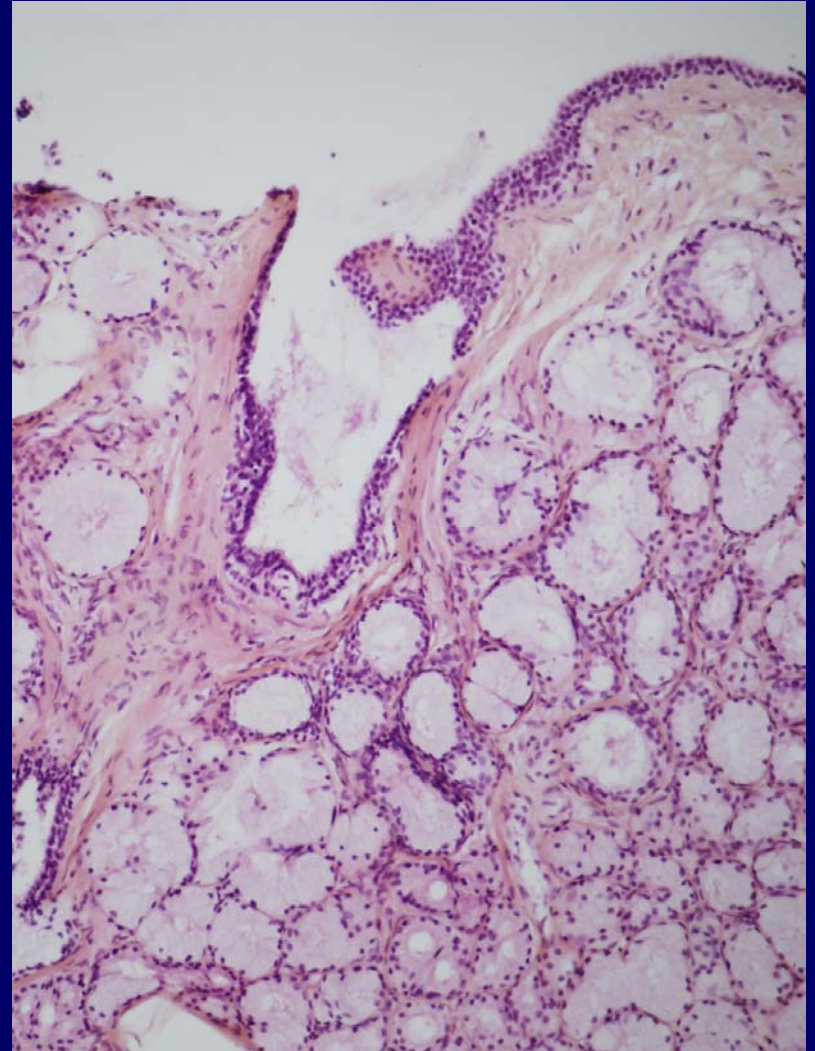






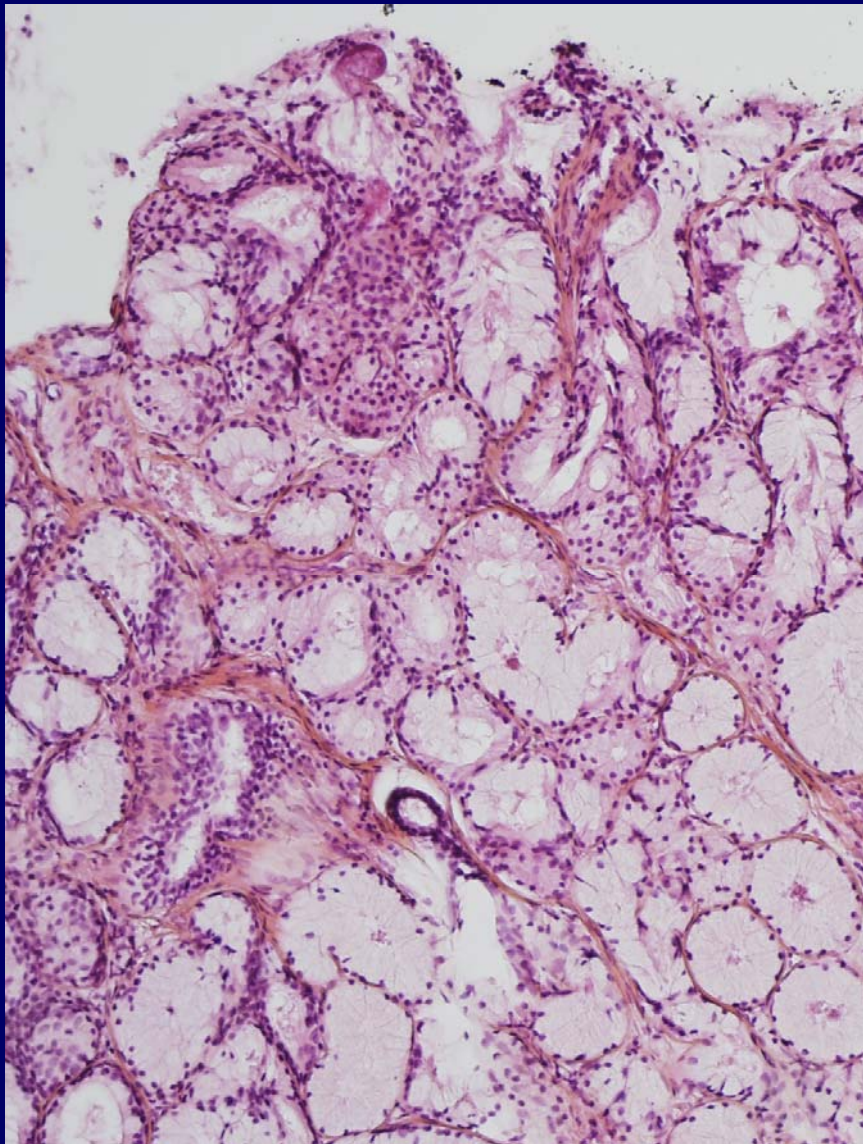
# Glandes de Cowper

- Rare
- Sur biopsies de l'apex
- Caractère organoïde, glandes mucineuses groupées en acini
- Autour d'un canal central
- Petits noyaux au pôle basal
- Dg Diff : Adénocarcinome à cellules spumeuses

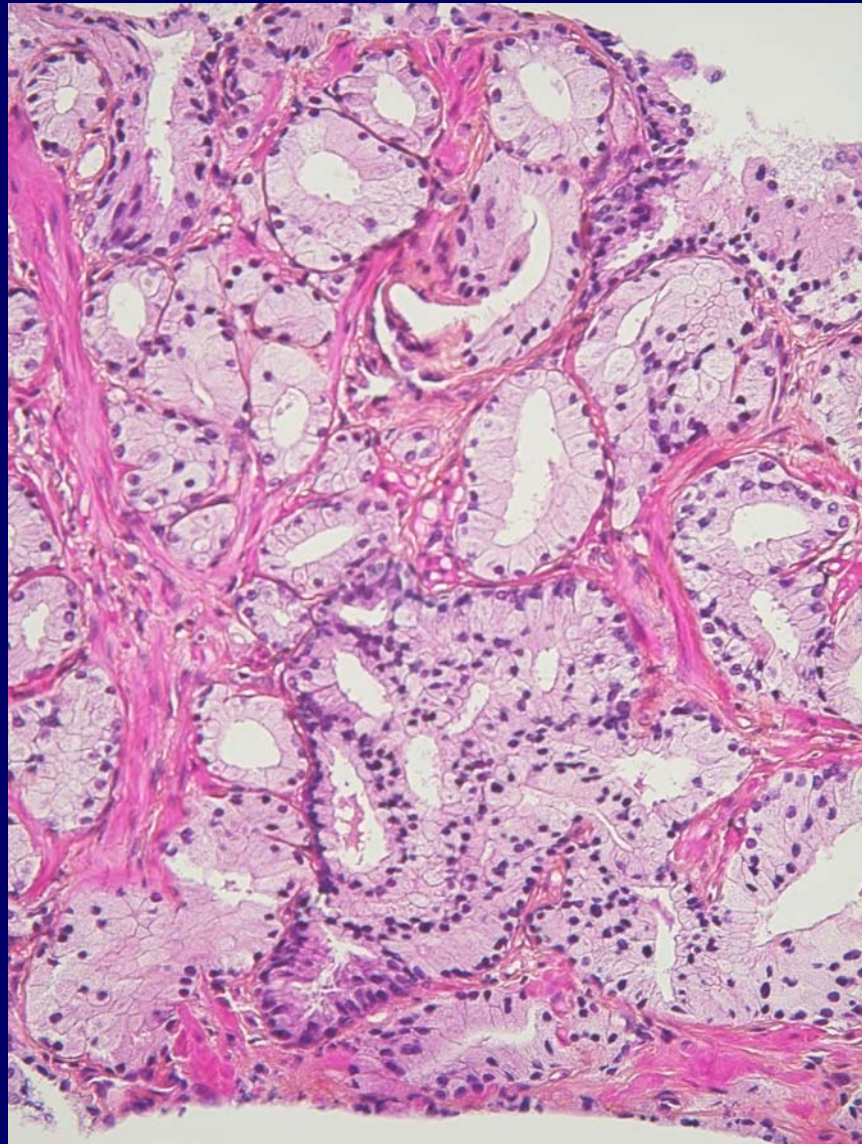




**Glandes de Cowper**

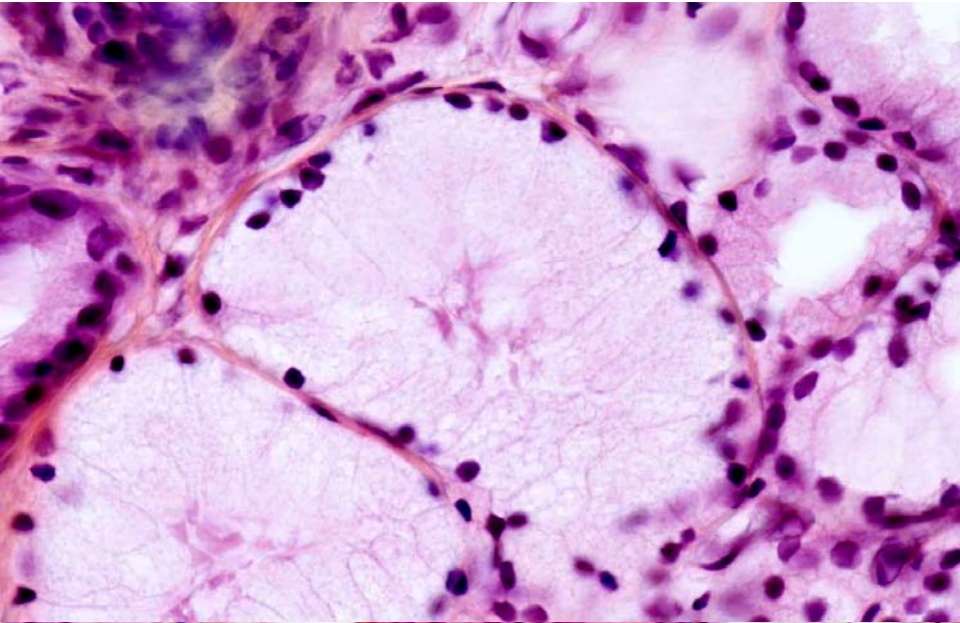


**Adénocarcinome à cellules spumeuses**

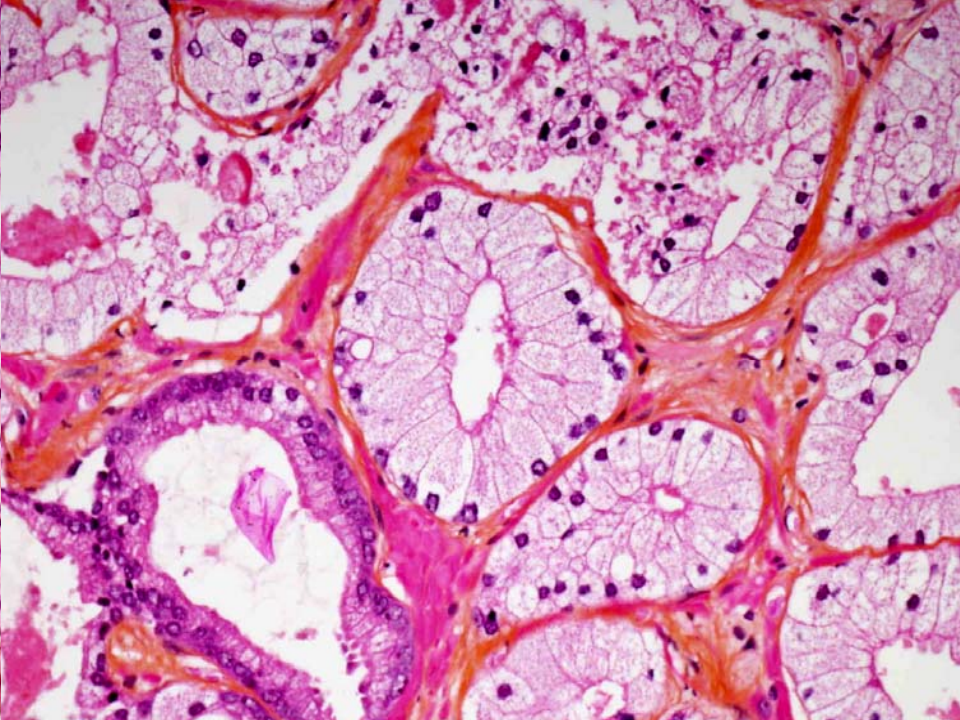
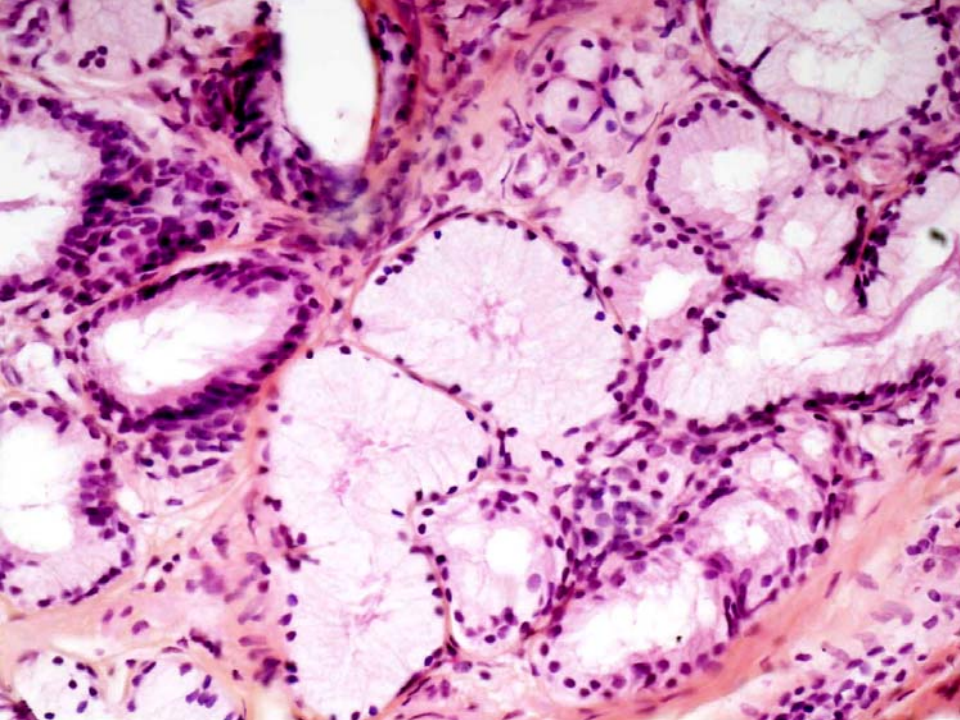
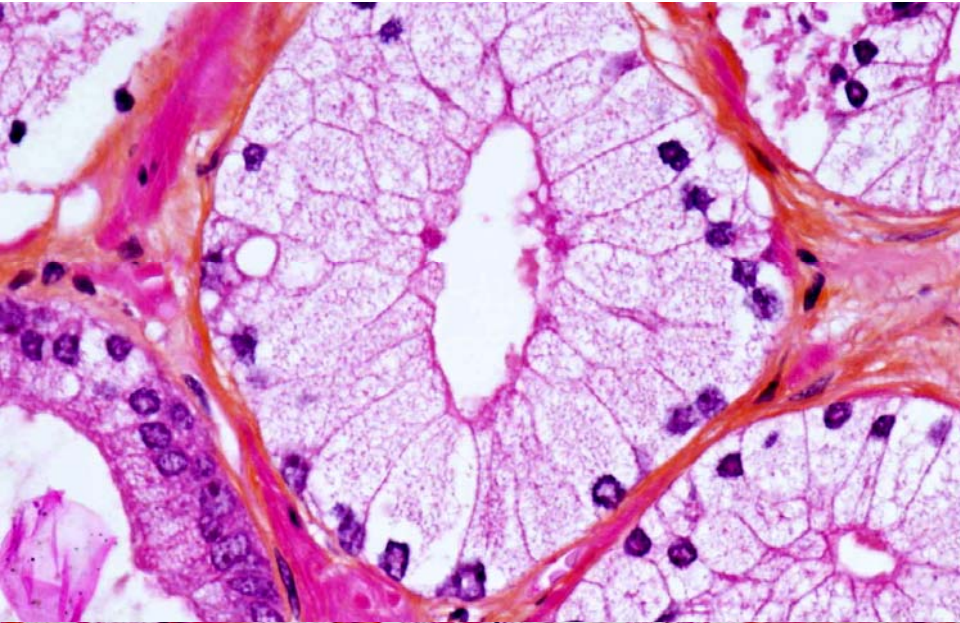




**Glandes de Cowper**

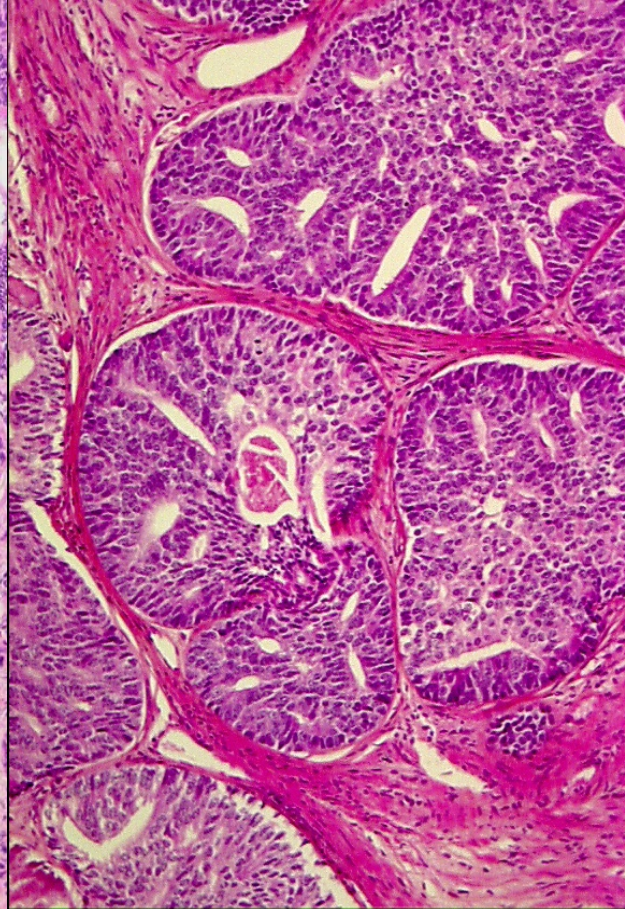
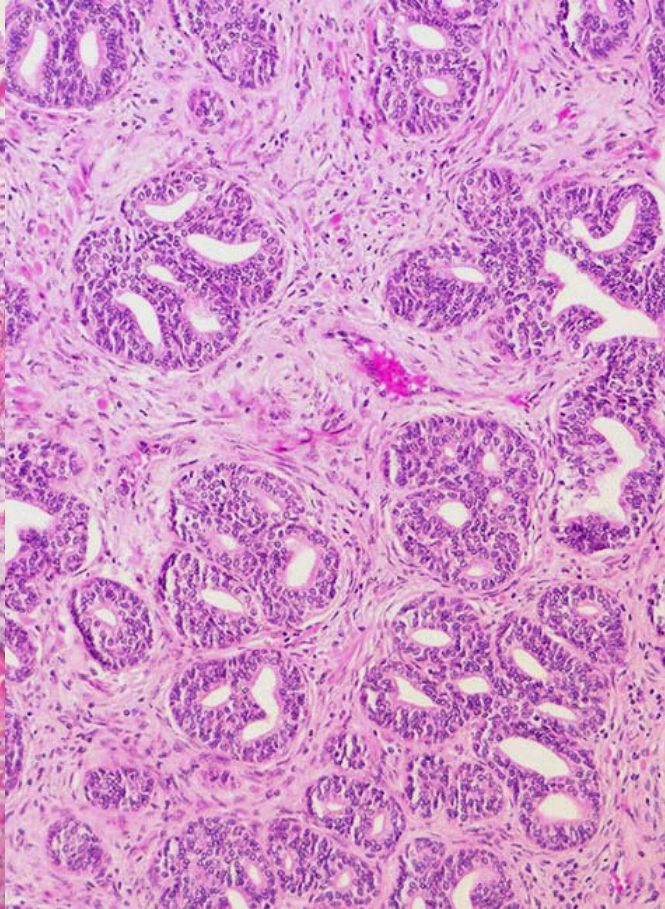
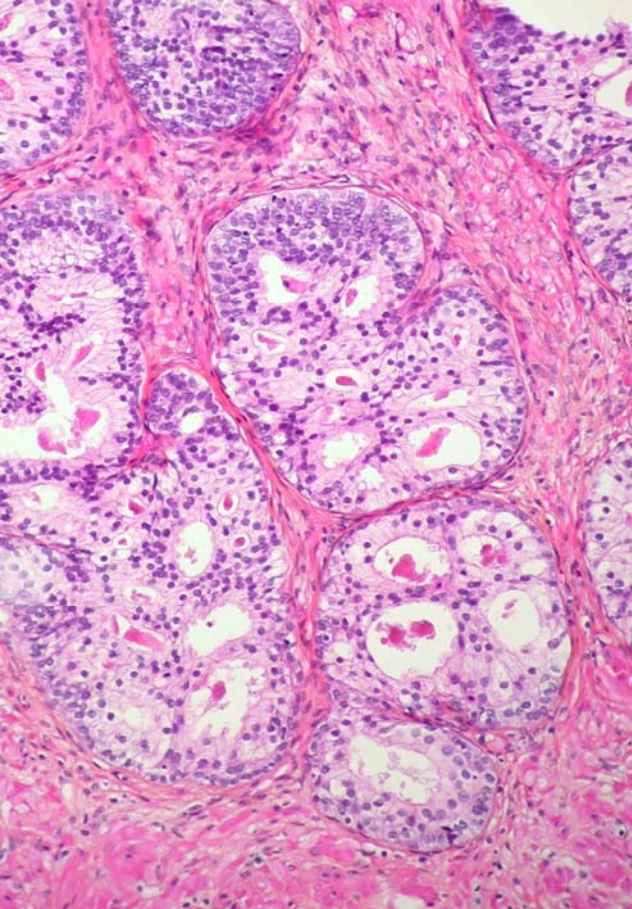


**ADK à cellules spumeuses**





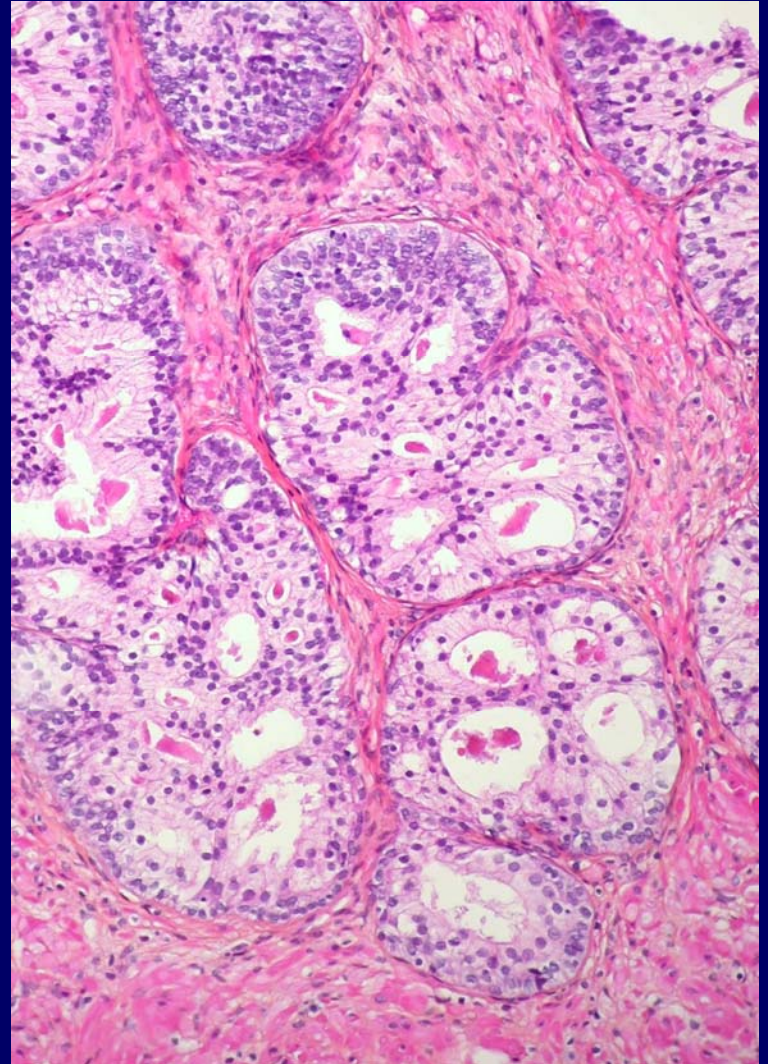
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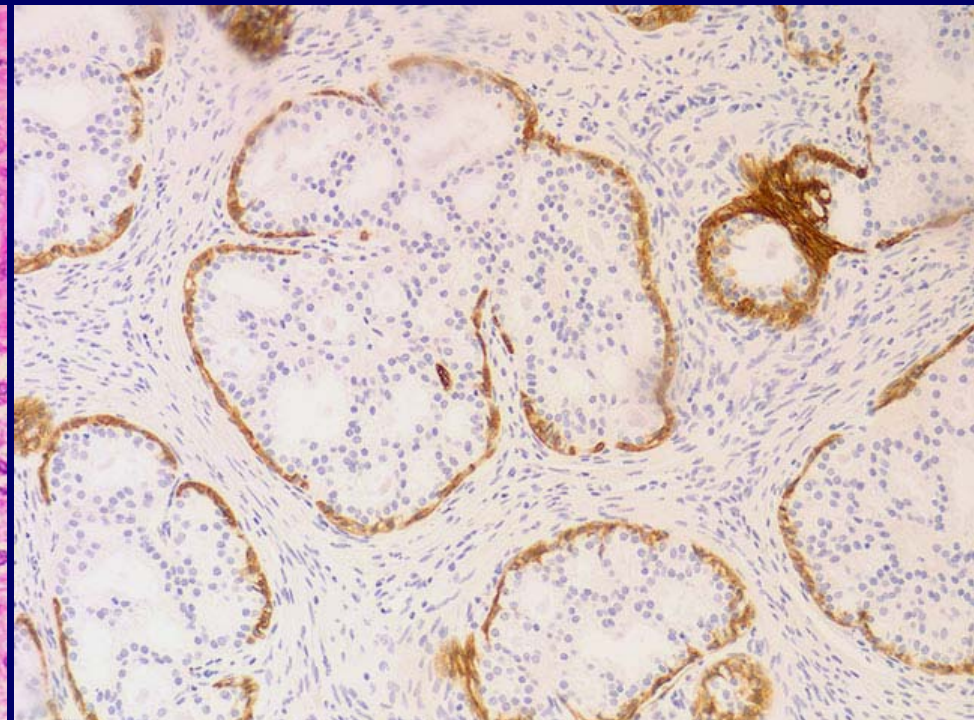
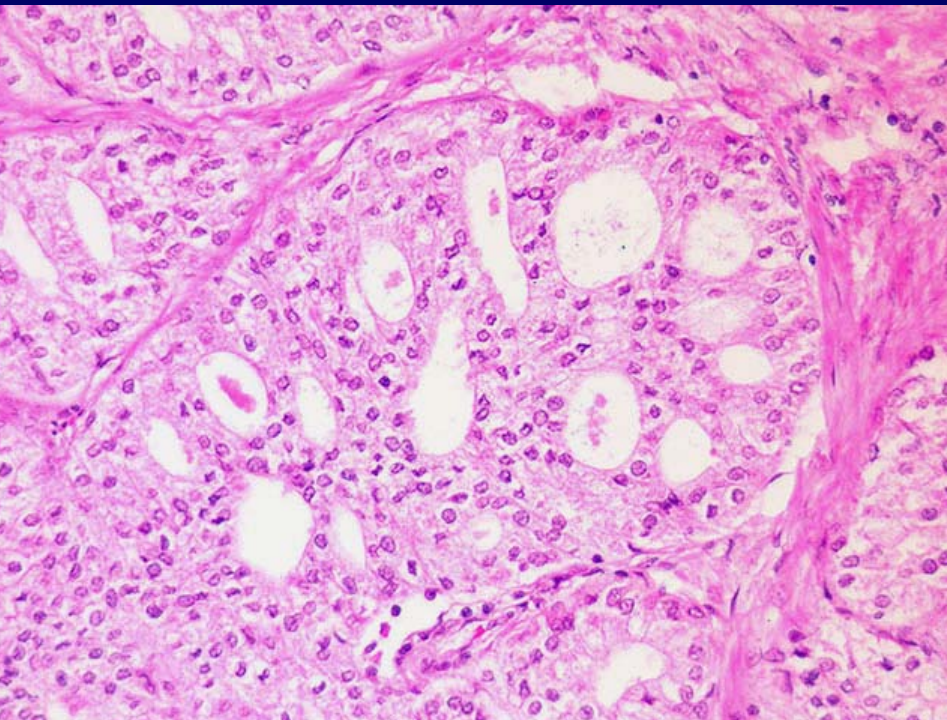
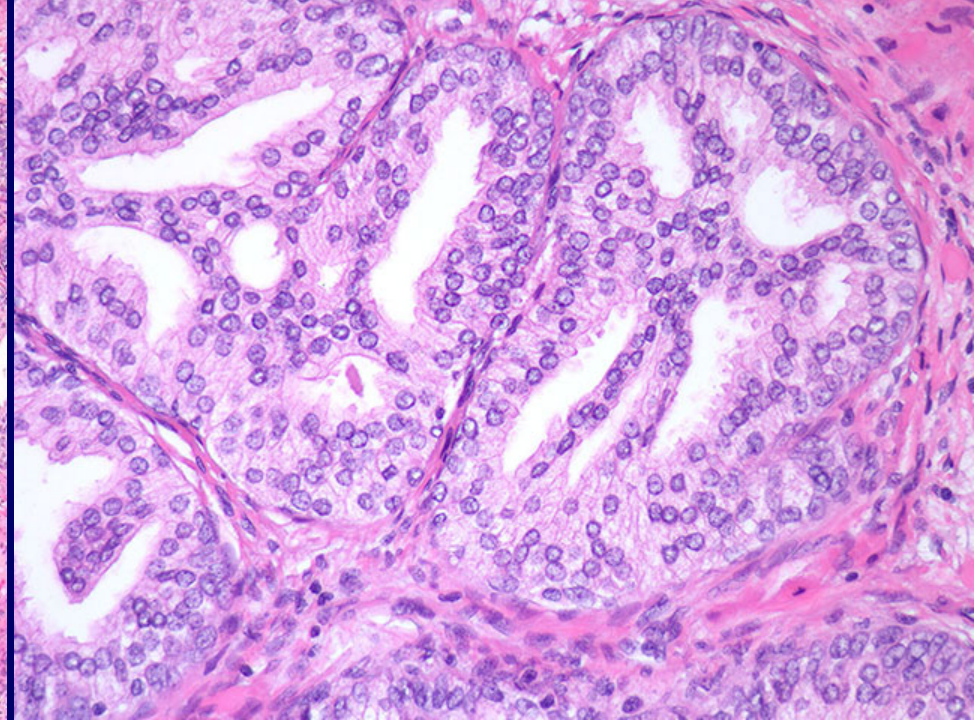
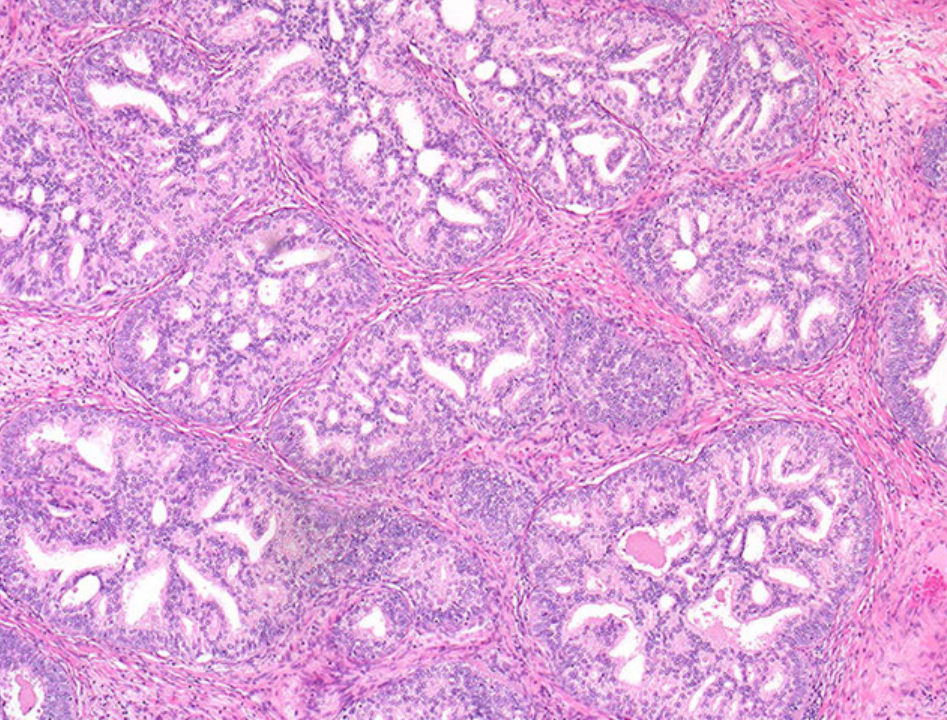


# Hyperplasie cribriforme à cellules claires

- Plus svt sur RTU (ZT)
- Glandes prostatiques d'aspect hyperplasique d'architecture cribriforme
- Absence d'atypies des cellules luminales
- assise basale visible



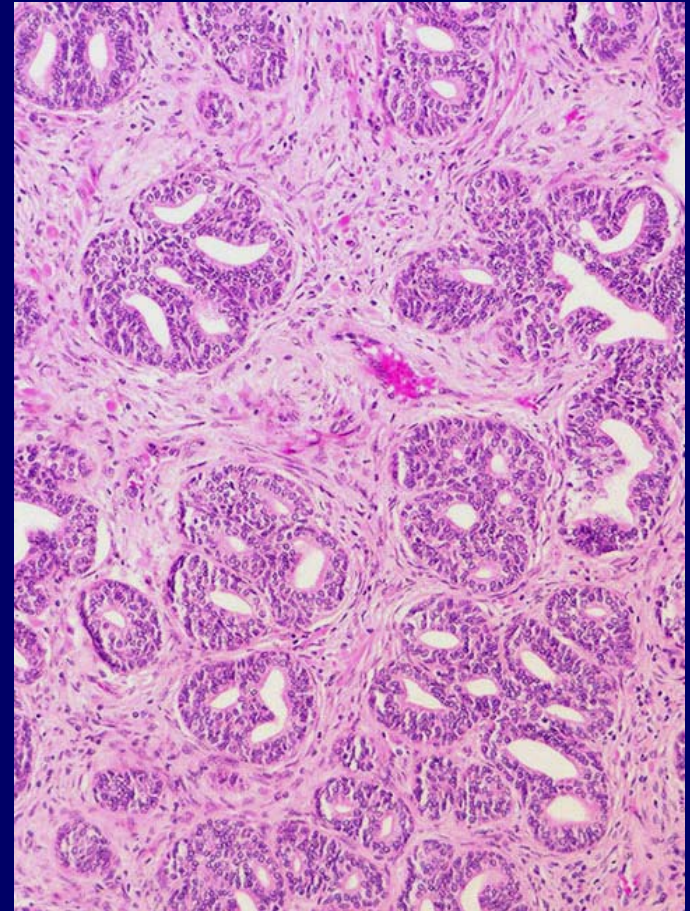




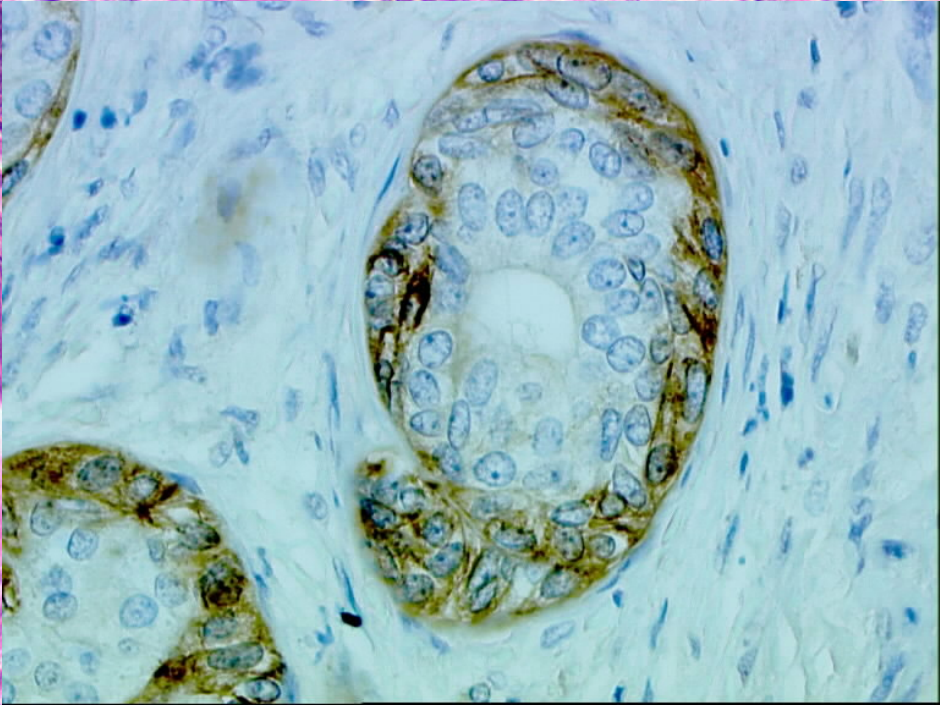
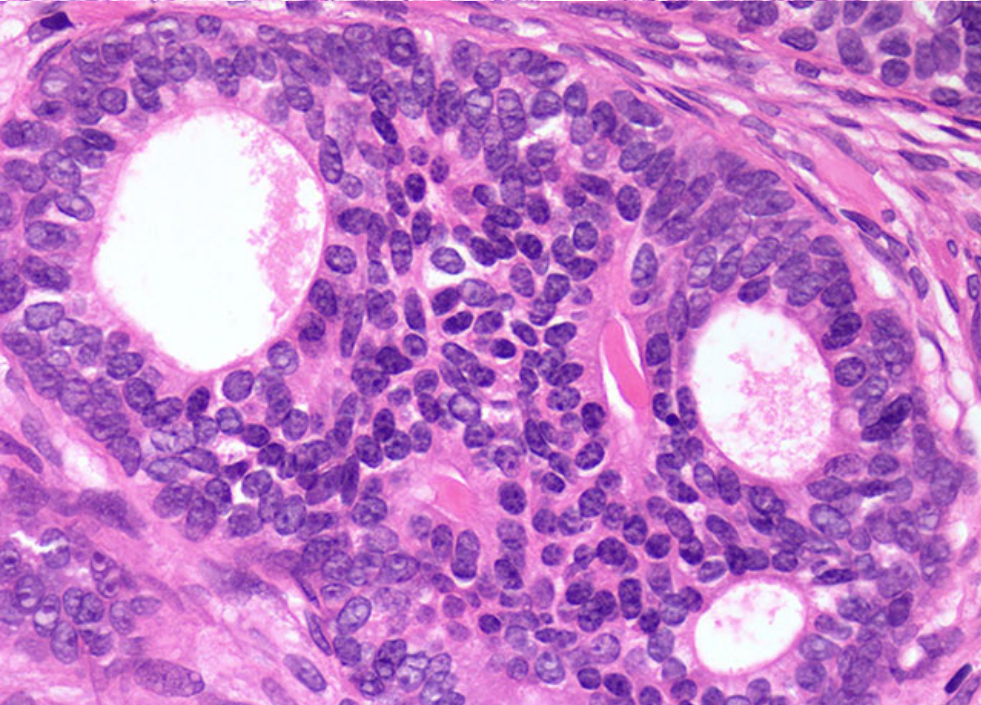
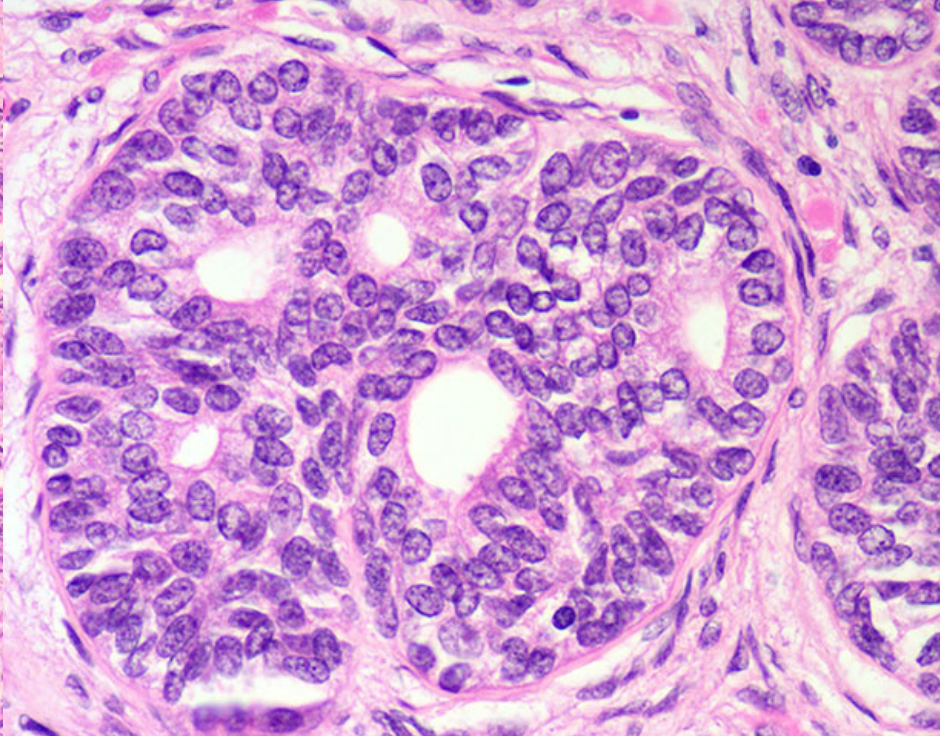
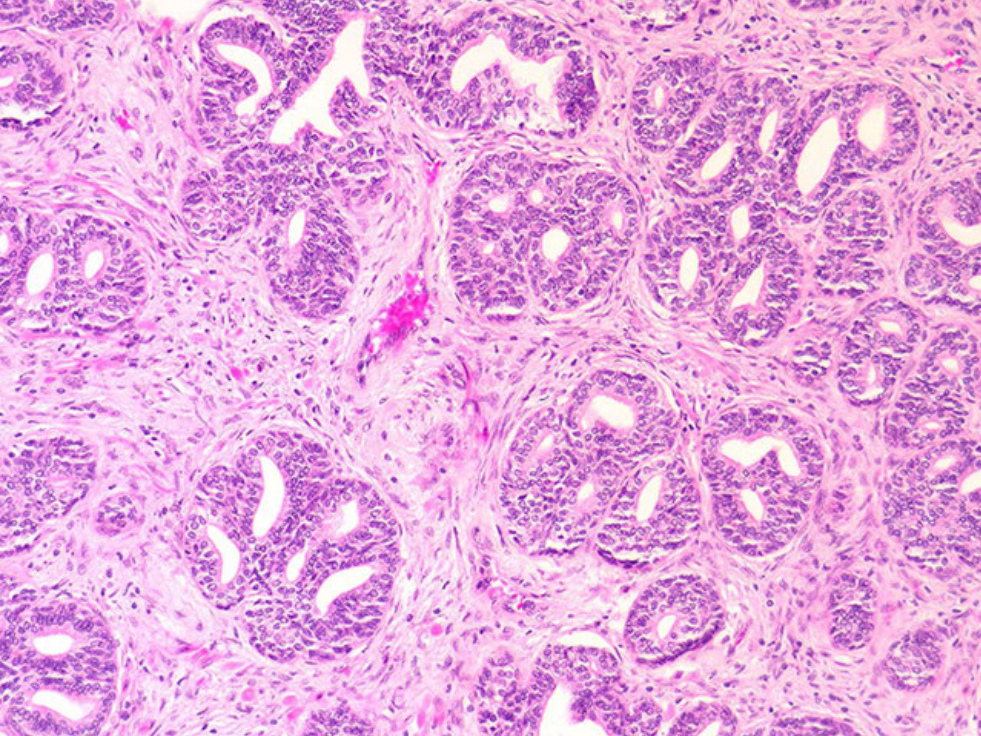


# Hyperplasie des cellules basales

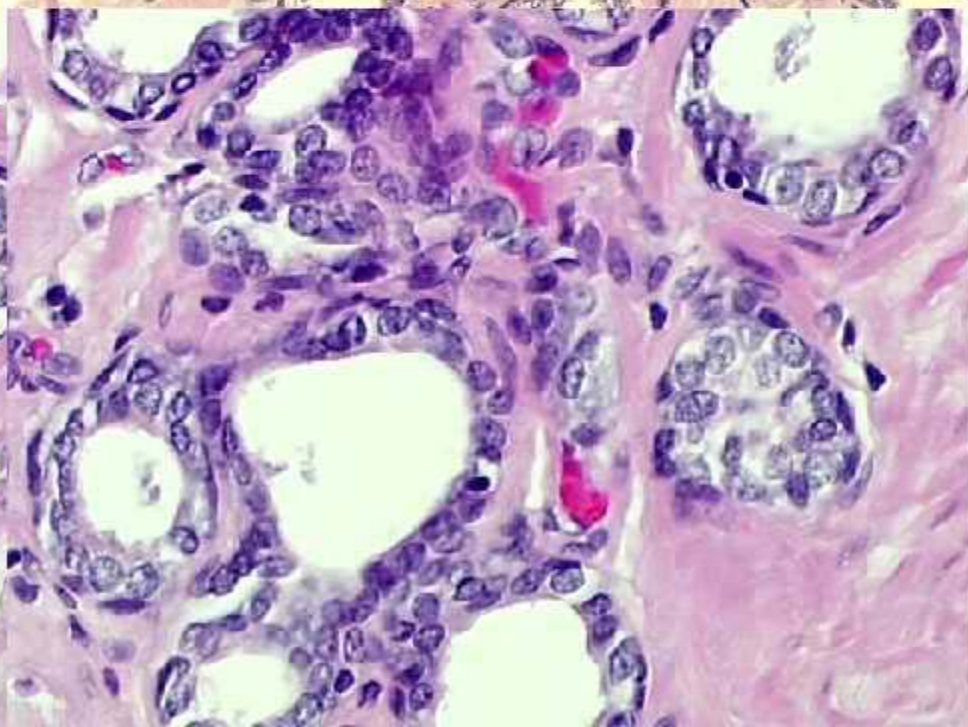
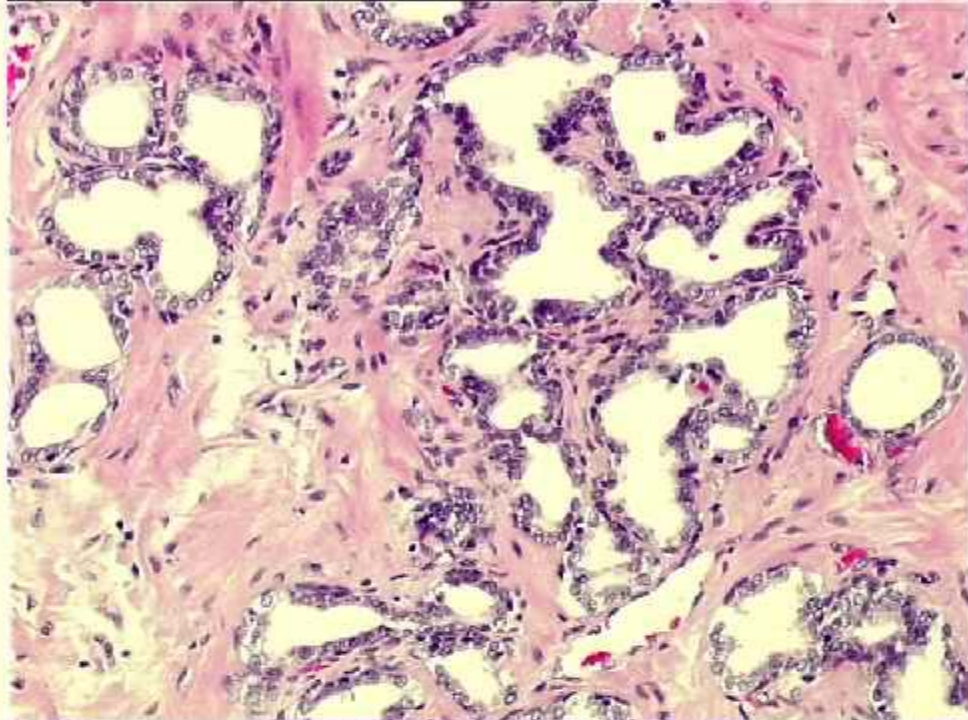
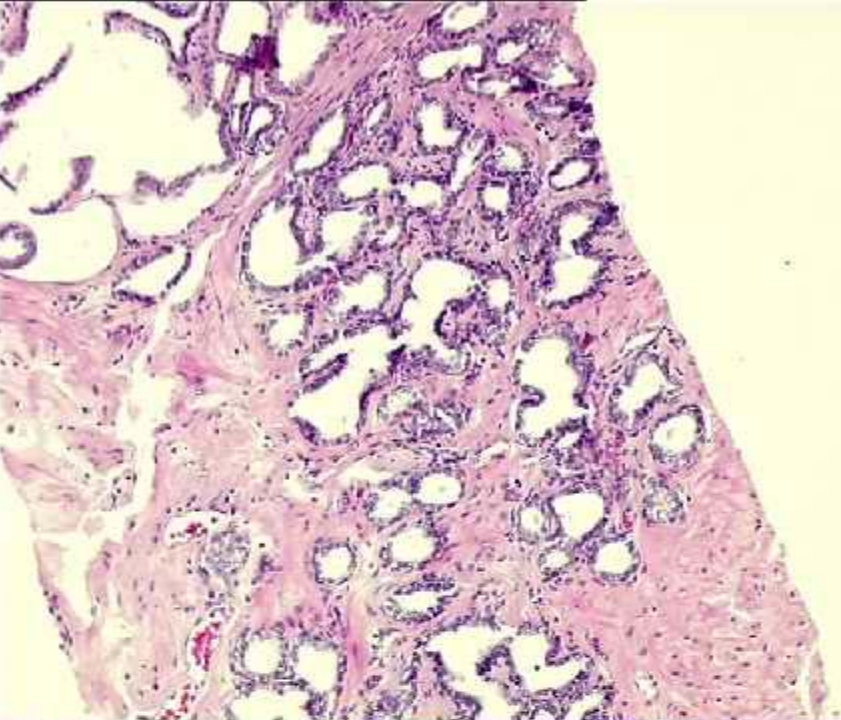
- Plus svt sur RTU (ZT)
- Glandes d'architecture cribriforme
- Absence d'atypies des cellules luminales
- assise basale nettement visible







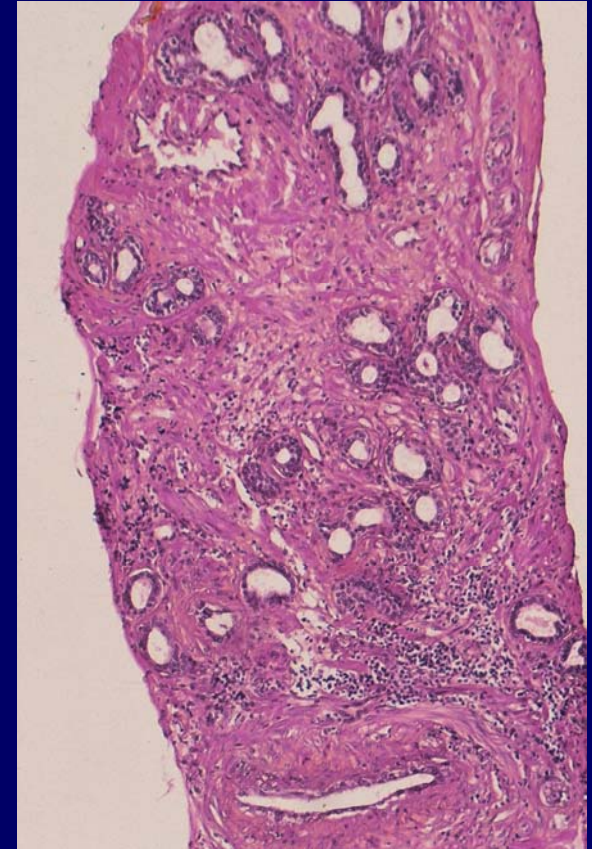




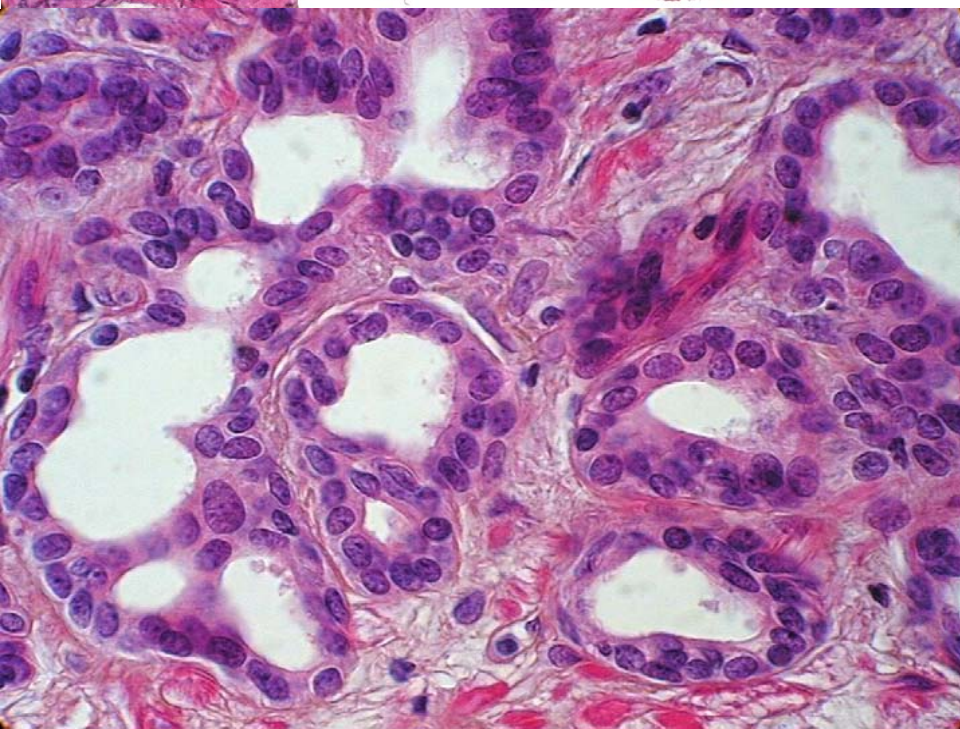
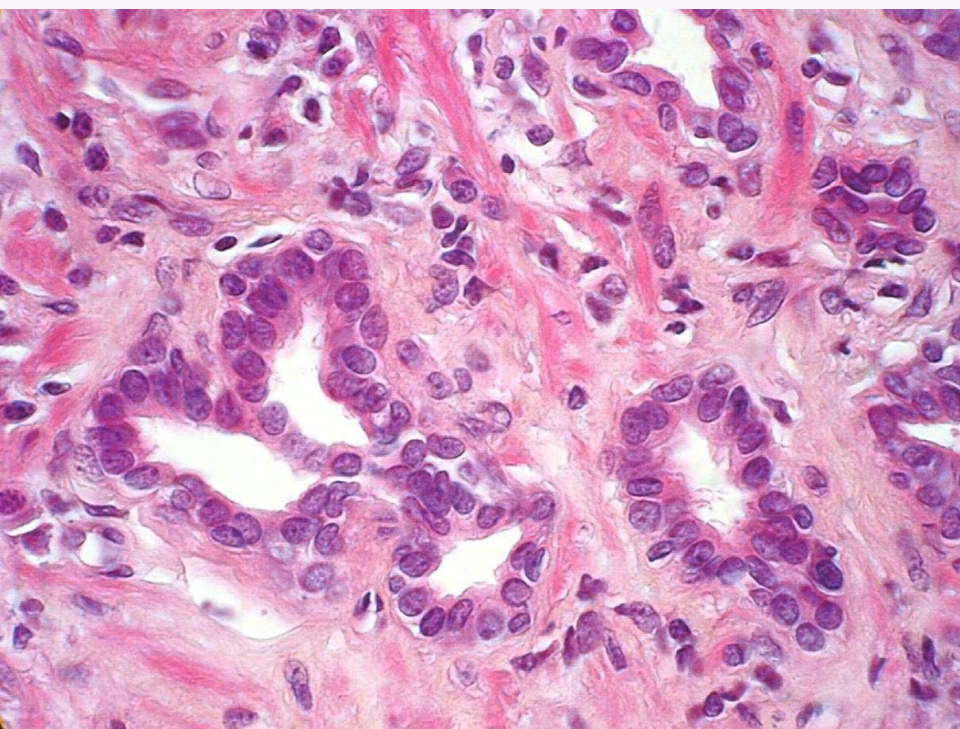
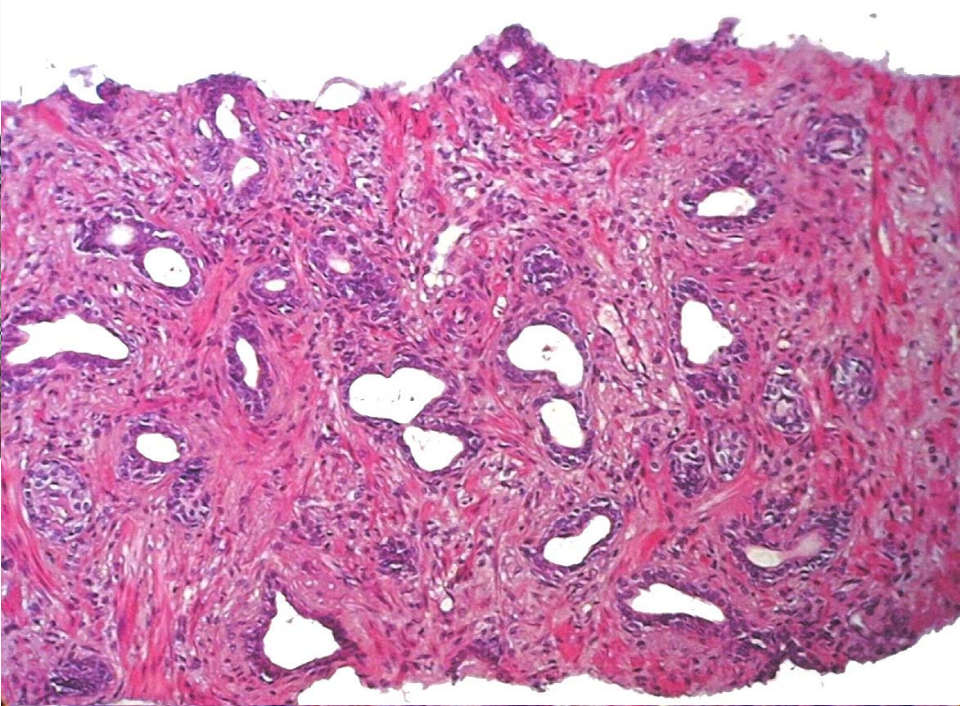
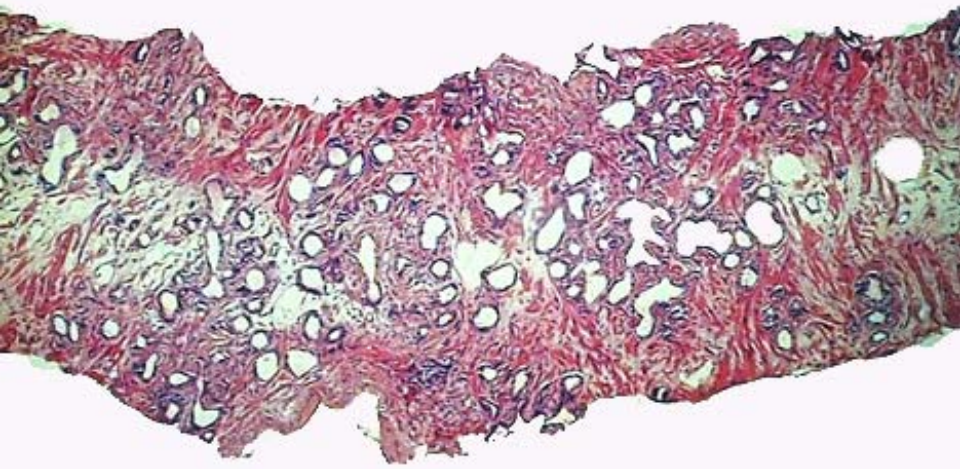


# ATROPHIE

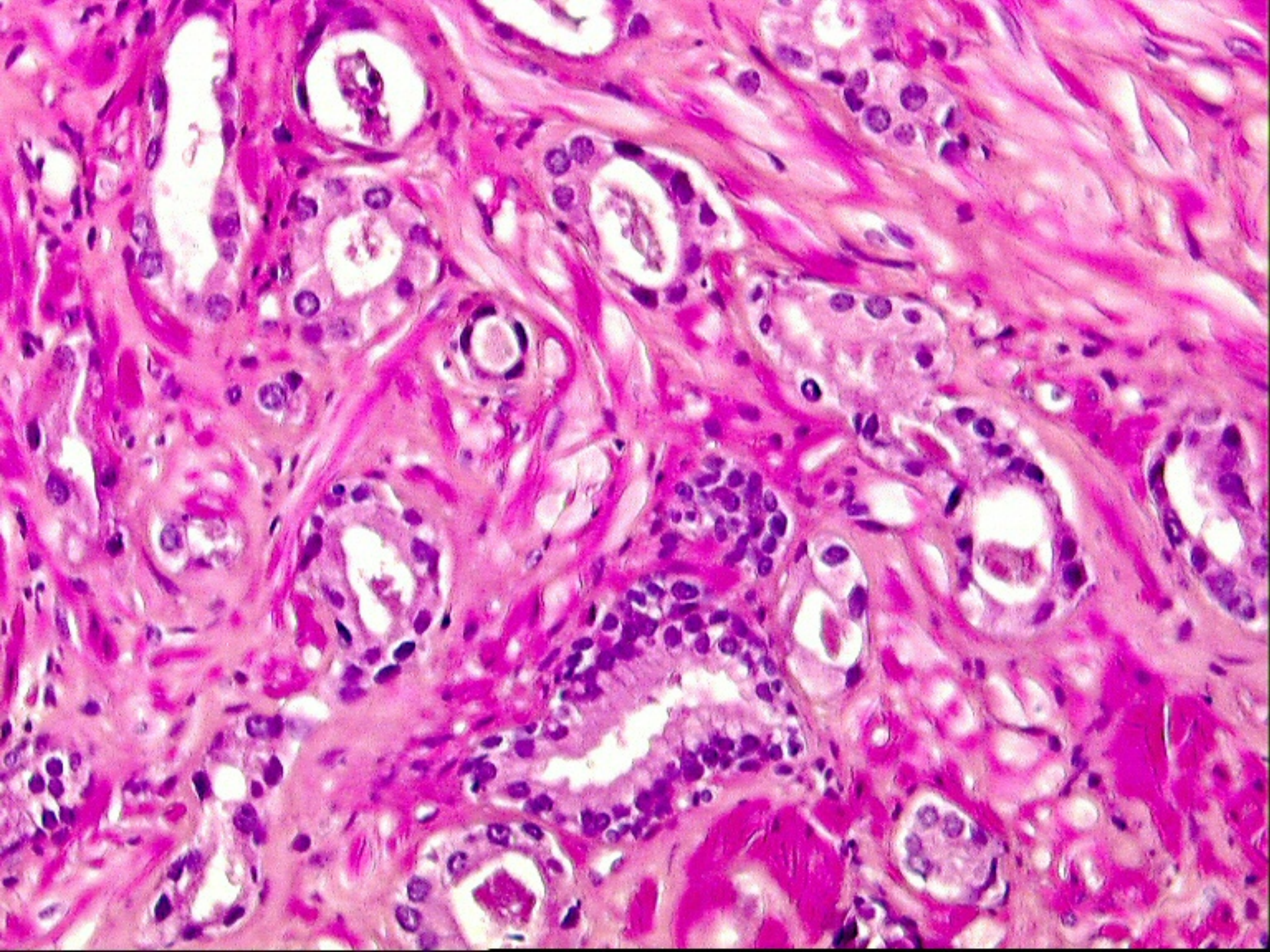
- Lésion de la ZP +++
- très trompeuse
- Aspect organoïde (lobulé)
- Acini petits  
hyperchromatiques
- Cellule interne
  - basophile
  - N semble gros (atrophie du cytoplasme)
  - Petit nucléole
- Cellule basale
  - bien visible, aplatie





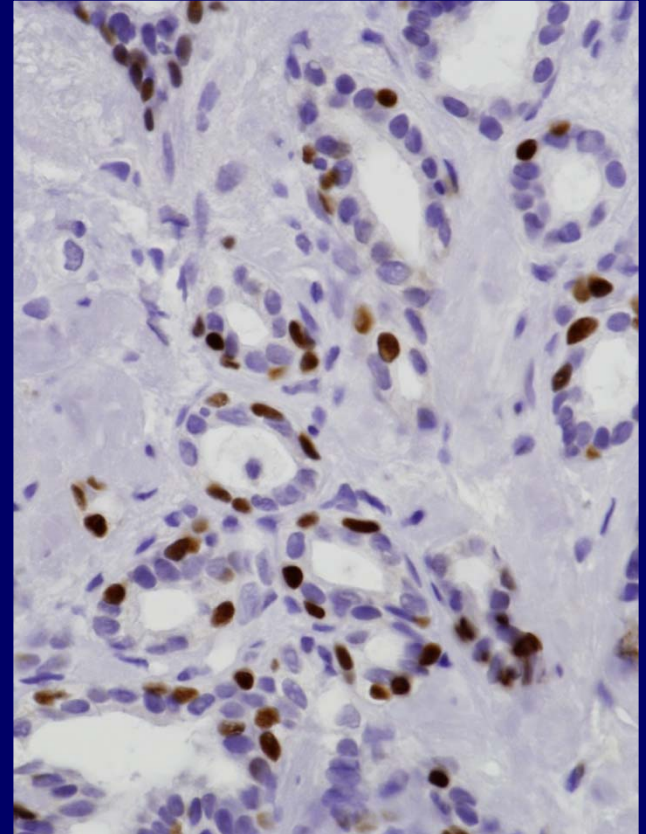
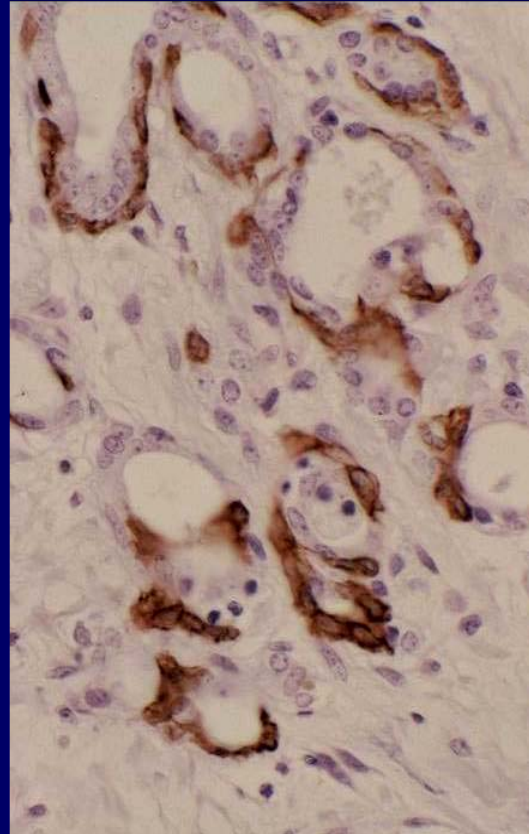
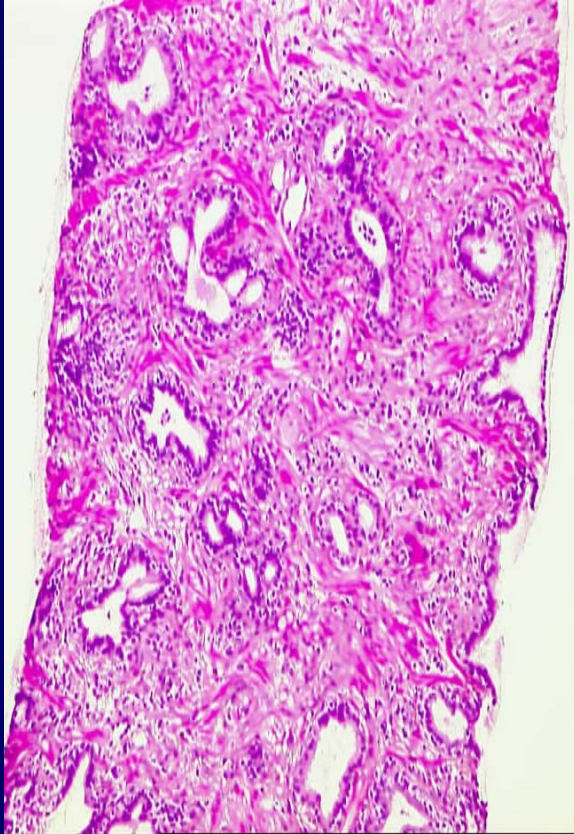








# ATROPHIE



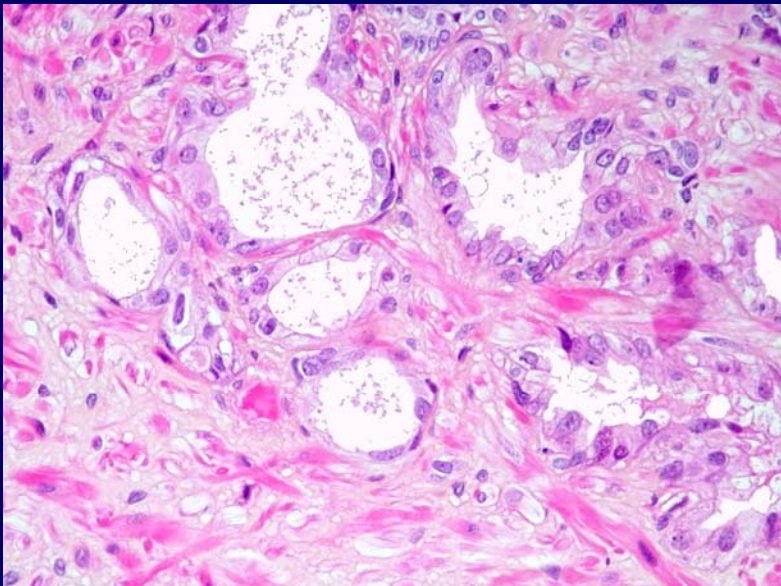
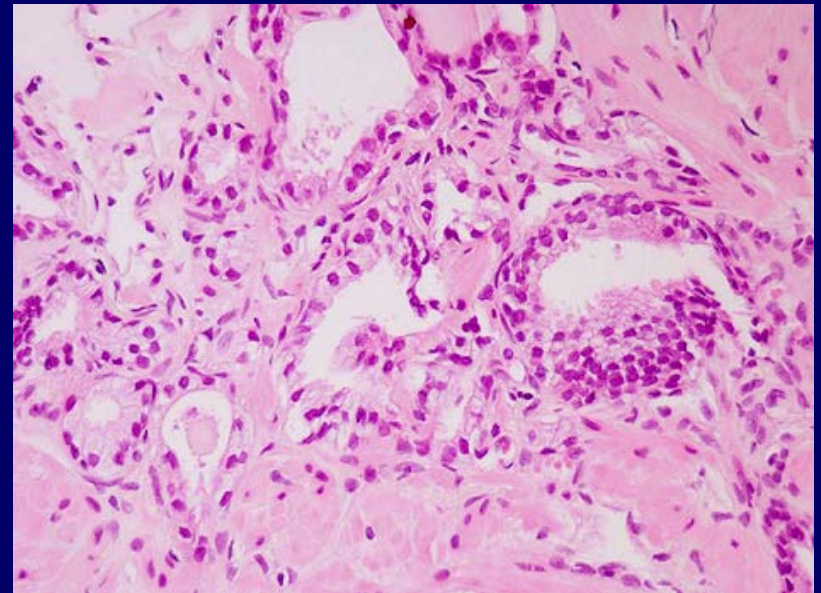
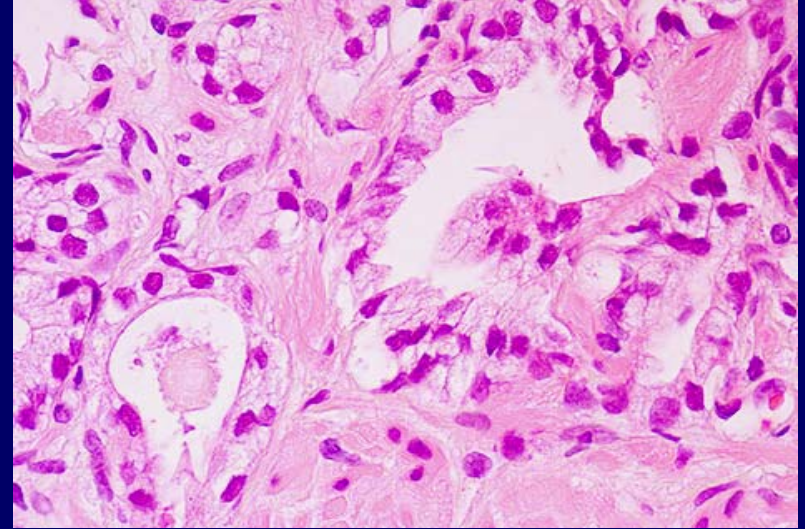
CK 34βE12

p63



# Atrophie partielle

- Glandes anguleuses ou fusionnées
- Plus de cytoplasme que dans l'atrophie simple
- Pas d'atypies
- Cellules basales présentes





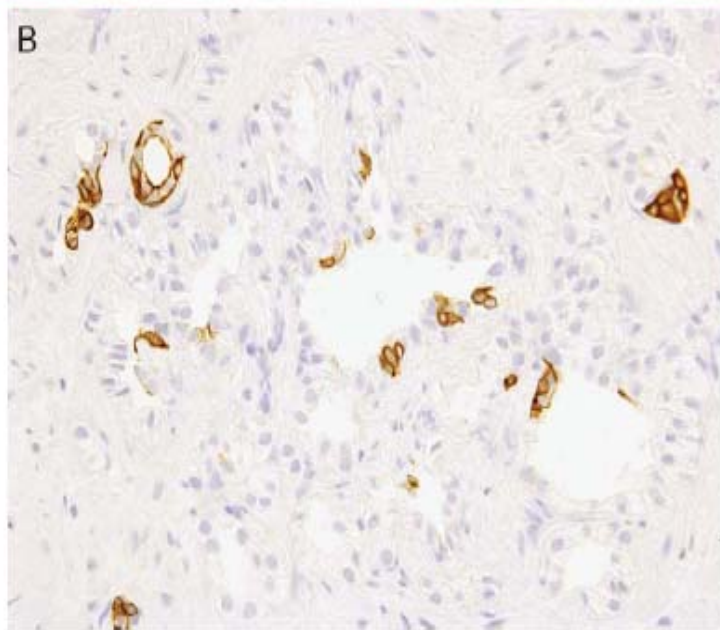
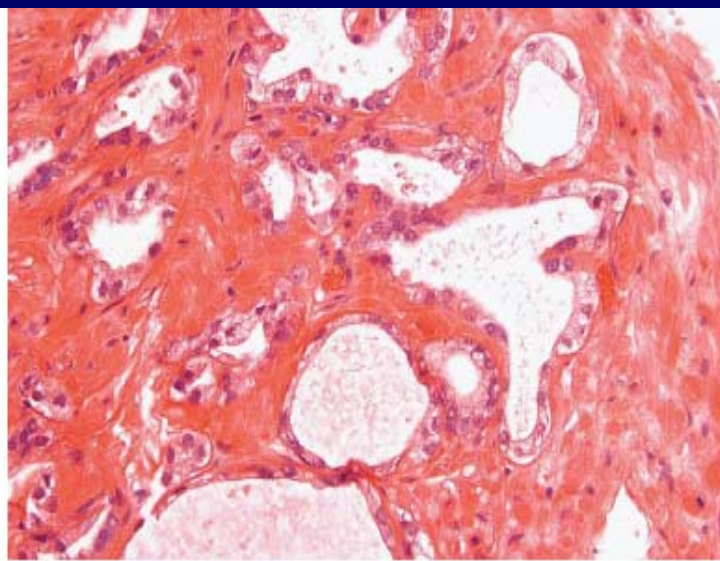
# Une glande dépourvue d'assise basale n'est pas forcément carcinomateuse

## Partial Atrophy on Prostate Needle Biopsy Cores: A Morphologic and Immunohistochemical Study

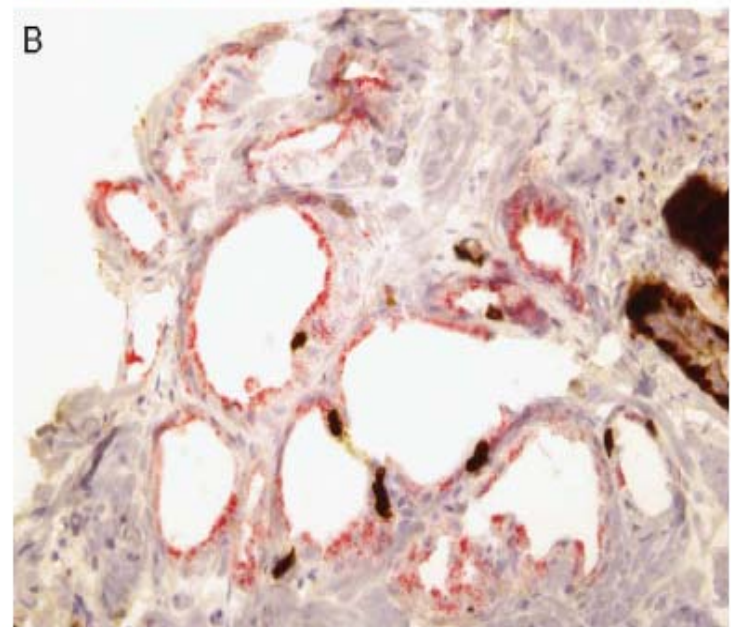
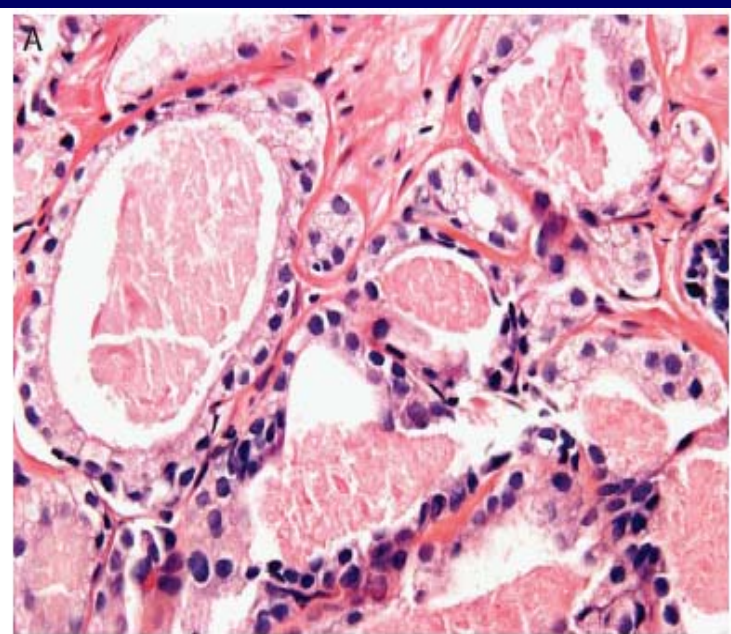
*Wenle Wang, MD, PhD,\* Xinlai Sun, MD,† and Jonathan I. Epstein, MD\*‡§*

*(Am J Surg Pathol 2008;32:851–857)*



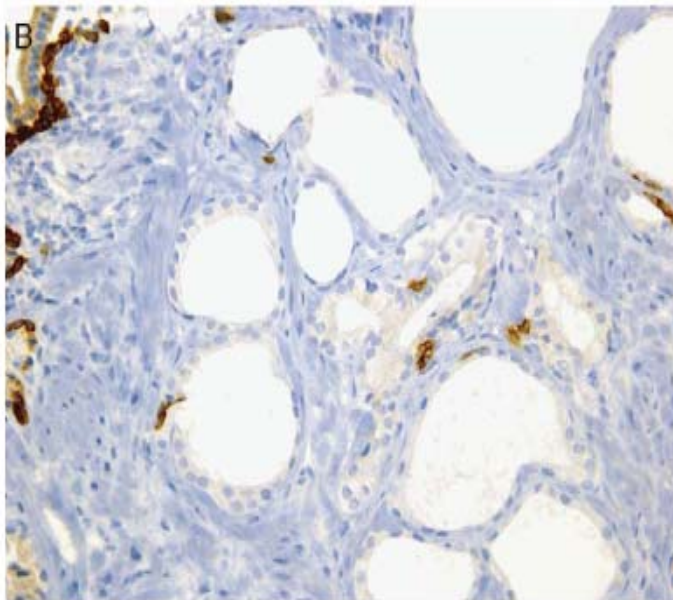
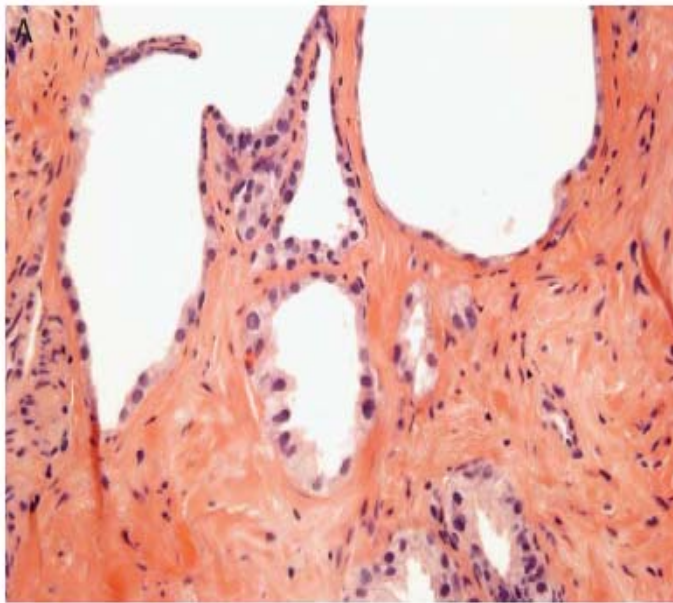


**FIGURE 1.** A, Glands of partial atrophy with subtle infolding of lumina border. Cells have scant apical cytoplasm with abundant pale cytoplasm laterally. Nuclei are small without obvious nucleoli. B, Patchy stain for HMWCK with some glands negative.

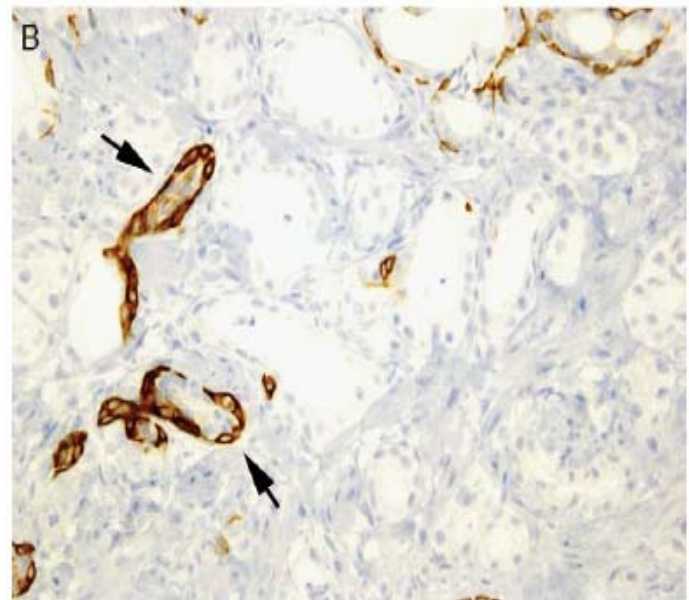
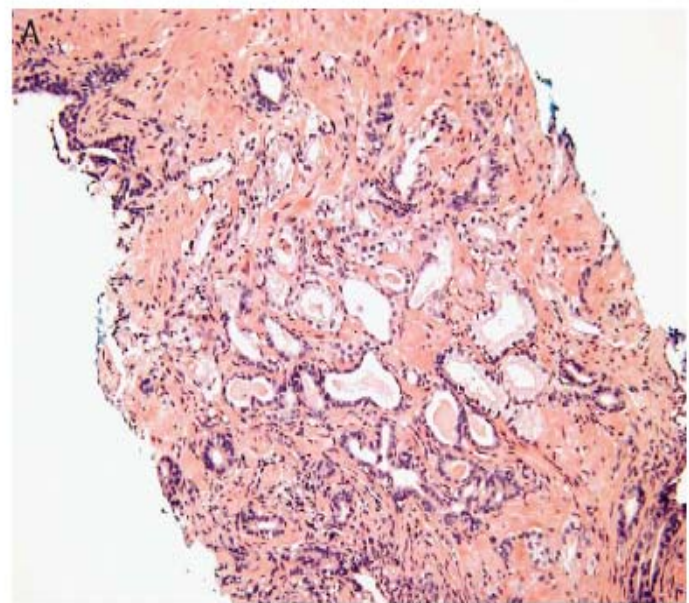


**FIGURE 2.** A, Crowded glands of partial atrophy with PAH. B, Triple cocktail stain showing patchy labeling for p63 and HMWCK with moderate positivity for AMACR.



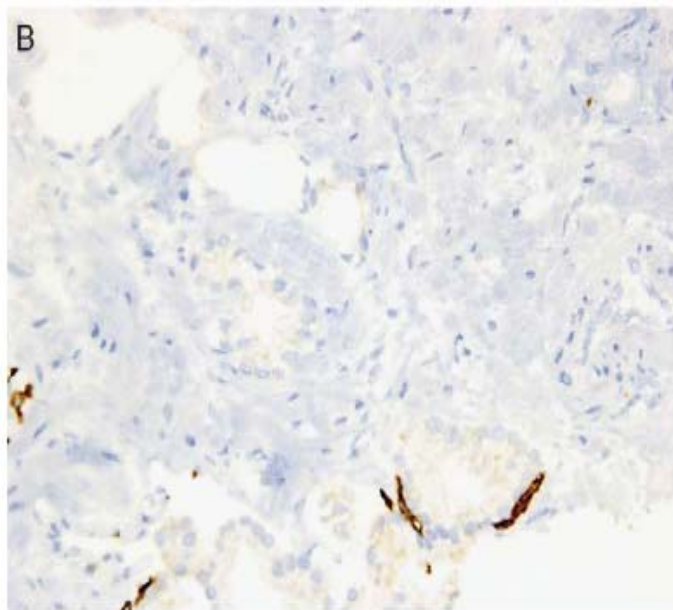
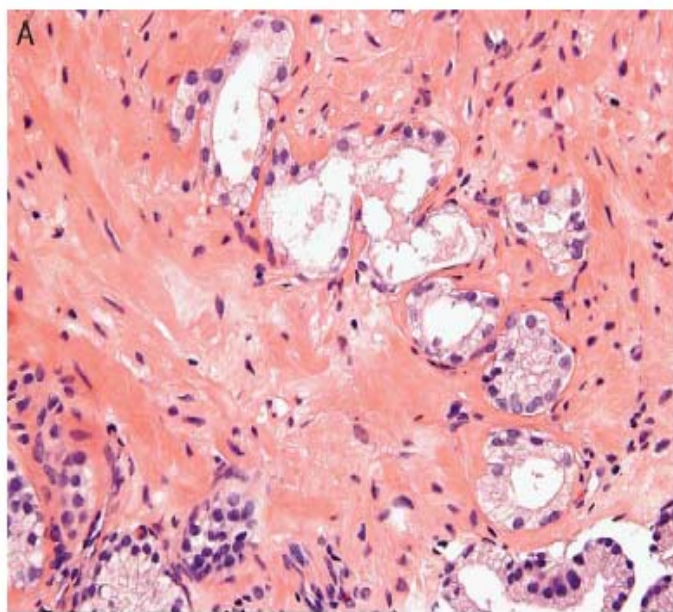


**FIGURE 3.** A, Partial atrophy ruffling of luminal border (center). B, Patchy stain for HMWCK with majority of glands negative and positive glands only having a rare positive basal cell.

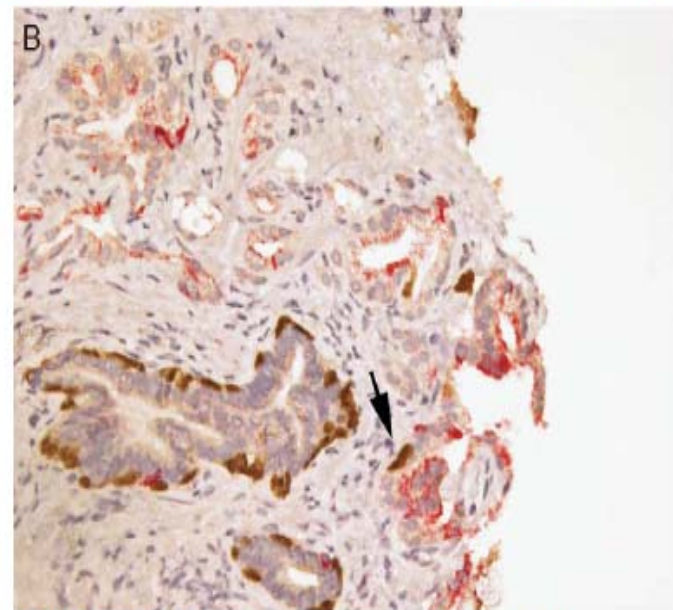
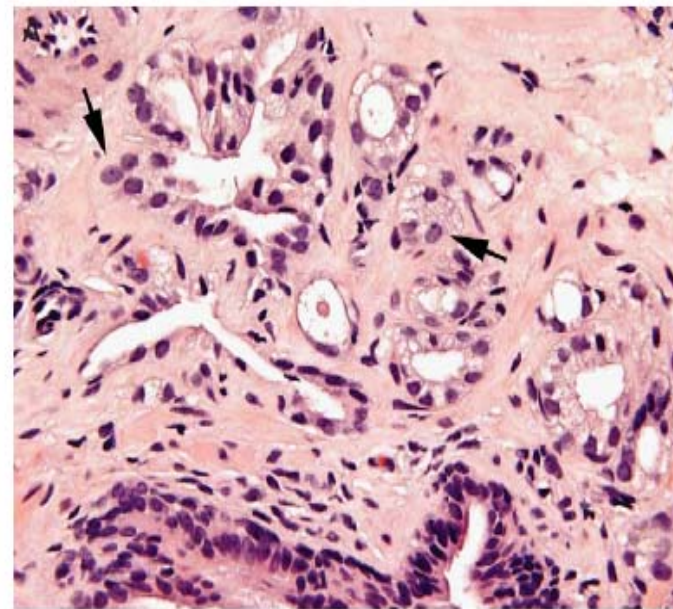


**FIGURE 4.** A, Partial atrophy (center) merging with PAH (below). B, Mostly negative for HMWCK in partial atrophy with only rare scattered positive cells in contrast to circumferential staining in PAH glands (arrows).



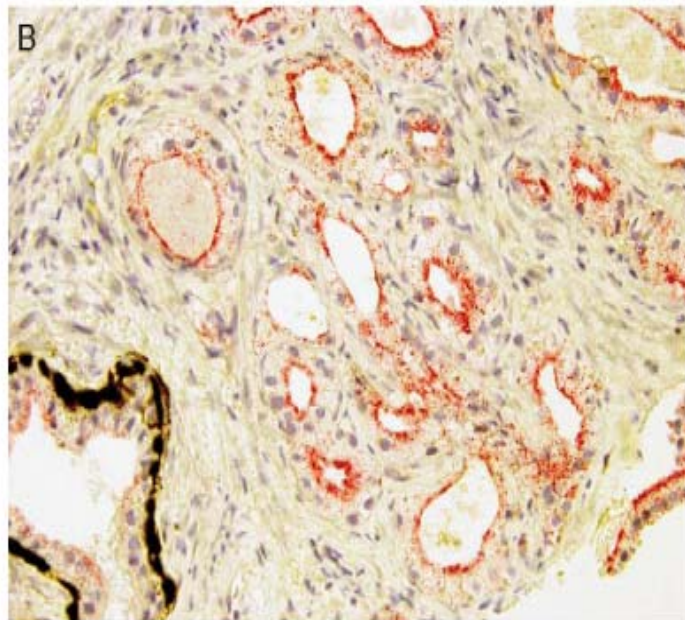
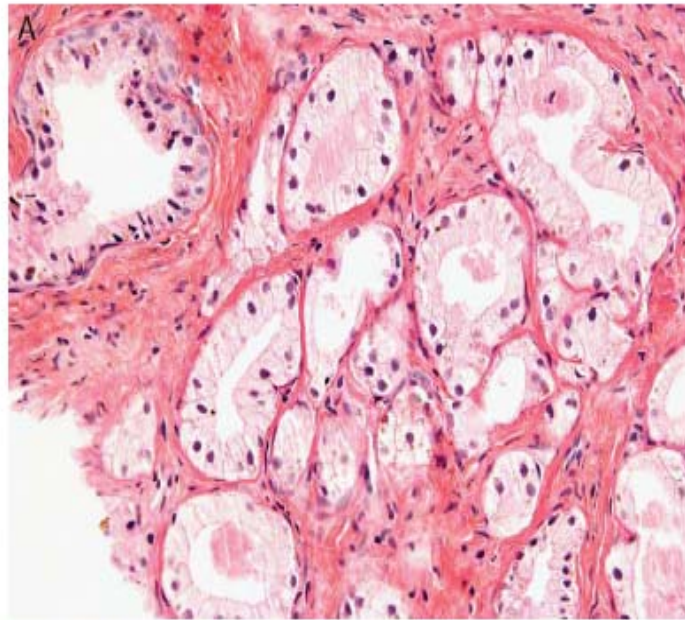


**FIGURE 5.** A, Enlarged nuclei with visible nucleoli in partial atrophy. B, Patchy stain for HMWCK with a few positive glands demonstrating only rare positive basal cells.

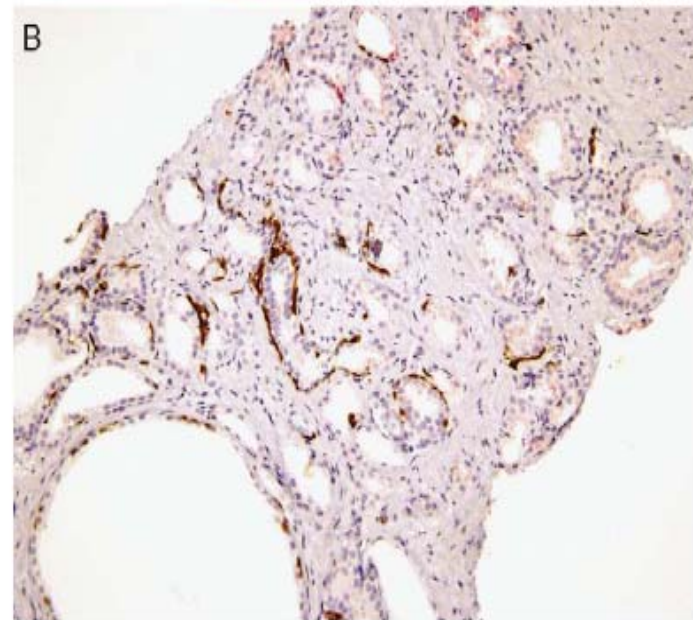
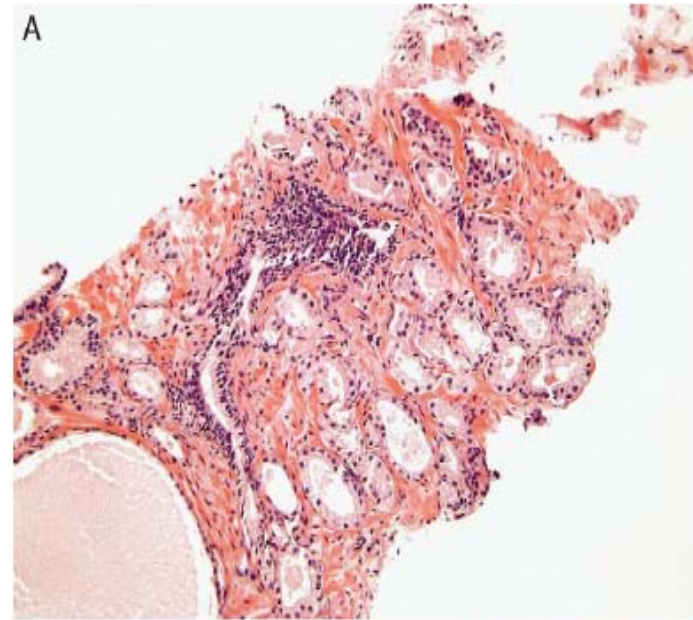


**FIGURE 6.** A, Enlarged nuclei with visible nucleoli (arrows) in partial atrophy. B, Triple cocktail stain showing patchy labeling for p63 and HMWCK (arrow) with moderate positivity for AMACR. Note PAH glands (lower left) without AMACR.





**FIGURE 7.** A, Partial atrophy with pale cytoplasm with lipofuscin granules. B, Partial atrophy with cancer immunostaining pattern (p63 -, HMWCK -, and AMACR+).



**FIGURE 8.** A, Low power of partial atrophy mimicking prostate cancer. B, Triple cocktail stain showing patchy labeling for p63 and HMWCK with weak positivity for AMACR.

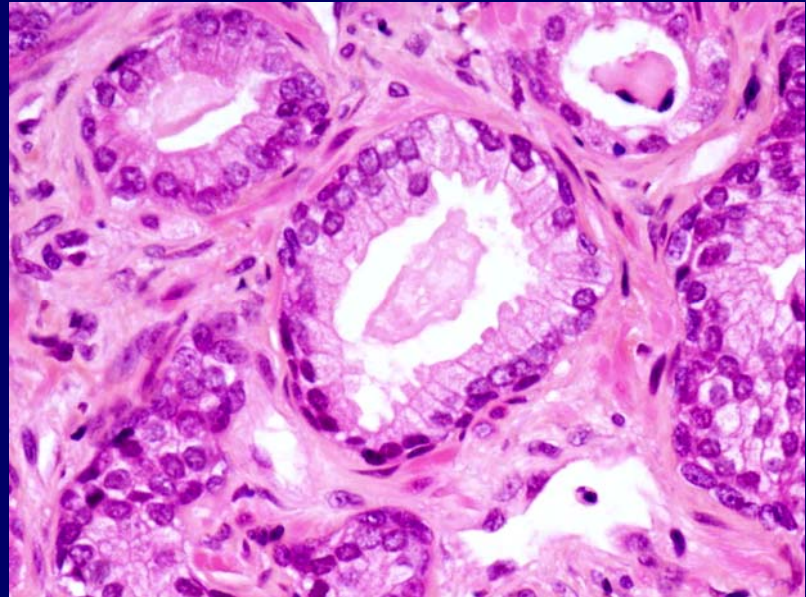
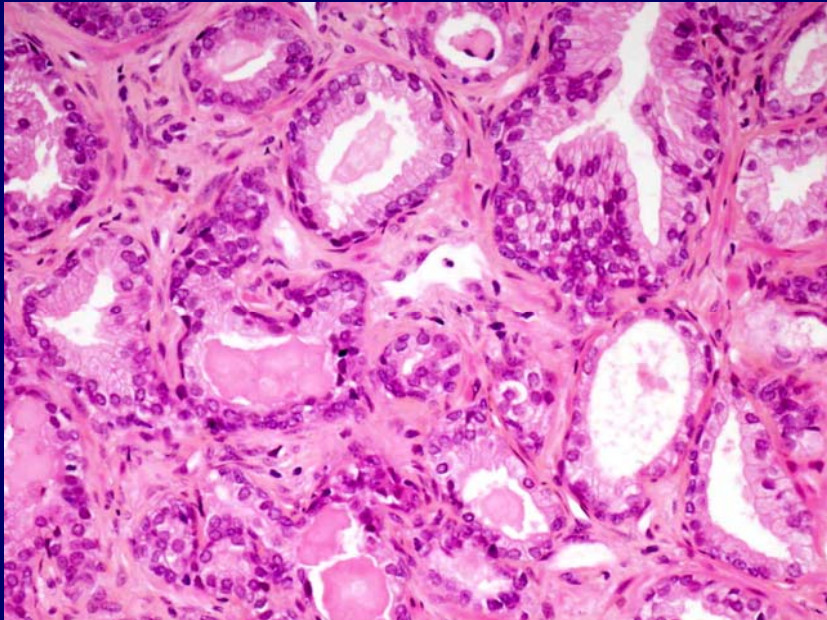
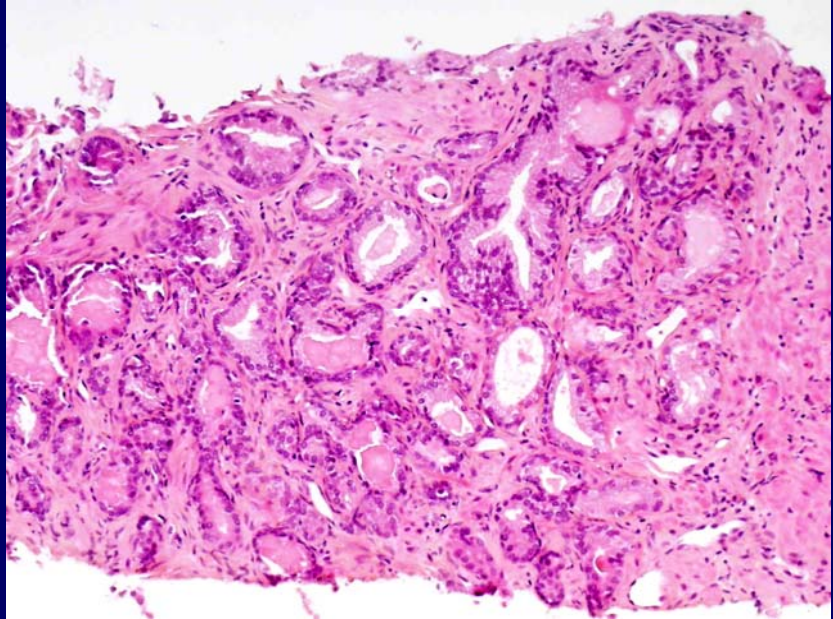
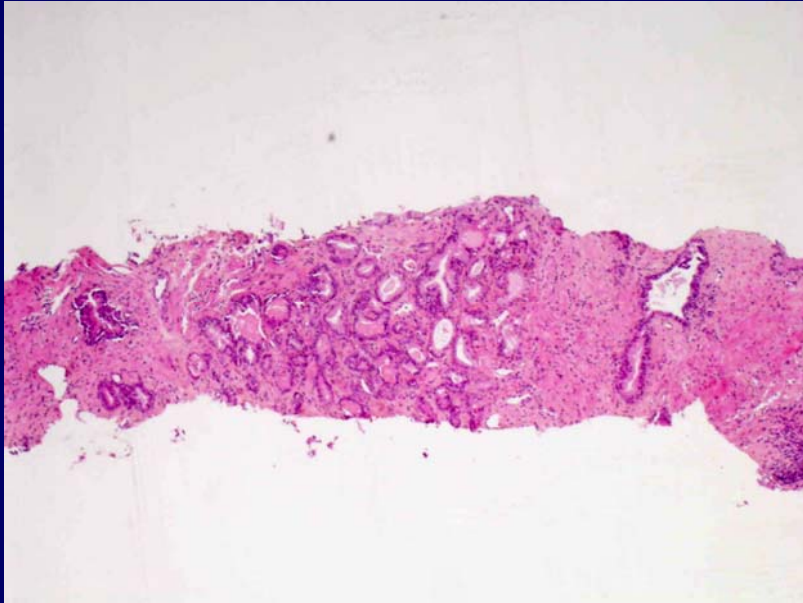


distinct pattern of atrophy, partial atrophy still remains a diagnostic dilemma for pathologists. It was the current authors' impression before formally studying this issue that the increased use of immunohistochemistry, in particular the utilization of the triple cocktail stain for basal cell markers and  $\alpha$ -methyl acyl-Coa racemase (AMACR), rather than making the diagnosis of partial atrophy easier, led to more confusion in its distinction from adenocarcinoma of the prostate. The current work reports on the largest series of partial atrophy. In conclusion, partial atrophy is a benign mimicker of adenocarcinoma both on routine morphology and on immunohistochemical stains. Immunohistochemistry can help confirm the diagnosis if basal cells are demonstrated, yet it must be recognized that basal cells may be very focal, labeling only a couple of cells in a few of the glands. Negative basal cell staining is still consistent with the diagnosis. AMACR stains are also potentially misleading, as it is often positive in partial atrophy. Recognizing the H&E features of partial atrophy is still the most critical aspect in preventing a misdiagnosis of adenocarcinoma. Despite partial atrophy being well recognized as a distinct pattern of atrophy, it remains a particularly difficult lesion for pathologists on prostate needle biopsy and additional reports on this topic will hopefully increase the awareness of this lesion's morphologic and immunohistochemical profile.

In conclusion, partial atrophy is a benign mimicker of adenocarcinoma both on routine morphology and on immunohistochemical stains. Immunohistochemistry can help confirm the diagnosis if basal cells are demonstrated, yet it must be recognized that basal cells may be very focal, labeling only a couple of cells in a few of the glands. Negative basal cell staining is still consistent with the diagnosis. AMACR stains are also potentially misleading, as it is often positive in partial atrophy. Recognizing the H&E features of partial atrophy is still the most critical aspect in preventing a misdiagnosis of adenocarcinoma. Despite partial atrophy being well recognized as a distinct pattern of atrophy, it remains a particularly difficult lesion for pathologists on prostate needle biopsy and additional reports on this topic will hopefully increase the awareness of this lesion's morphologic and immunohistochemical profile.



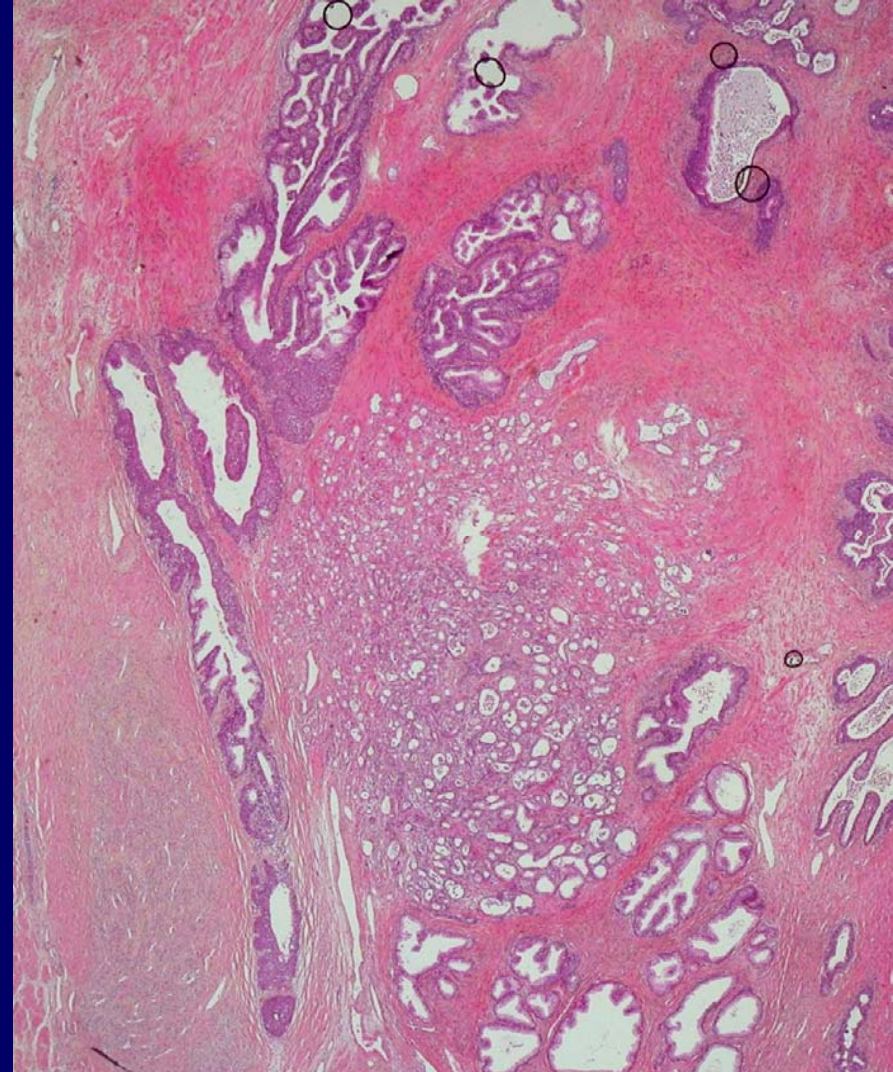
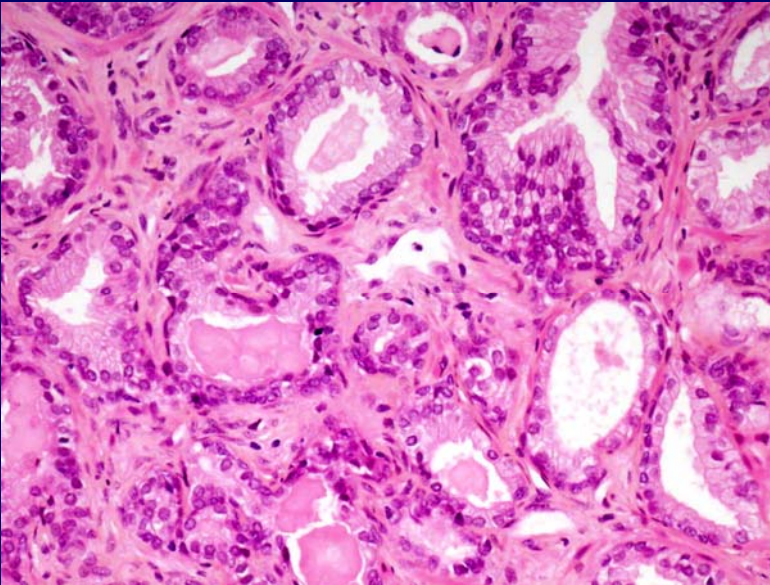
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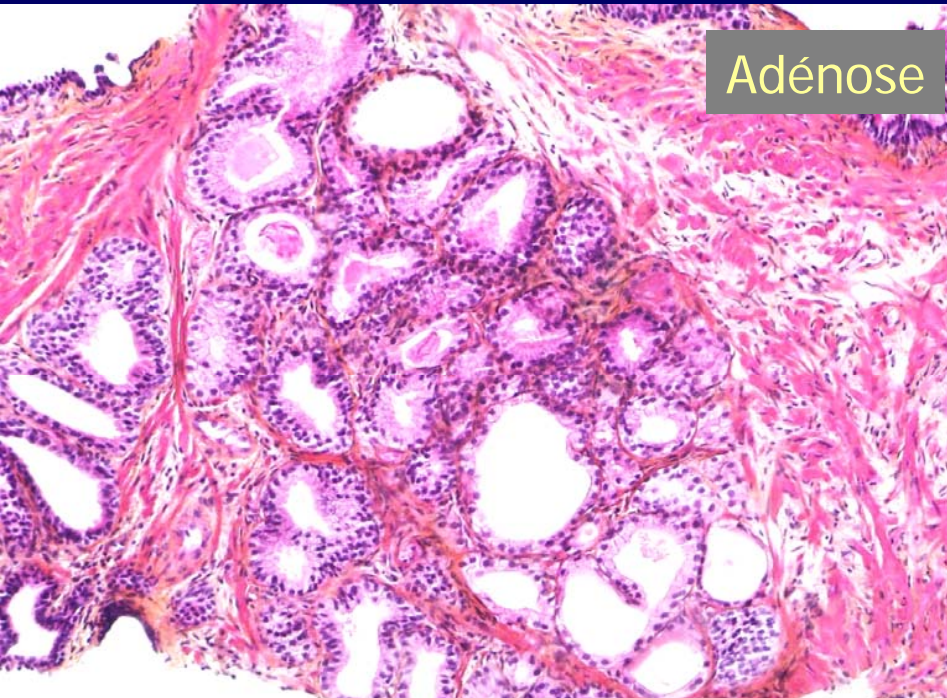
# Adénose (ou hyperplasie adénomateuse atypique)

- Lésion de la zone de transition
  - Prolifération microglandulaire
    - Avec sécrétions éosinophiles intra-luminales
    - Mais rares cristalloïdes
  - D'architecture nodulaire (lobule)
  - Glandes de taille et de forme variées
  - Cellules éosinophiles ou claires
- Nucléoles petits, pas d'atypies cytologiques
  - Assise basale, mais discontinue (+++)

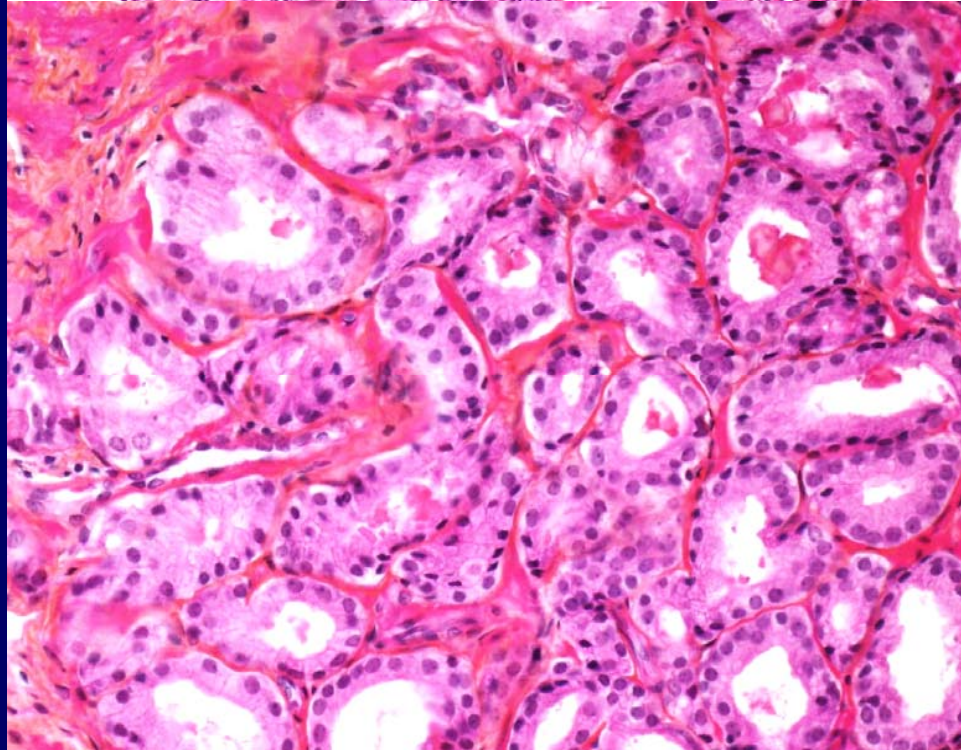
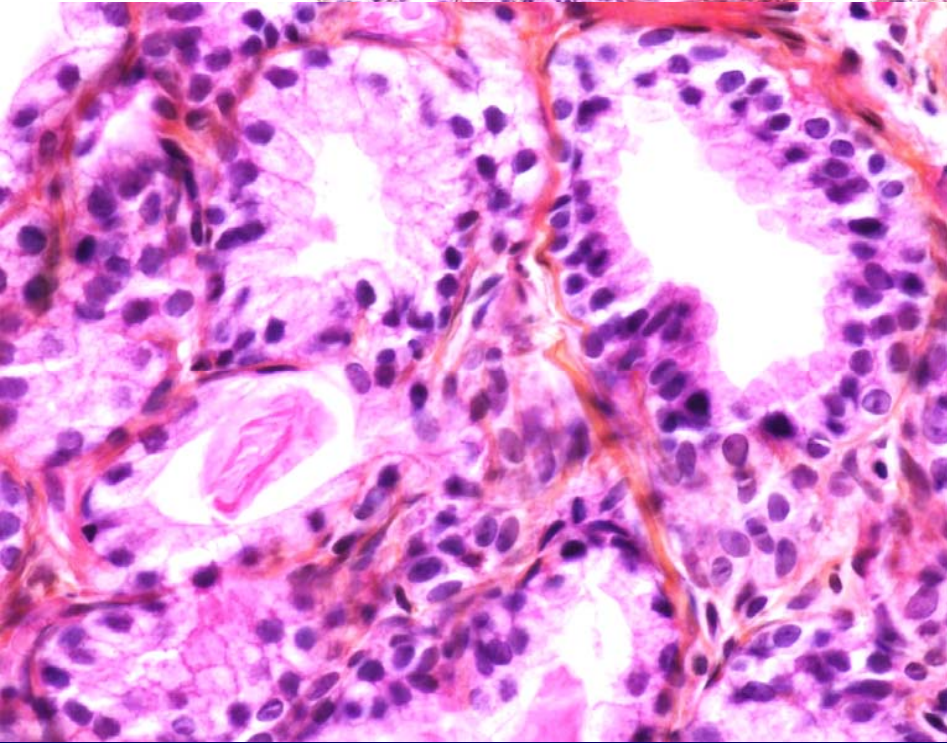
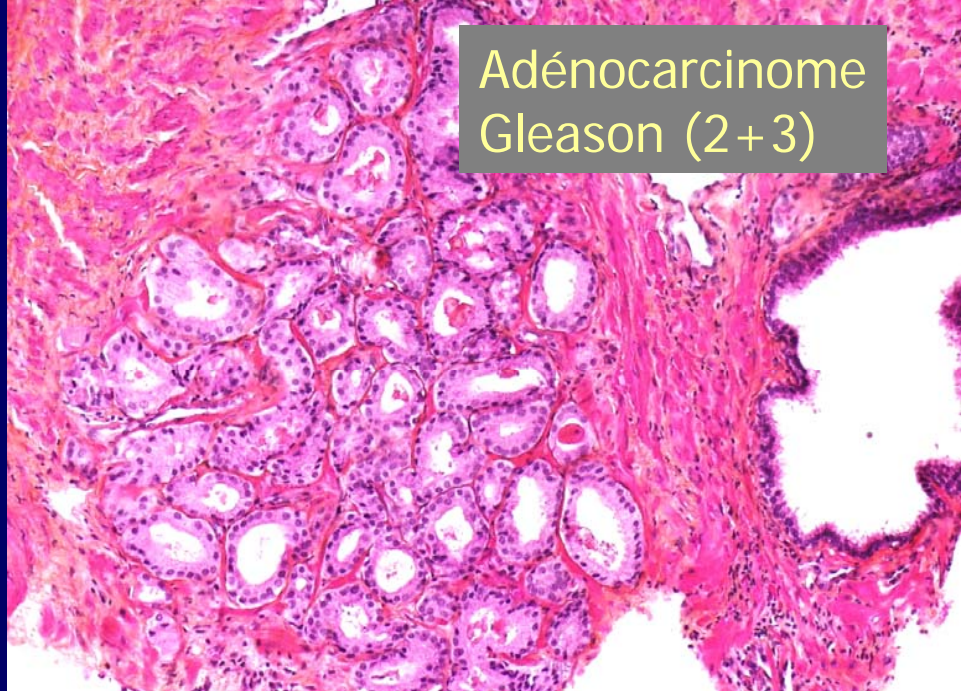




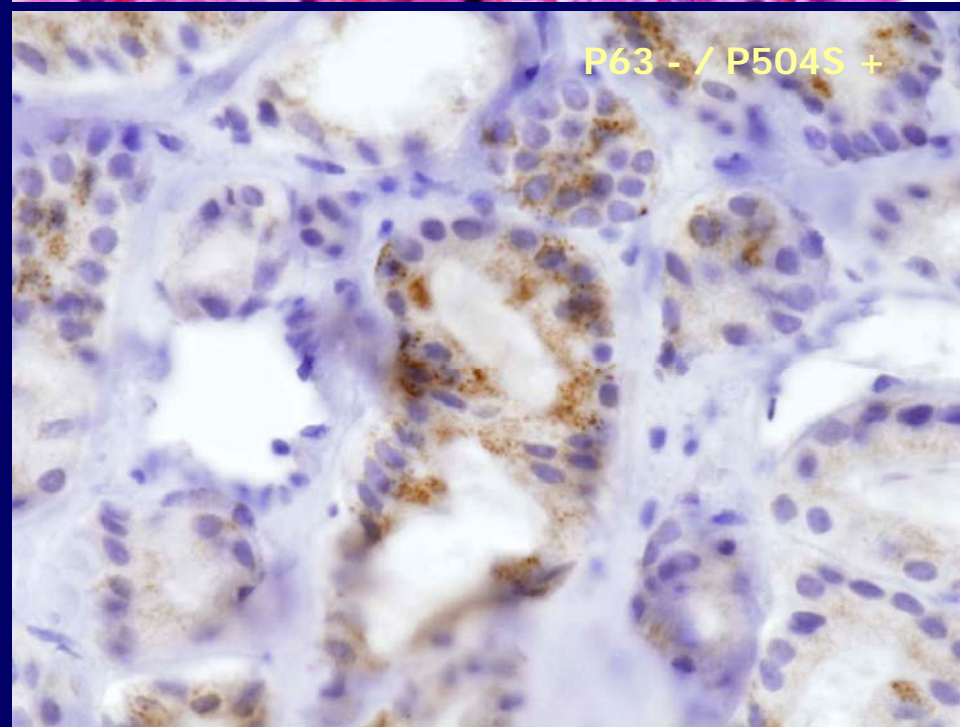
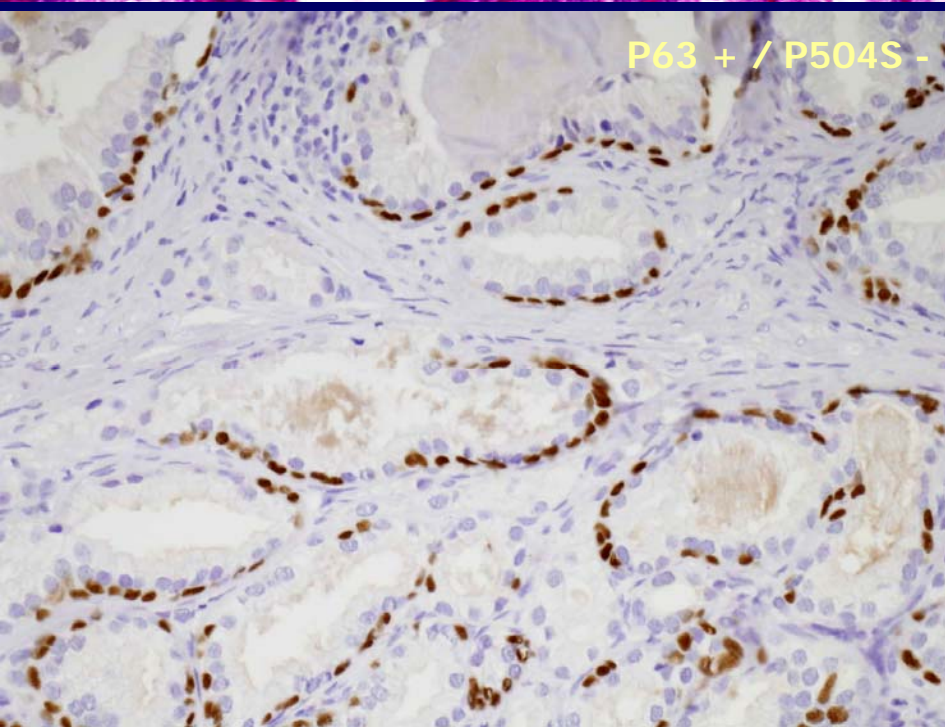
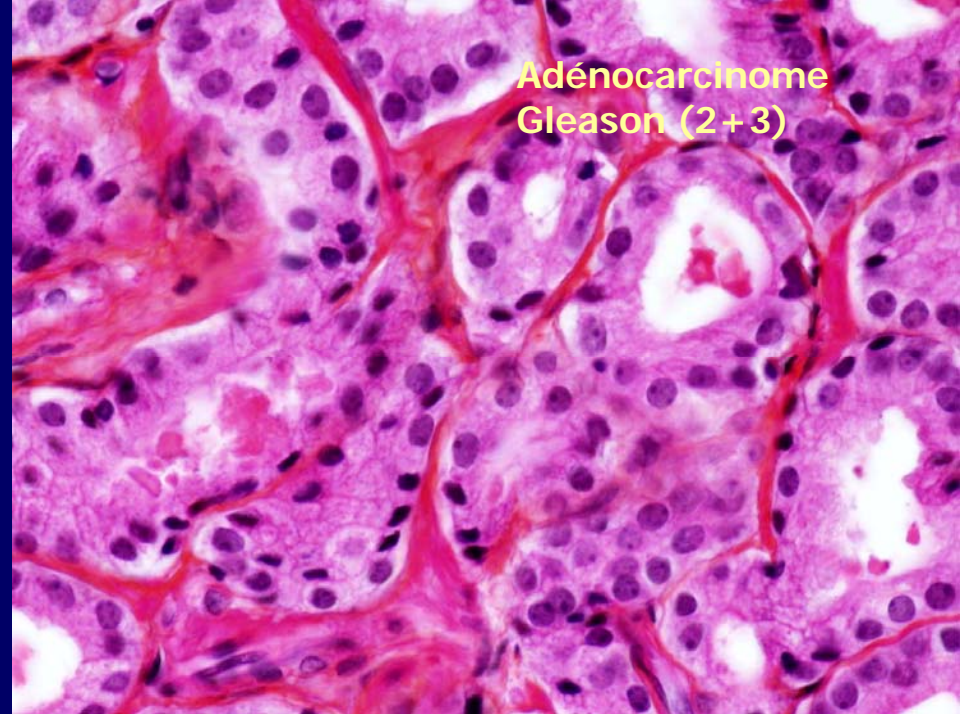
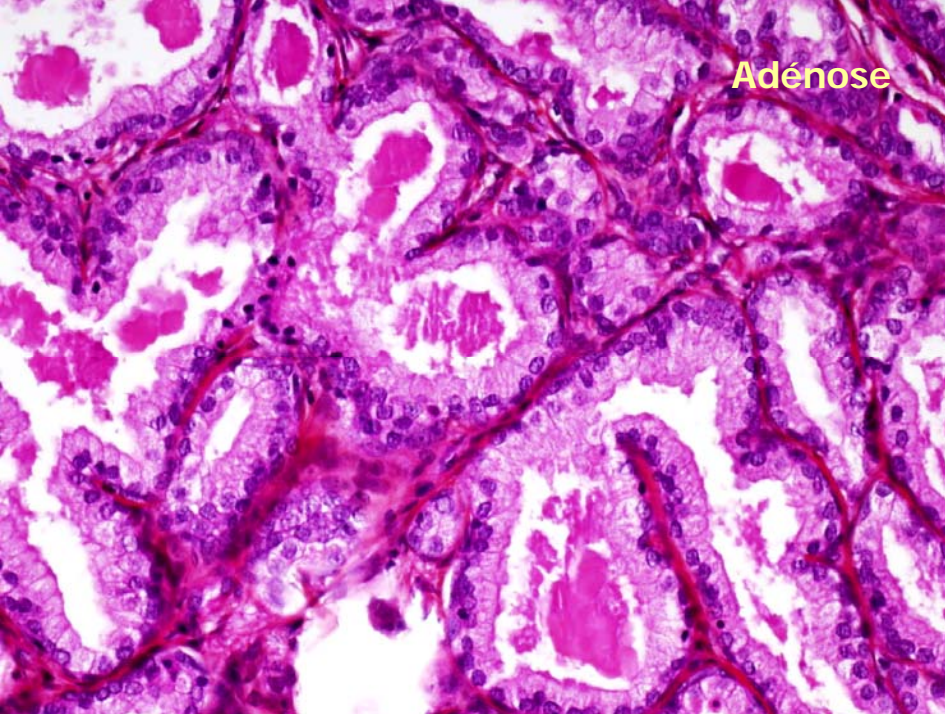
Adénose



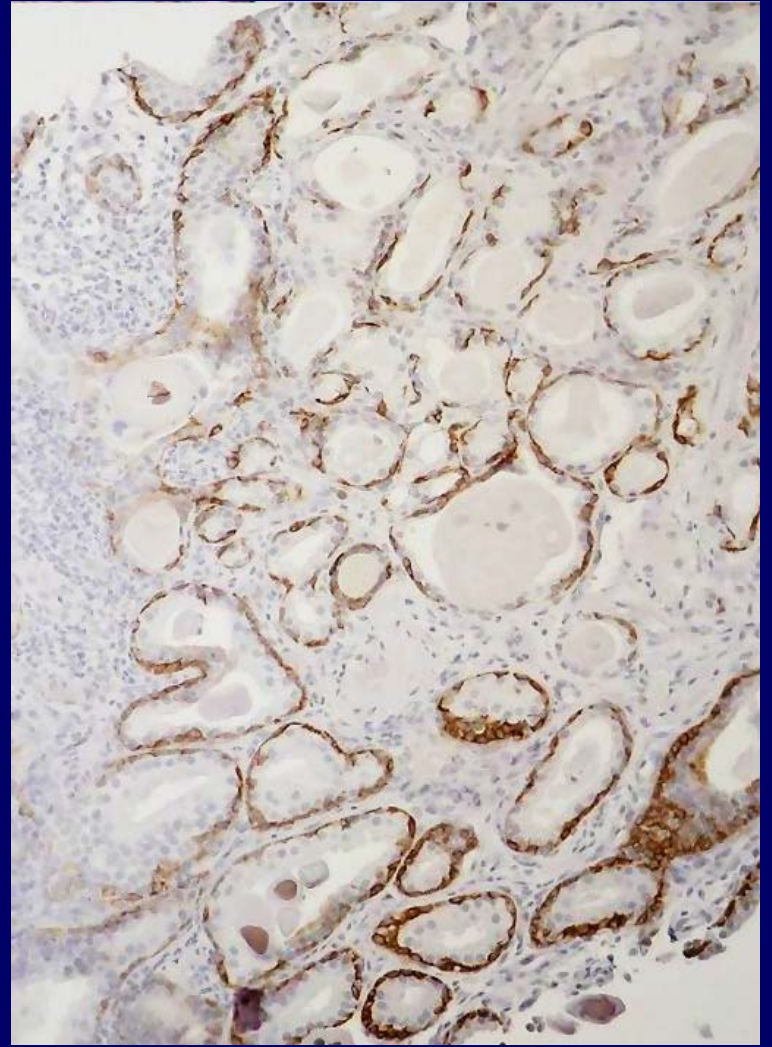
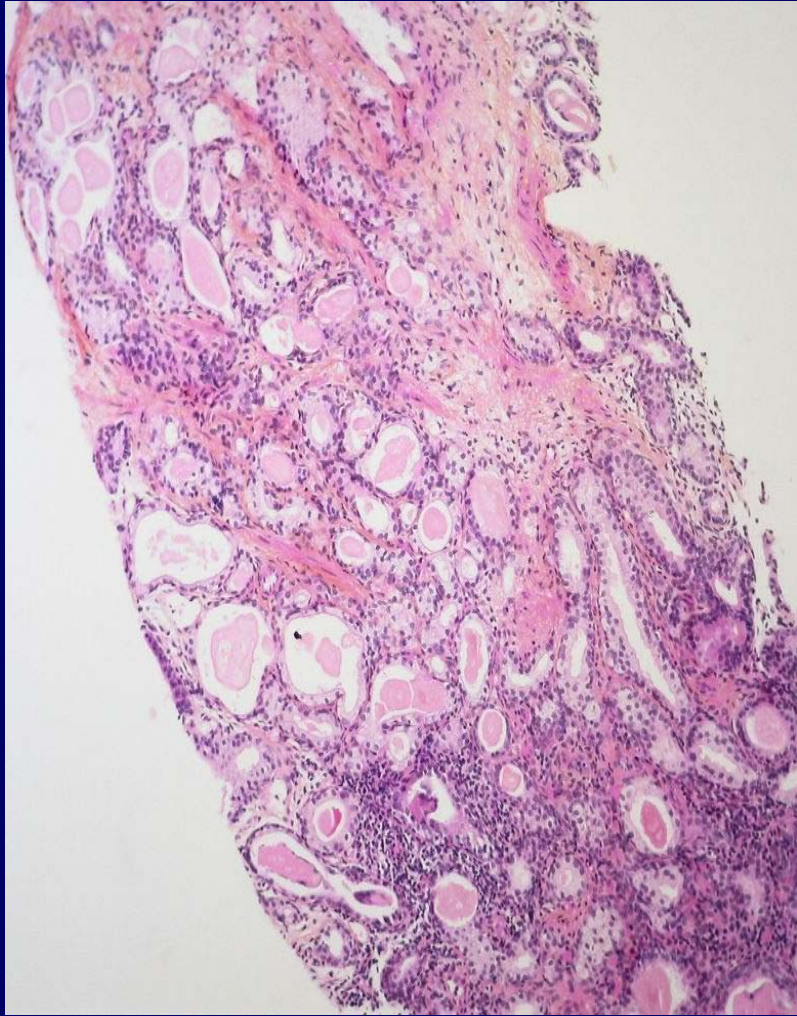
Adénocarcinome  
Gleason (2+3)













# Adénose diffuse de la zone périphérique lésion précurseur?

ORIGINAL ARTICLE

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## Diffuse Adenosis of the Peripheral Zone in Prostate Needle Biopsy and Prostatectomy Specimens

*Tamara L. Lotan, MD\* and Jonathan I. Epstein, MD\*†‡*

*(Am J Surg Pathol 2008;32:1360–1366)*



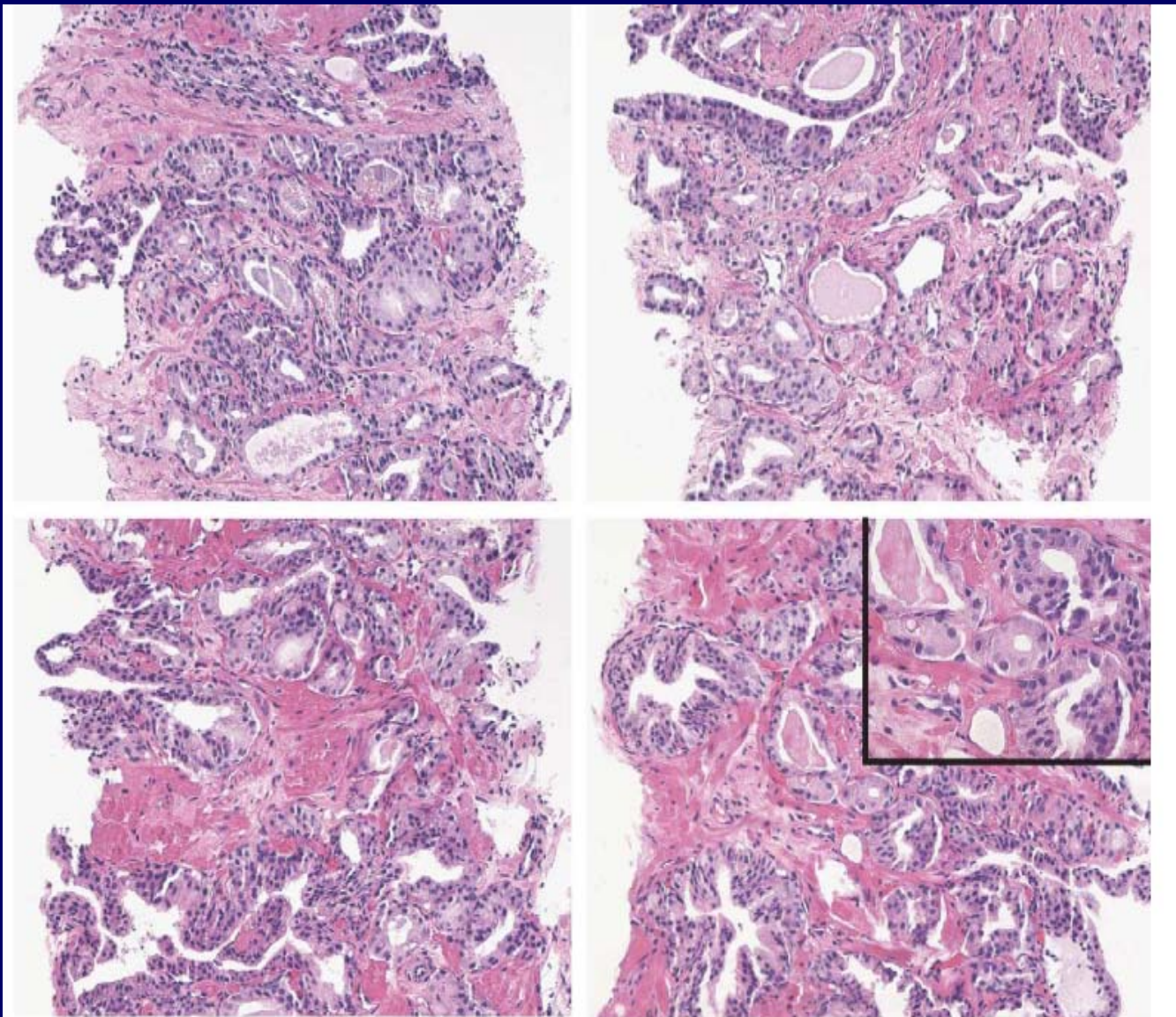
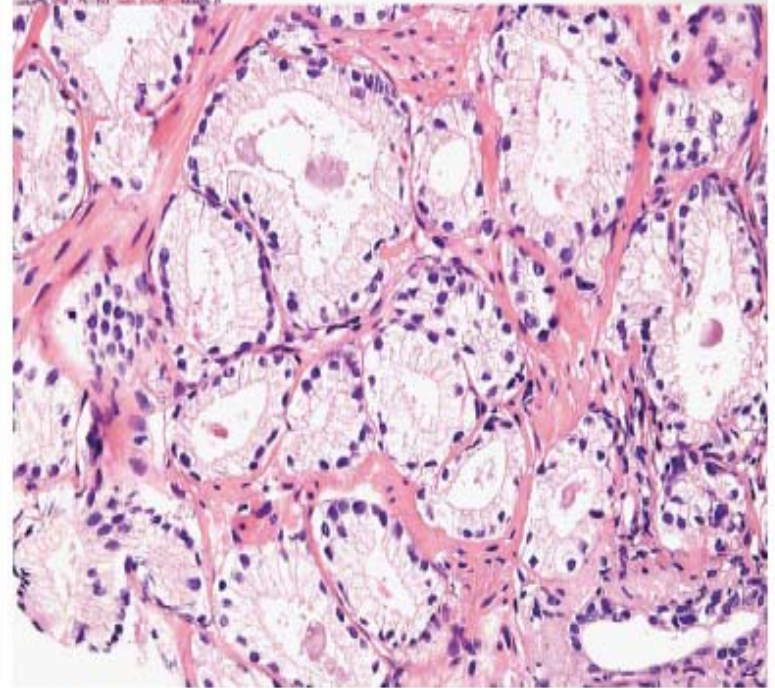
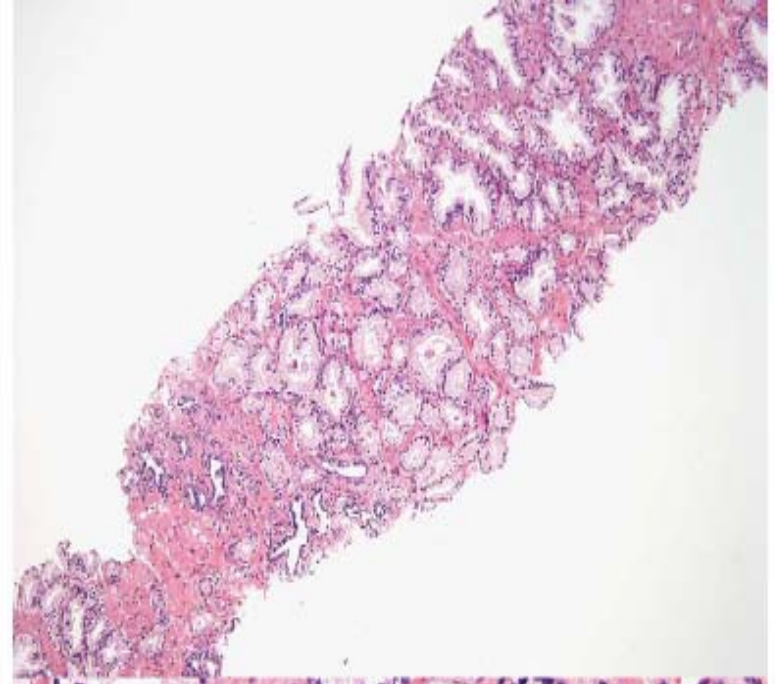
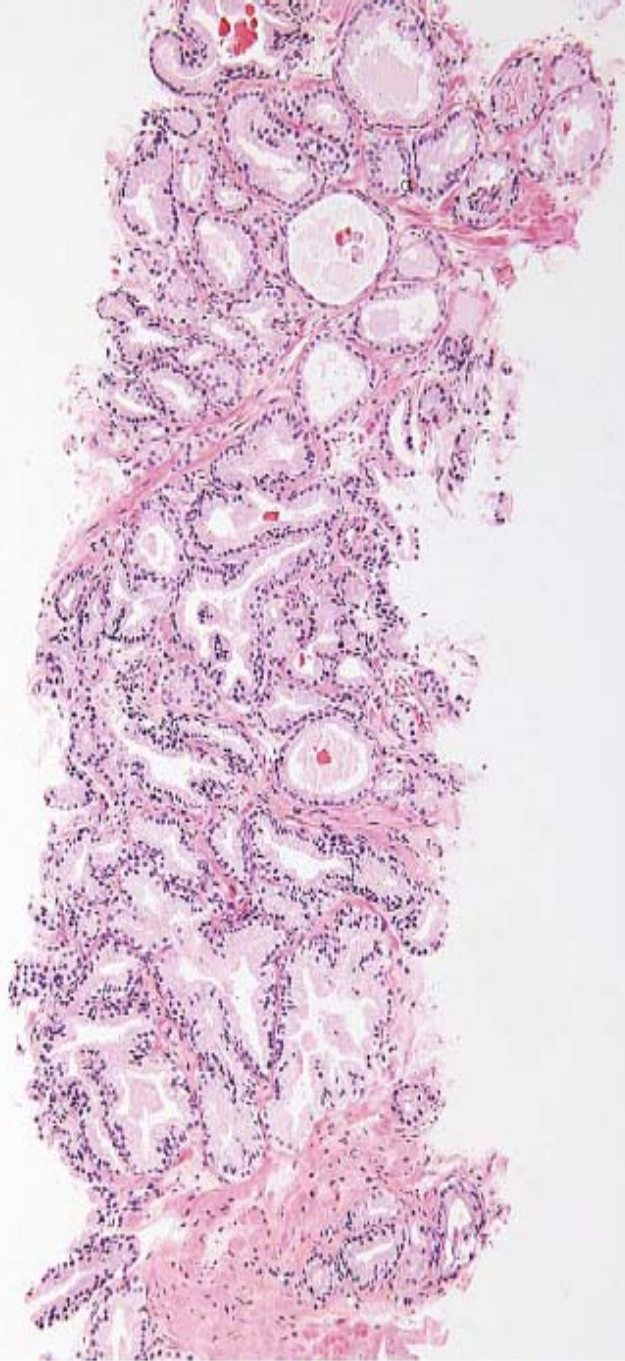


FIGURE 1. Four needle core biopsies from the same patient with DAPZ. All cores demonstrate small, crowded acinar foci with minimal cytologic atypia (inset) in a nonlobular distribution throughout the biopsies.

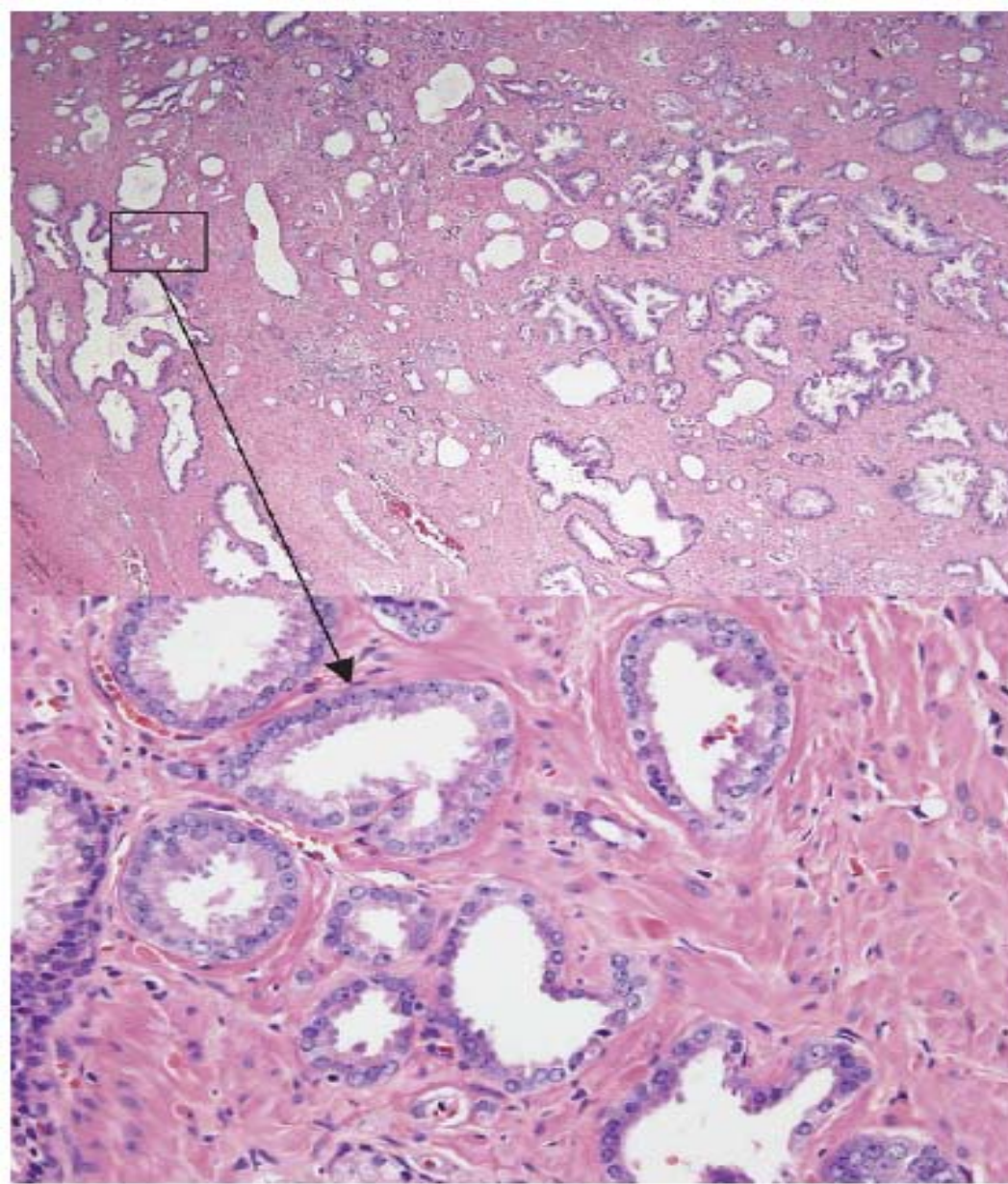
Patients jeunes, prolifération sans disposition lobulaire de petits tubes épars entre les glandes normales





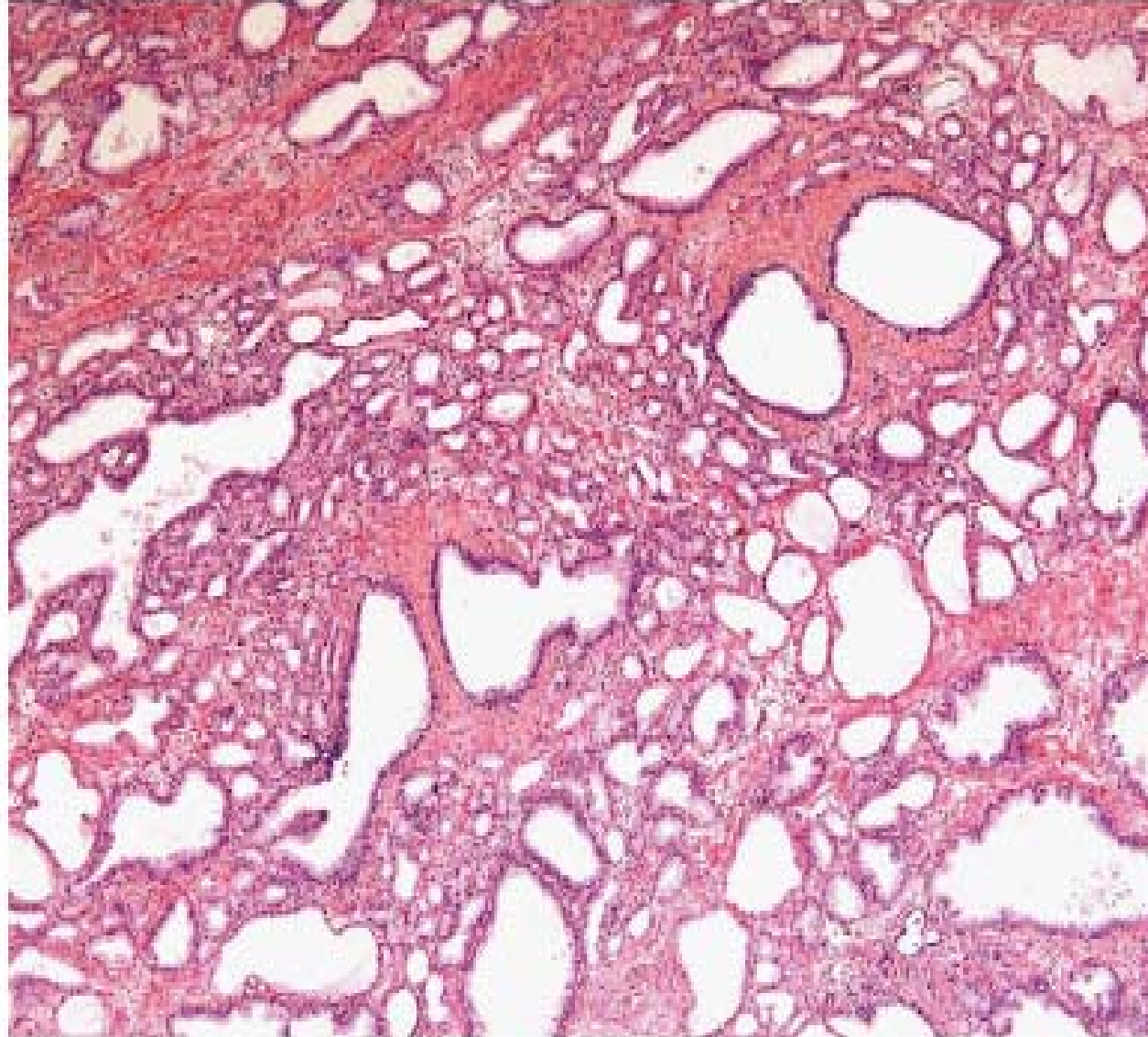
RE 2. Needle core biopsies from 2 different patients showing changes of DAPZ.





**FIGURE 7.** Small focus of Gleason score 3+3=6 adenocarcinoma in a radical prostatectomy from a DAPZ patient. Most of the specimen consisted of changes of DAPZ with minimal cytologic atypia. However, small, unequivocal foci of prostatic adenocarcinoma were intermingled with changes of DAPZ (bottom panel).

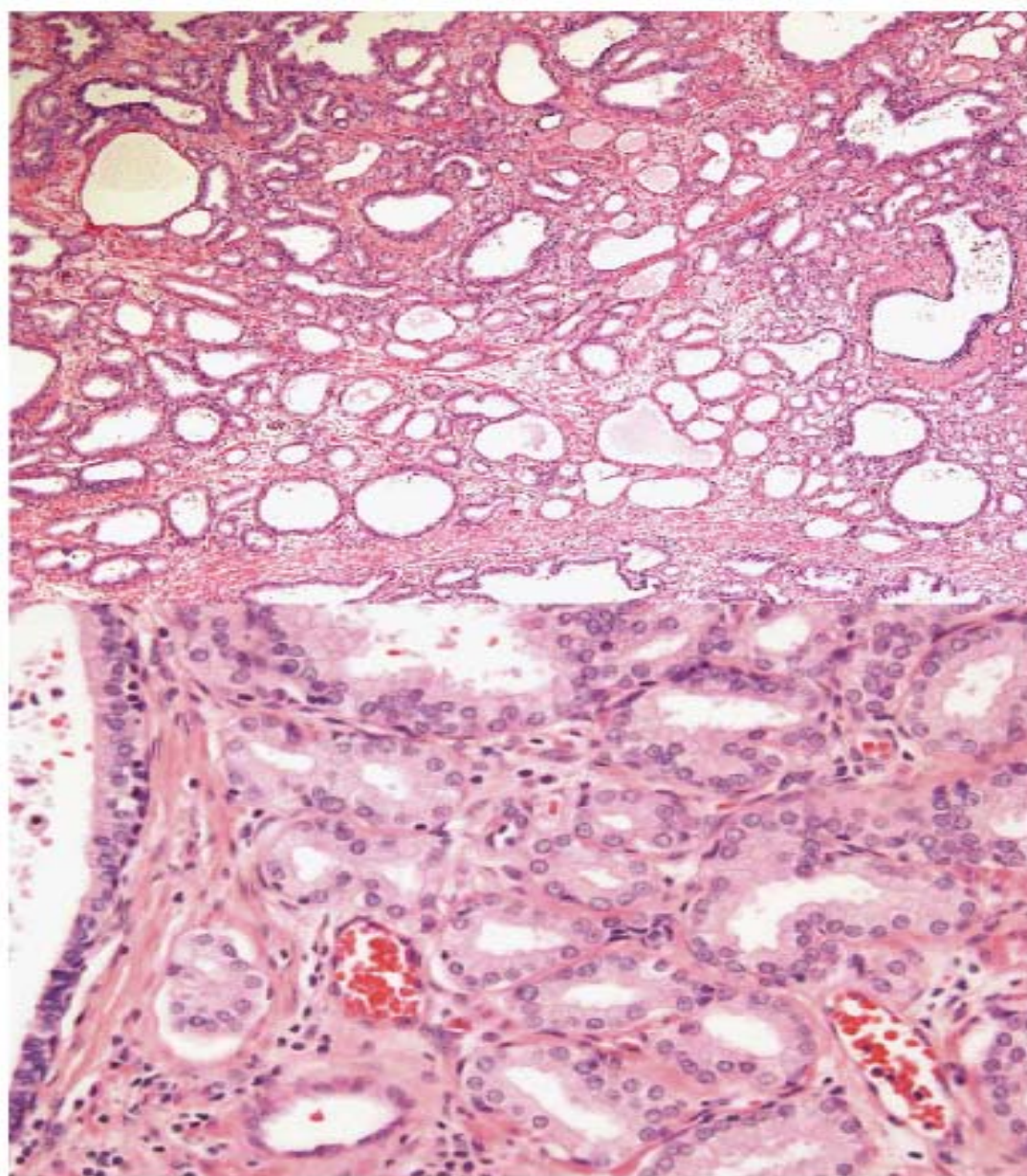




**FIGURE 6.** Radical prostatectomy specimen from patient with DAPZ showed varying numbers of nonlobular and crowded small acinar foci interspersed throughout normal prostatic glands in the peripheral zone.



Un faux dg de K



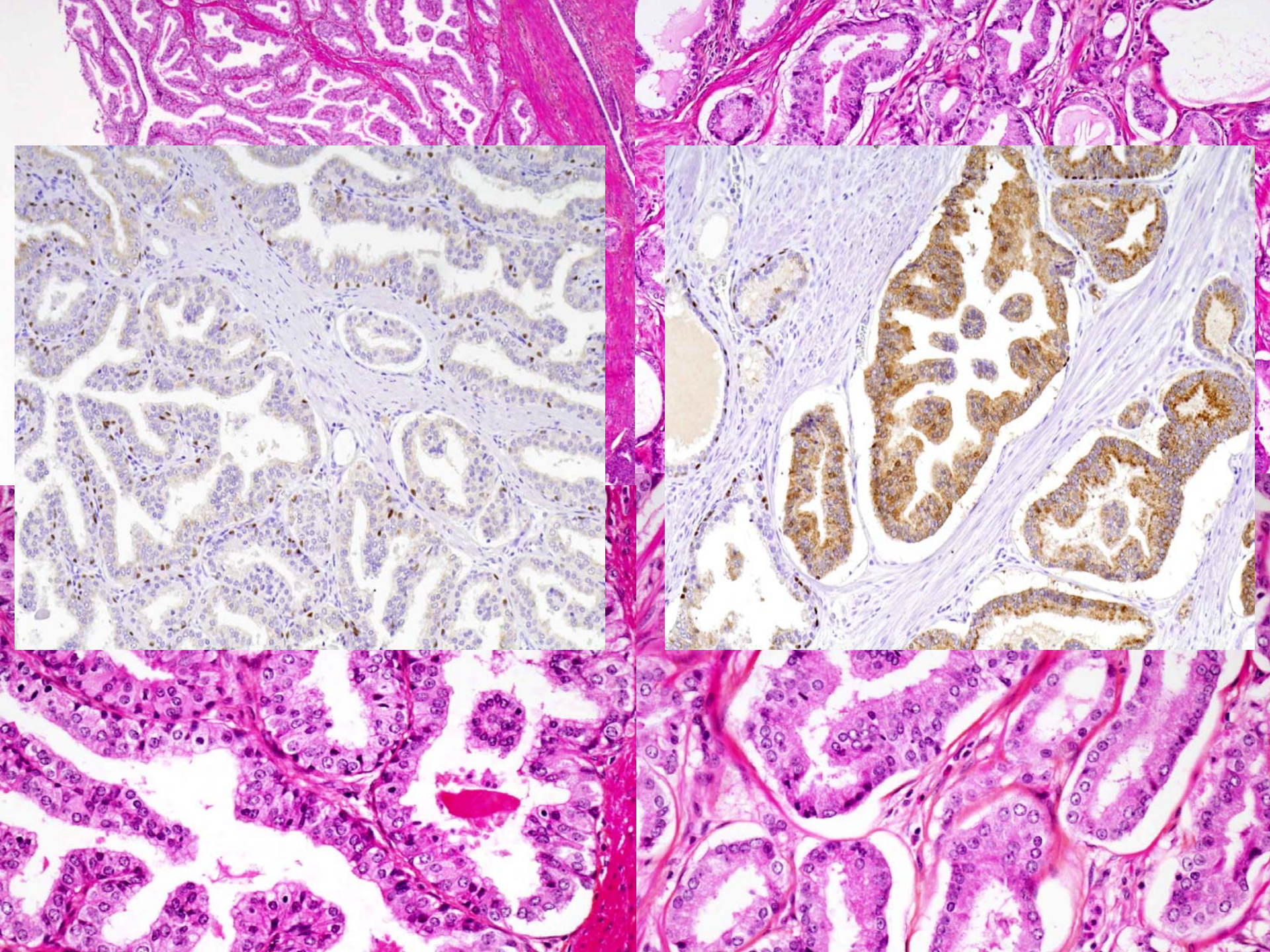
**FIGURE 8.** Radical prostatectomy from DAPZ patient incorrectly diagnosed with carcinoma on needle biopsy showed no carcinoma, only changes of DAPZ with minimal cytologic atypia and patchy basal cells (not illustrated) distributed throughout.



distribution. In contrast to prostatic adenocarcinoma or atypical glands suspicious for carcinoma, the vast majority of these foci display little-to-no cytologic atypia. Informally, we have referred to these cases as “funny looking prostates.” However, it is unclear whether this architectural pattern, which we have more formally termed diffuse adenosis of the peripheral zone (DAPZ), is simply a cellular variant of normal prostate morphology in this age group or whether it represents a risk factor for the subsequent development of prostatic carcinoma.

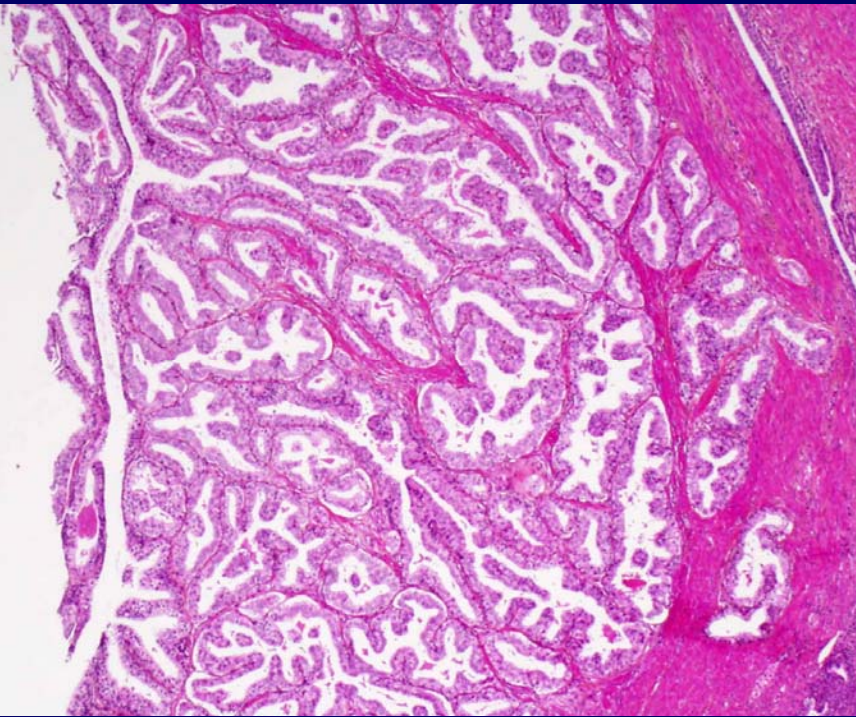
Overall, DAPZ is a newly described and diagnostically challenging entity on prostate needle biopsies from young patients which seems to be associated with an increased risk of prostatic adenocarcinoma on rebiopsy. It is essential to consider the background prostatic morphology when entertaining a diagnosis of prostatic adenocarcinoma in a case of DAPZ, and to avoid overinterpretation of needle biopsies with multiple foci of crowded, diffusely distributed but cytologically benign glands.



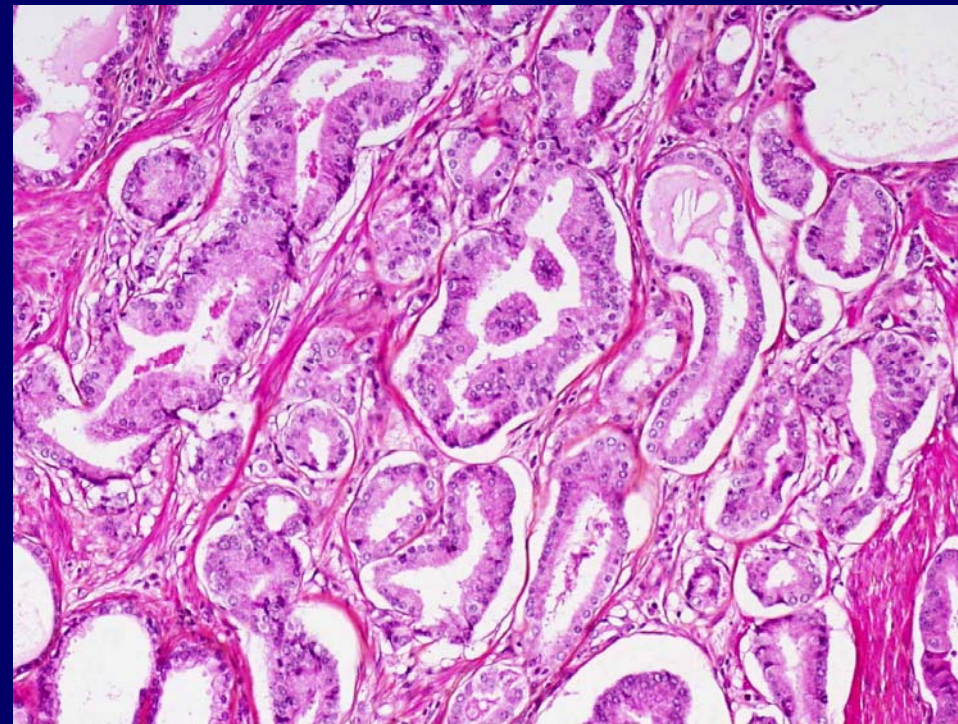




## Hyperplasie glandulaire bénigne



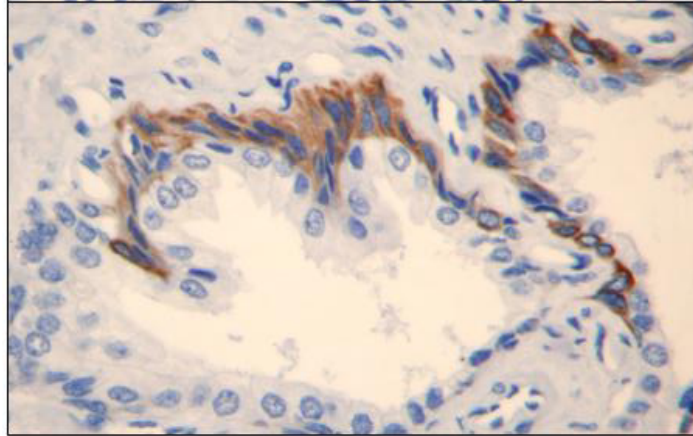
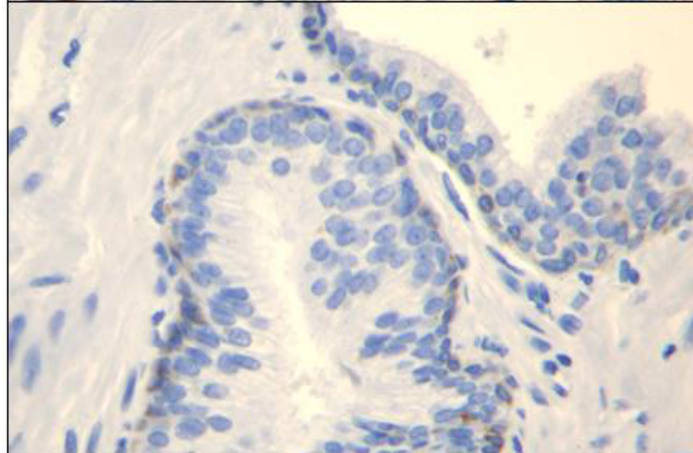
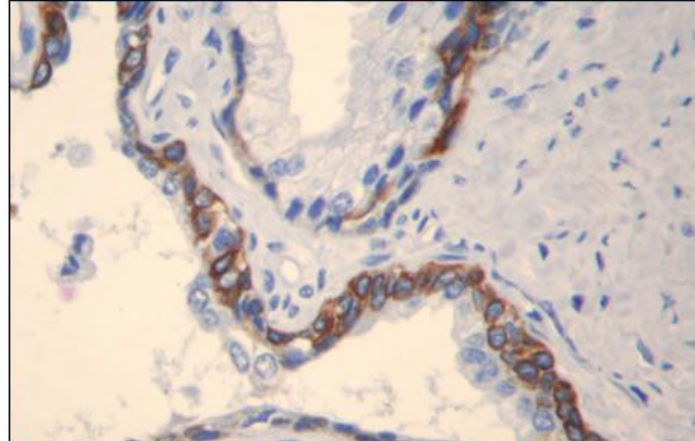
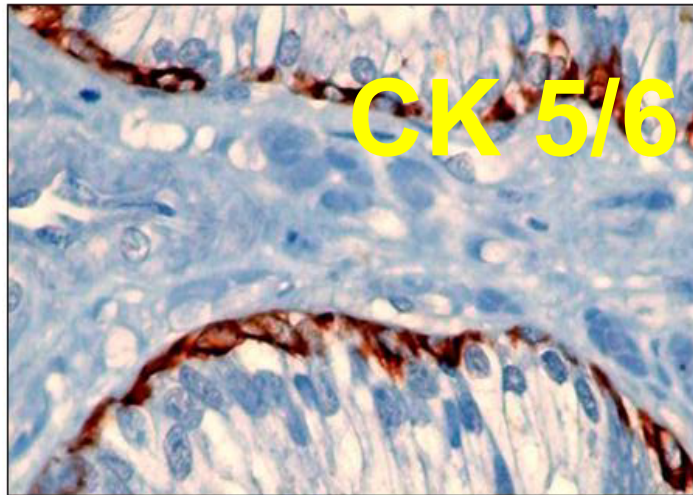
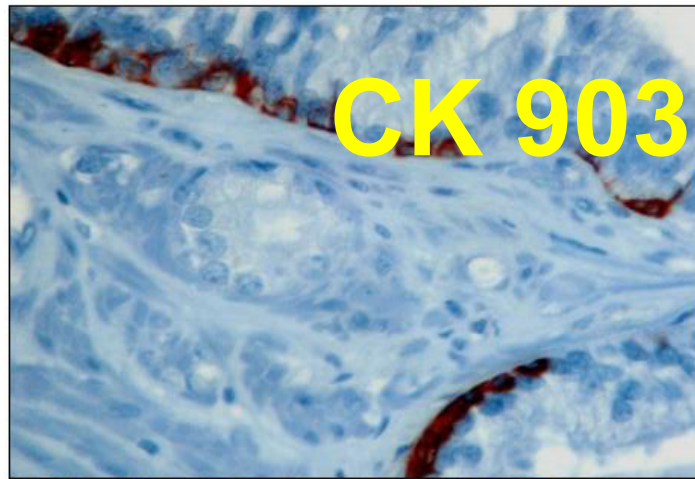
## Adénocarcinome pseudo-hyperplasique





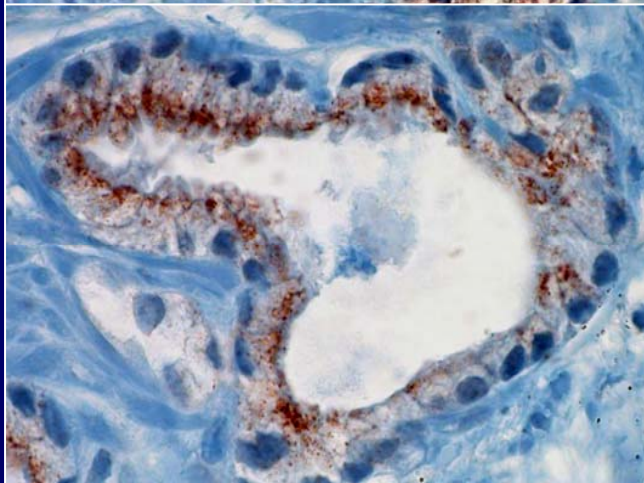
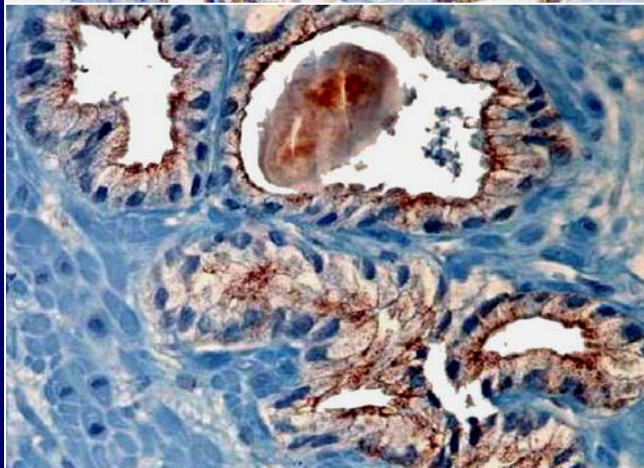
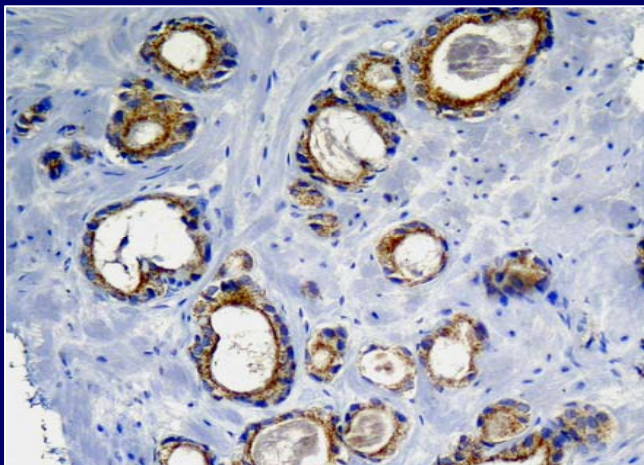
# Immunomarquage





La présence  
de cellules  
basales  
autour des  
tubes  
indique la  
benignité



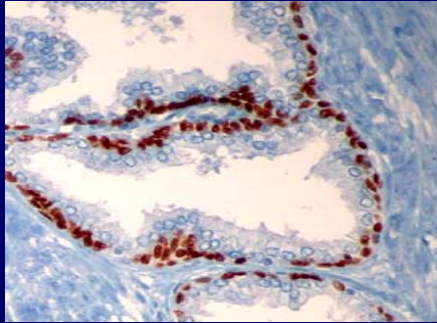


- Les cellules cancéreuses (cancer invasif et PINHG) expriment P504s (racemase) (marquage granulaire intracytoplasmique et positivité apicale franche)
- Attention P504s peut être exprimé par des lésions non cancéreuses: adénose, atrophie et glandes normales.
- P504s peut être négatif au niveau du cancer
- Importance d'associer un marqueur des cellules basales.

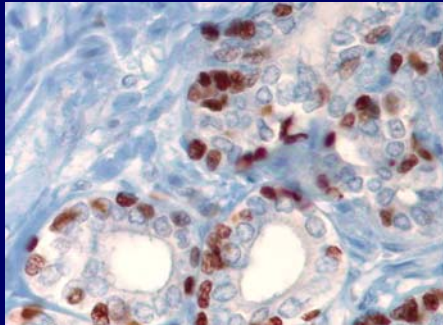


**P63 + / p 504s -**

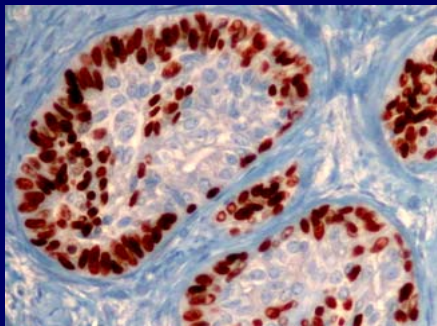
**Glandes normales**



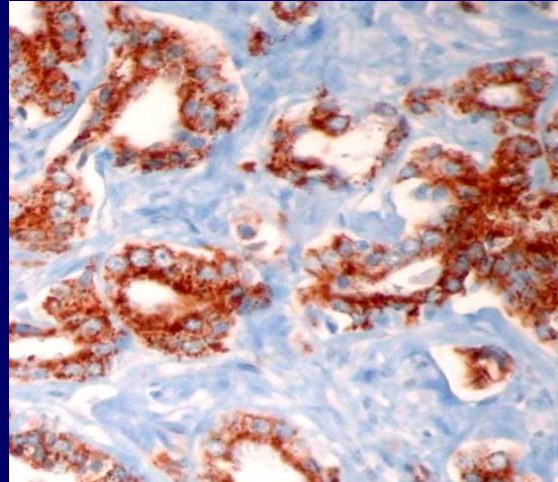
**Atrophie**



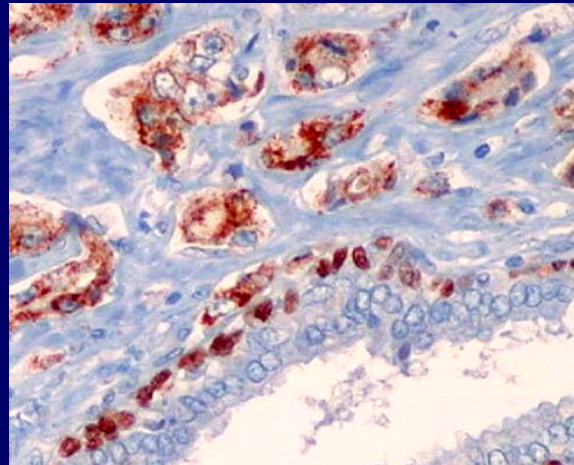
**HCB**



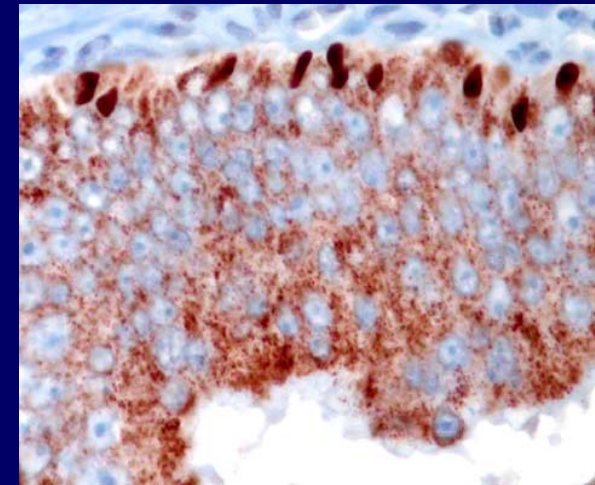
**P63 - / p 504s +**



**ADK**

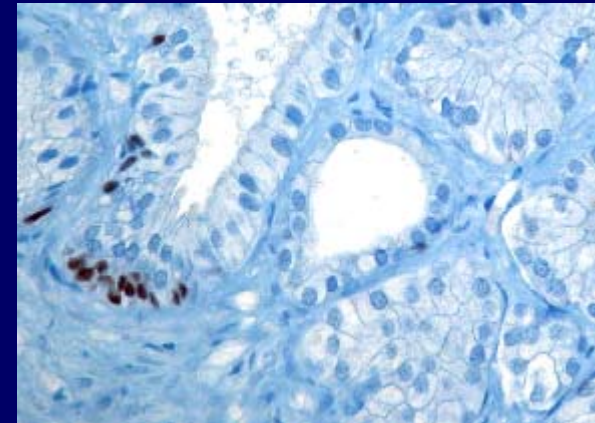


**P63 + / p 504s +**



**PIN**

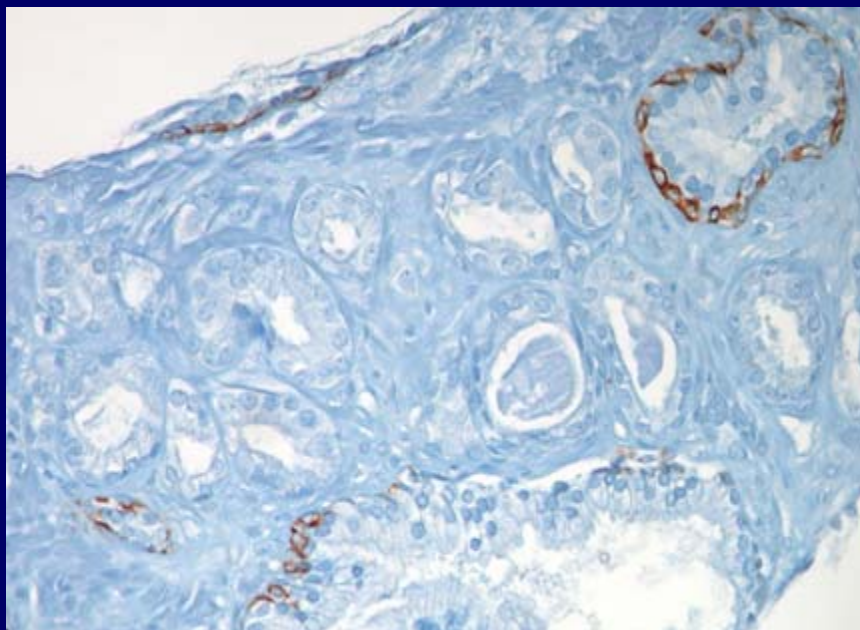
**P63 - / p 504s -**



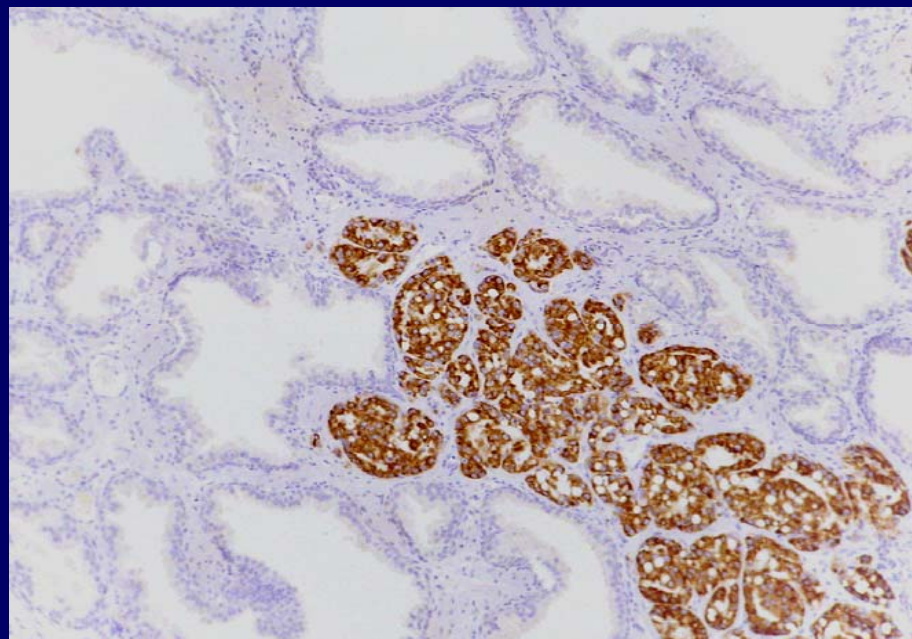
**Foyer suspect**



**Pas de cellules basales autour des tubes carcinomateux**

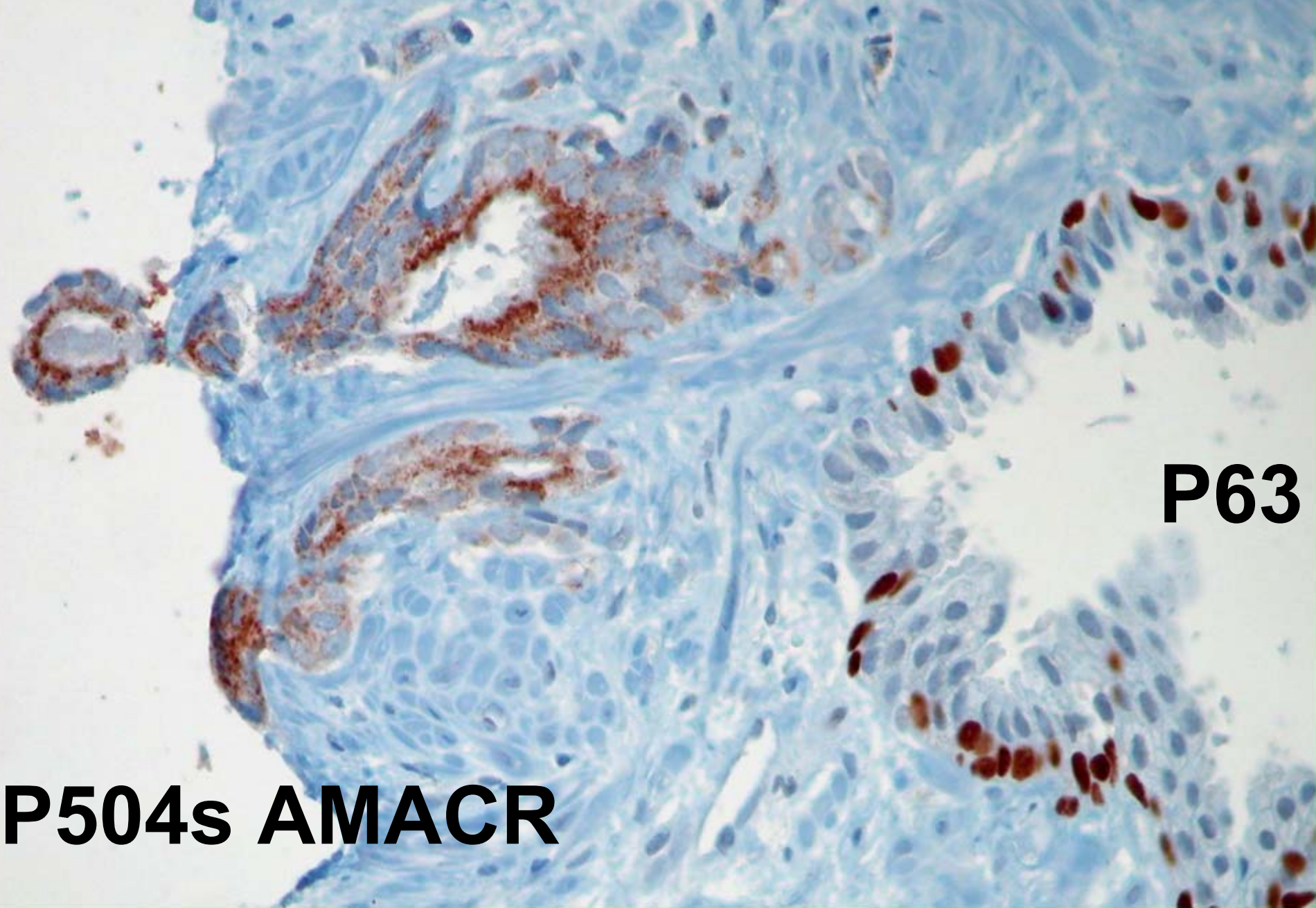


**Expression de la racemase par les cellules tumorales prostatiques**





# P504s AMACR / P63: PIN cocktail

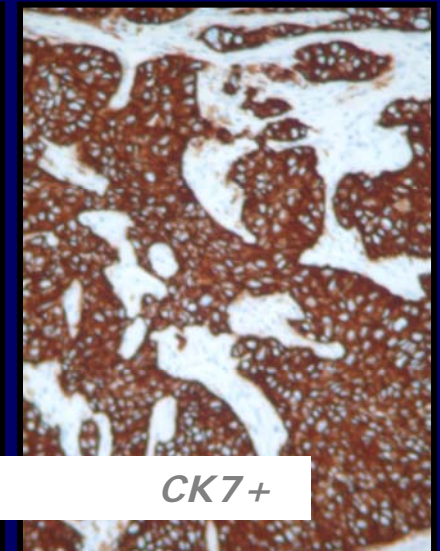
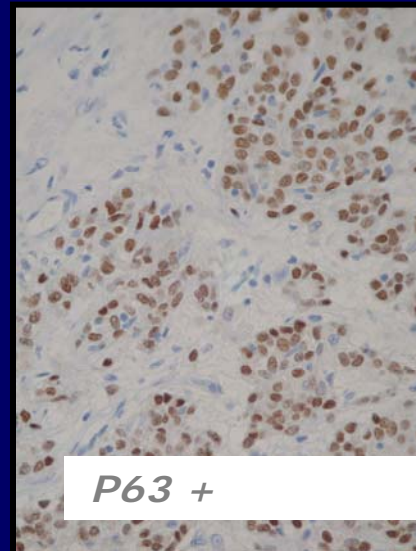
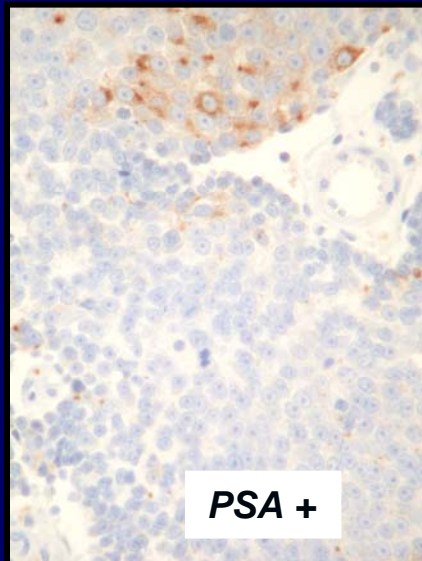
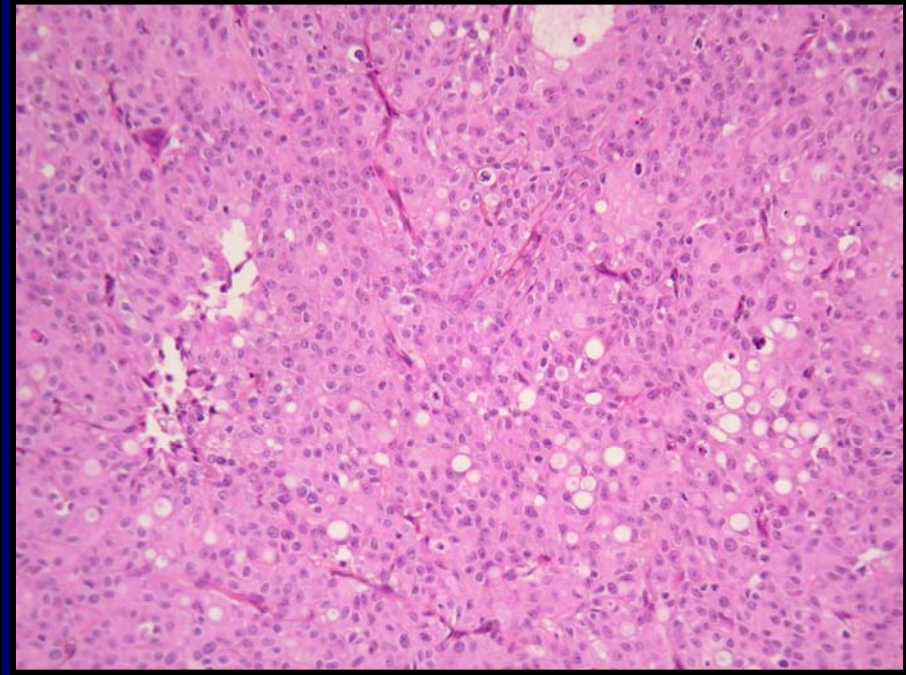
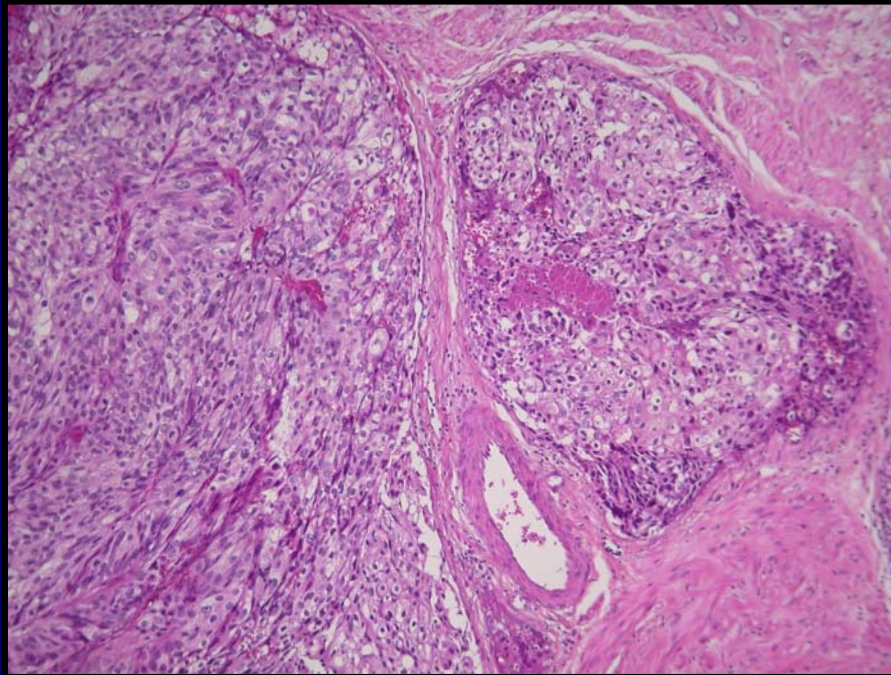


**P63**

**P504s AMACR**

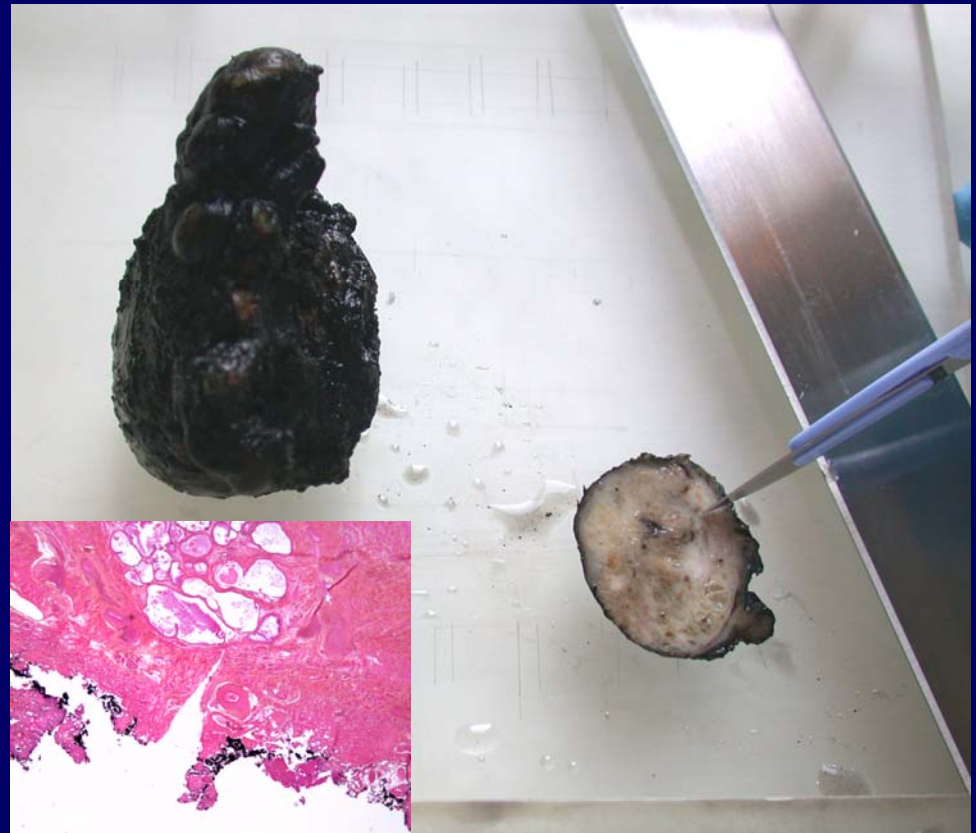


# Carcinome prostatique ou carcinome urothélial ?





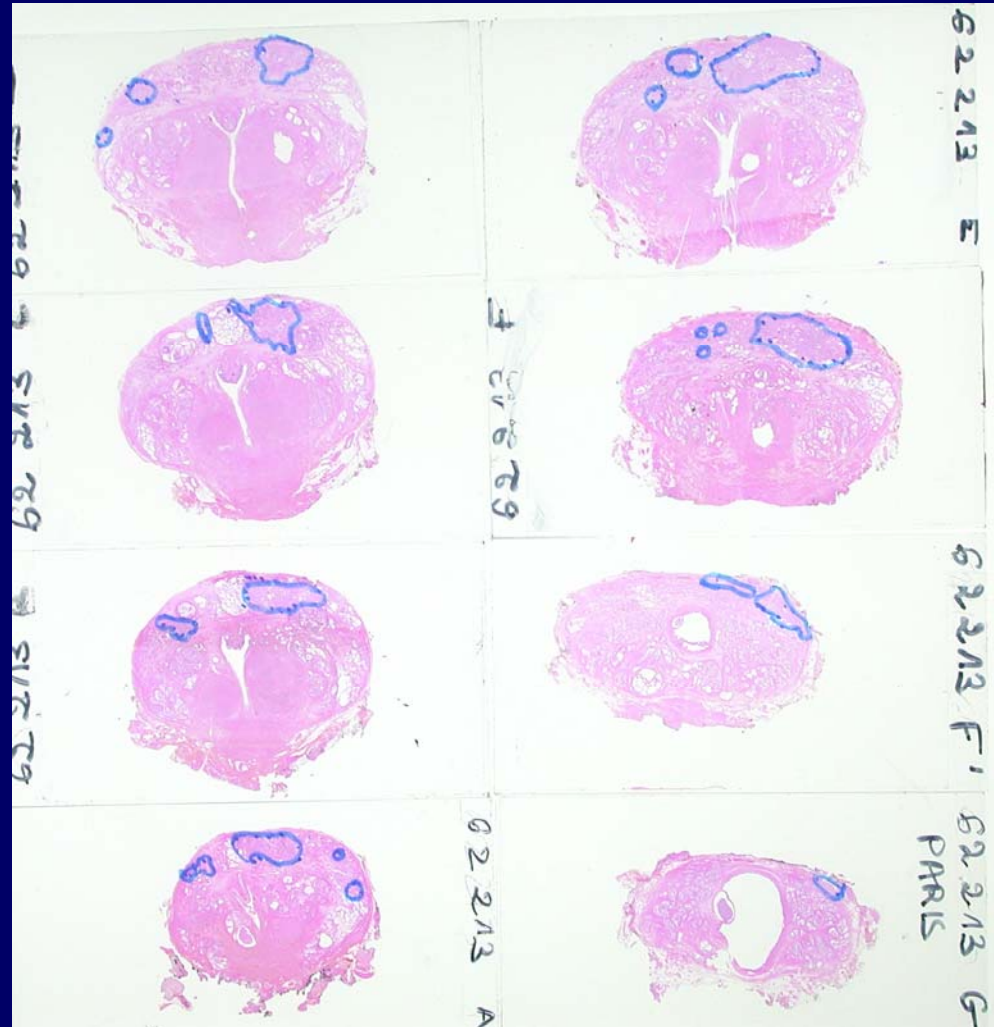
# Prostatectomie: inclusion totale en grandes cassettes



- Repérage orientation de la coupe (ex : encoche en avant et à droite)
- Réalisation de niveaux de coupes



# Repérage du cancer le plus souvent impossible en macroscopie







Grande coupe: Carcinome de la zone transitionnelle, limité à la prostate, marges saines (pT2, R0)

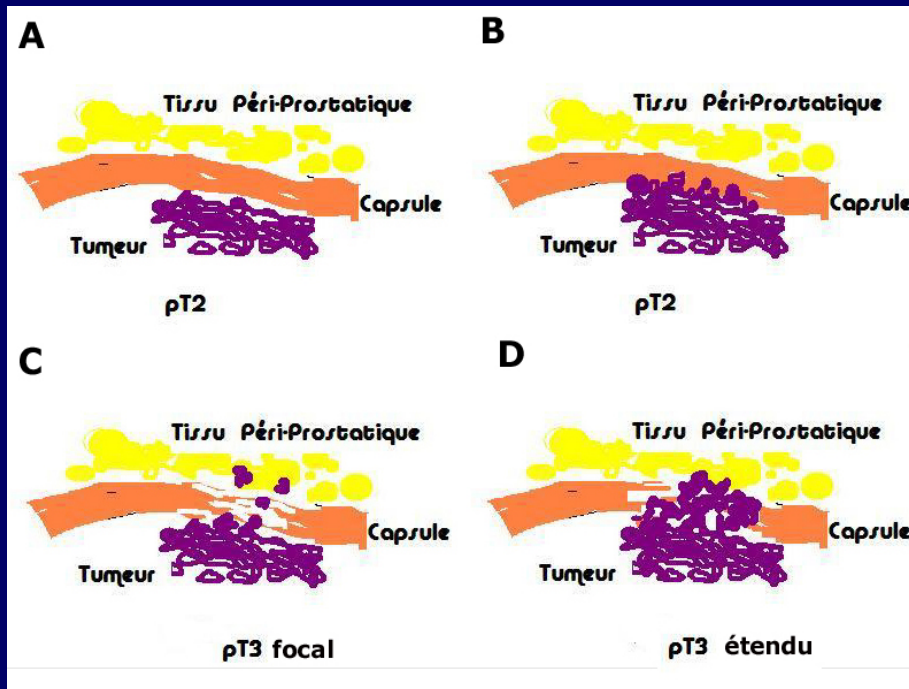




Grande coupe : Carcinome de la zone périphérique, avec extension extra prostatique, marges saines (pT3a, R0)

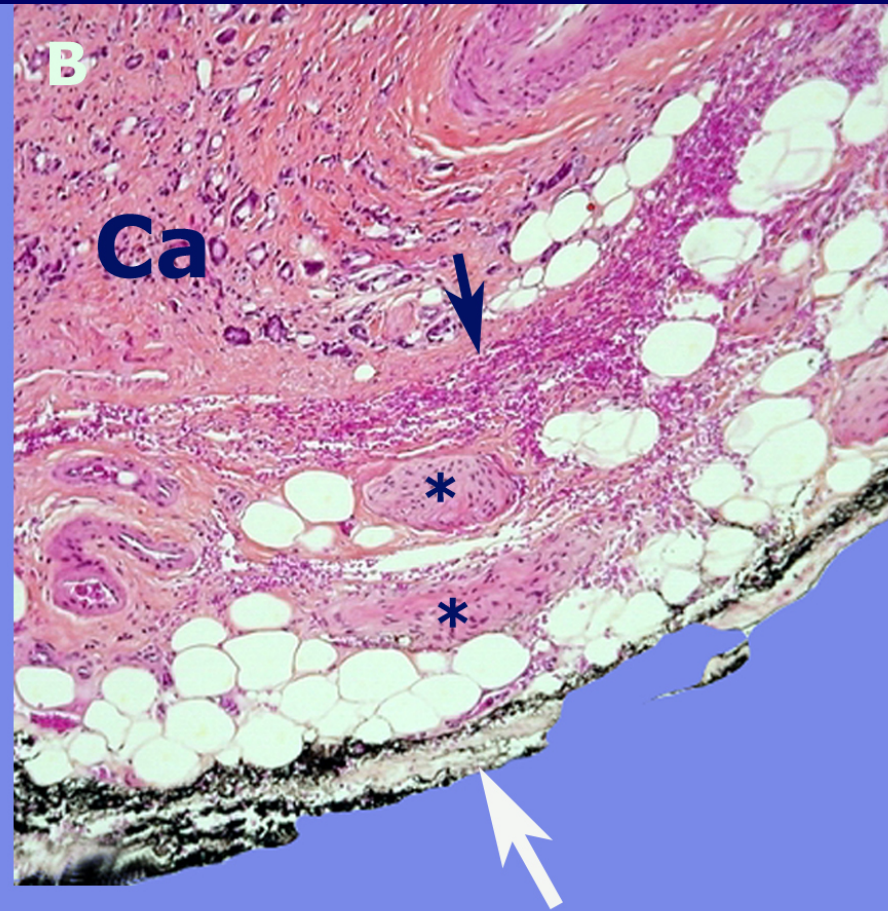
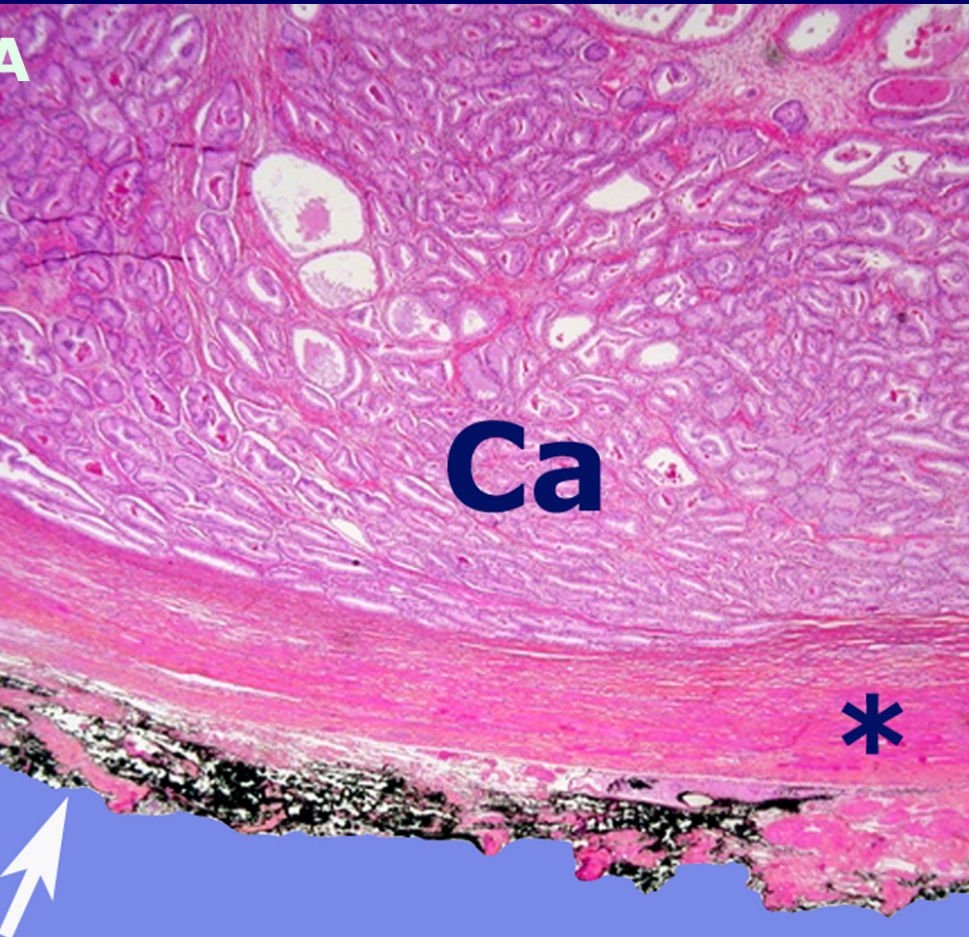


- **Etablir le stade et le statut de la margesur une pièce de prostatectomie peut être facile**

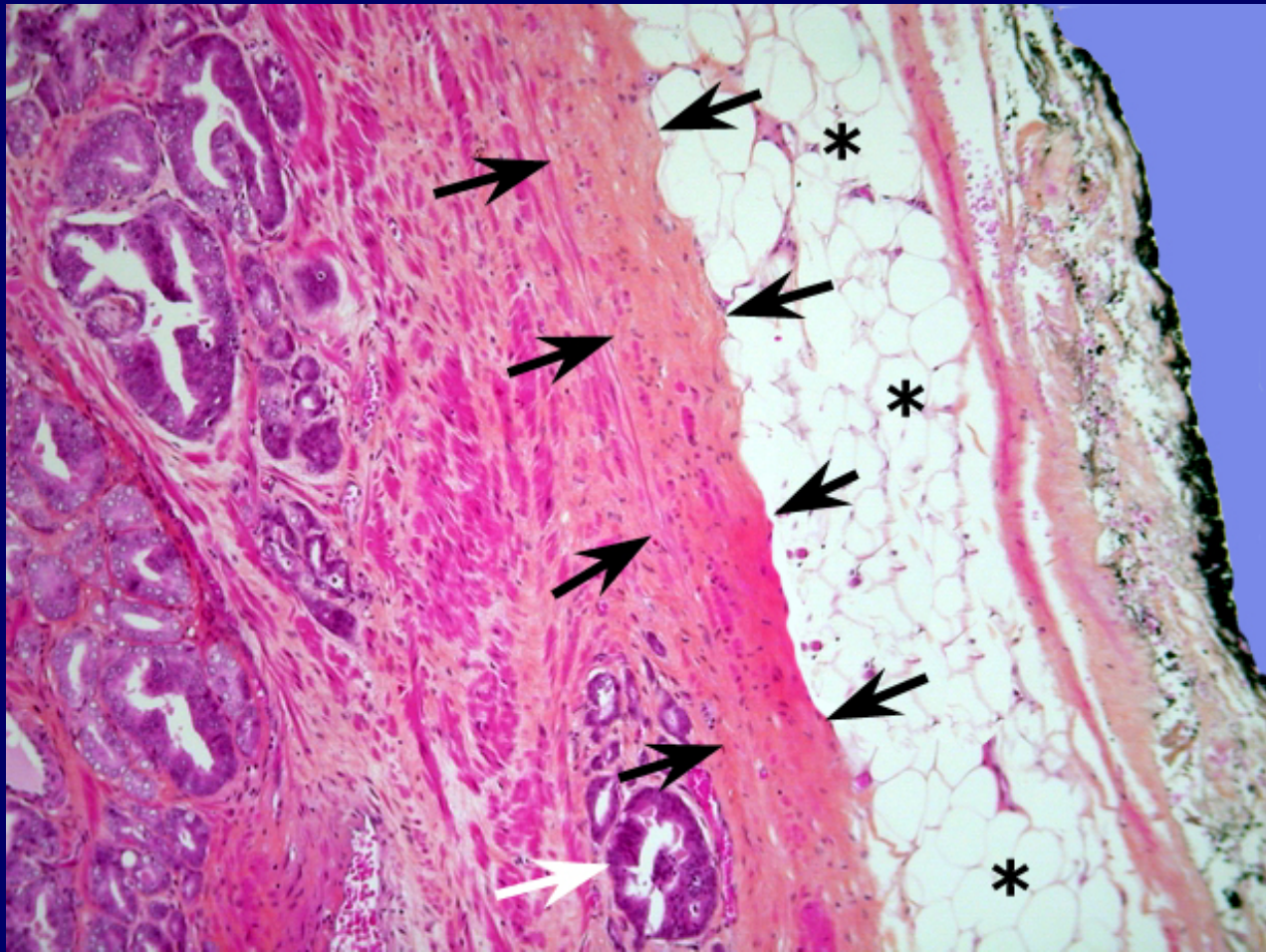


**ou délicat.....**

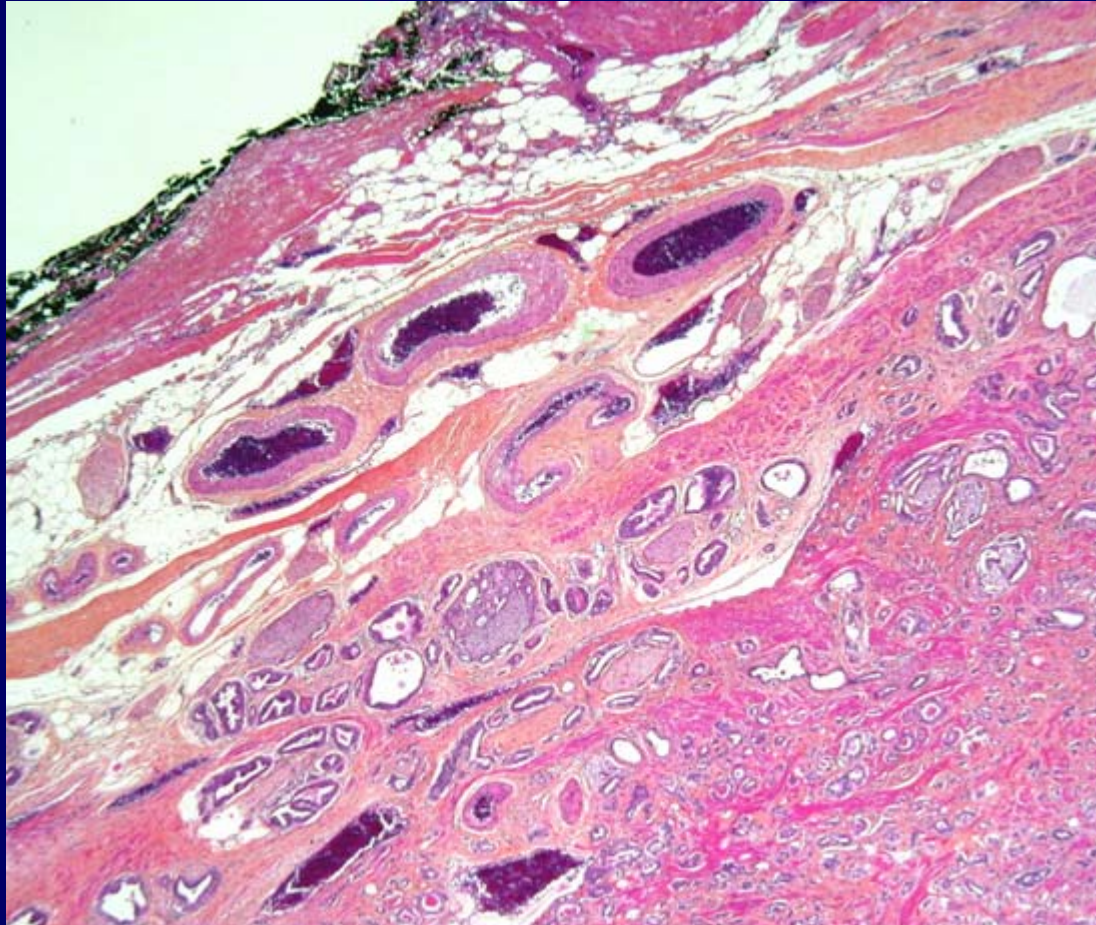






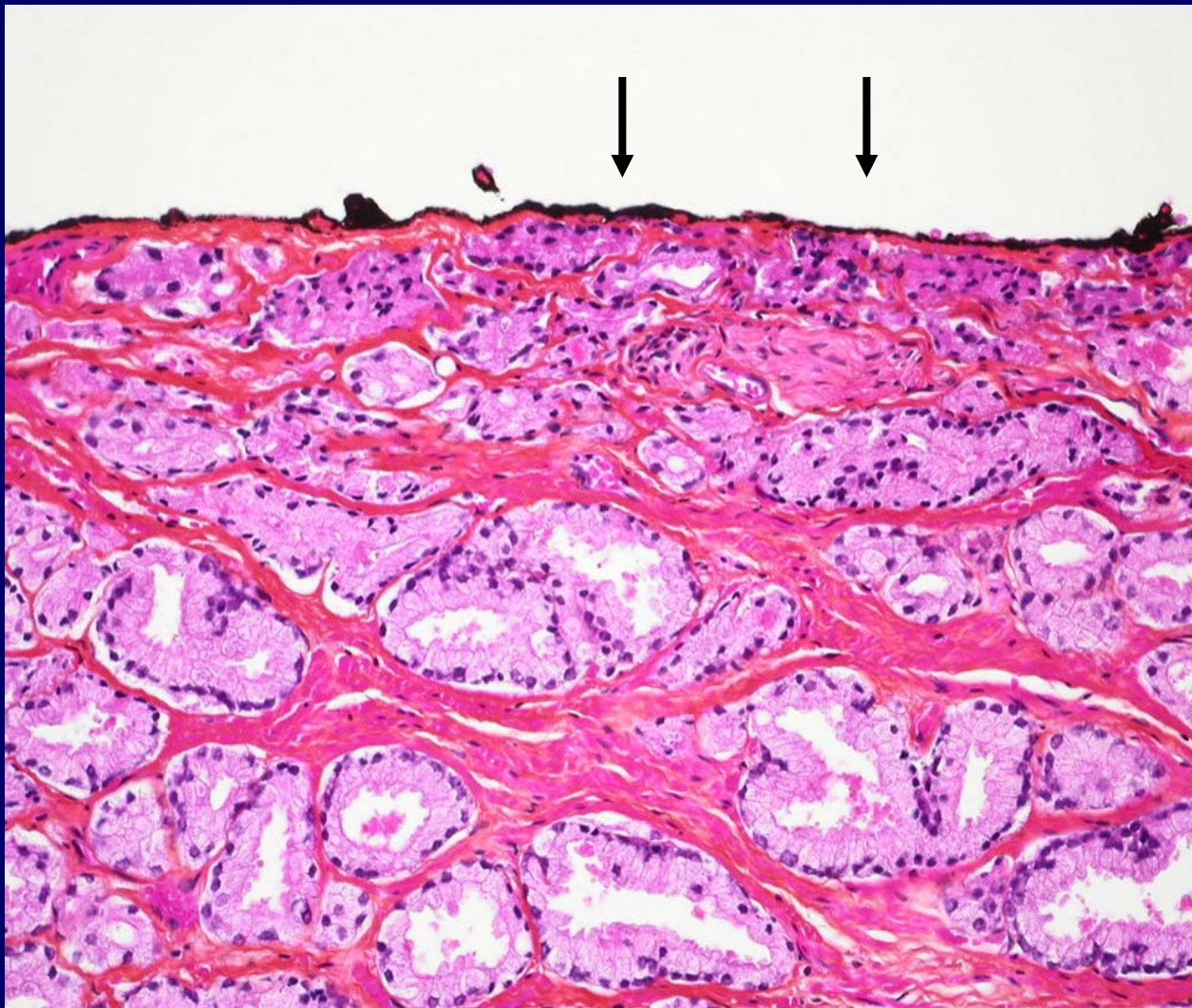






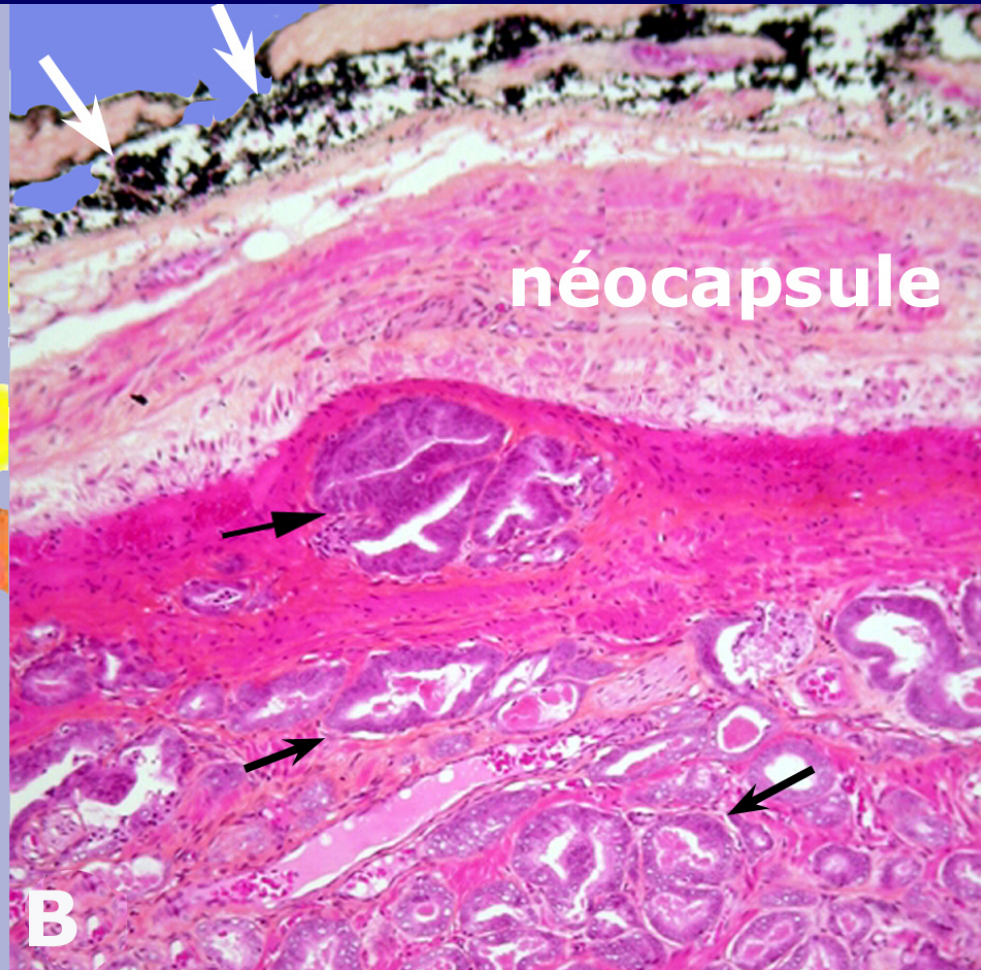
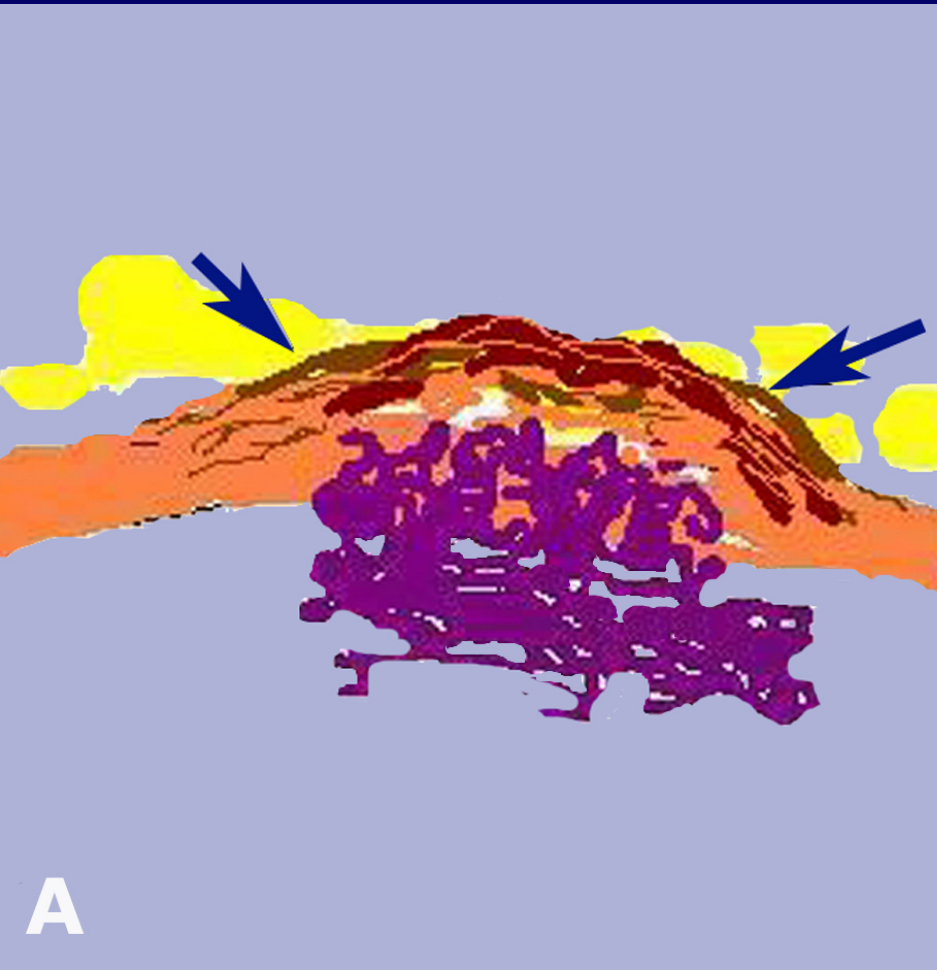
Envahissement extra prostatique pT3. Marge négative R-.





Marge positive intraprostatique pT2x, R1



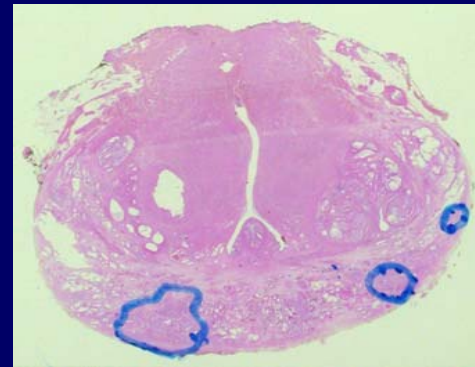
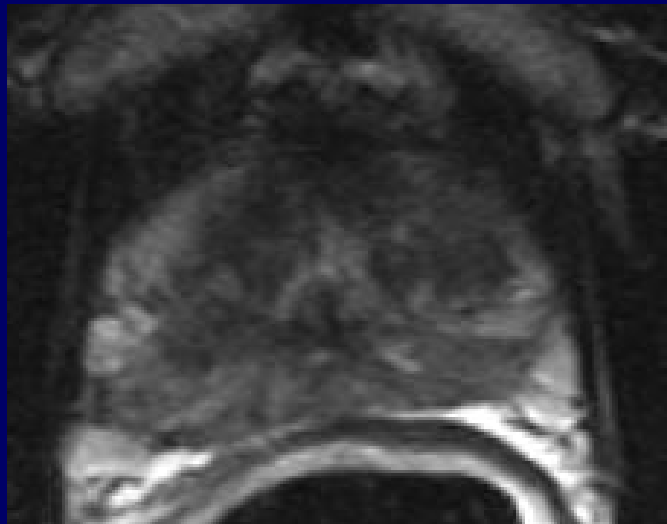
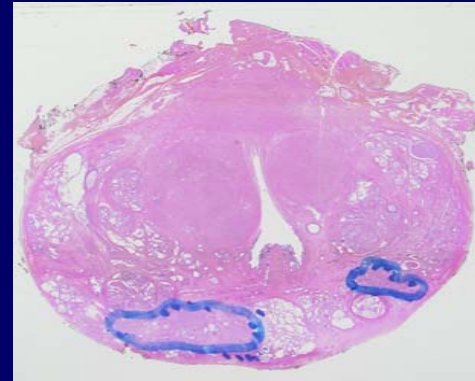
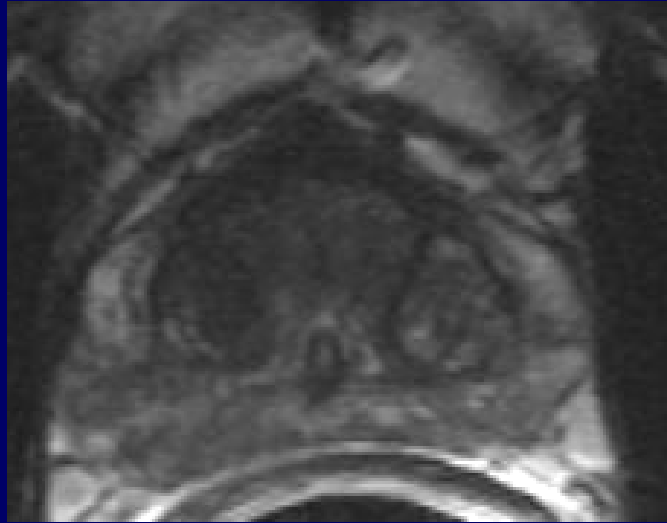




Le diagnostic du cancer est il possible en IRM

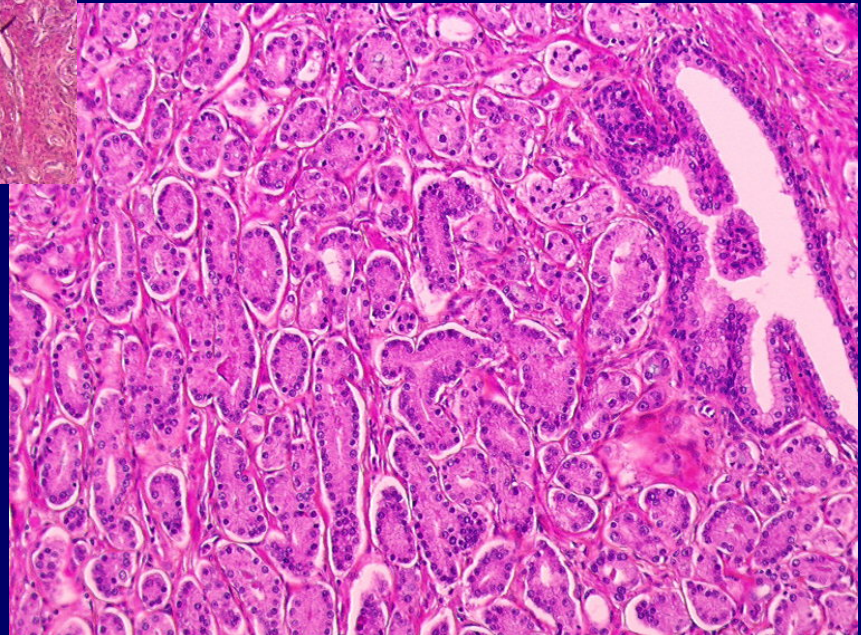
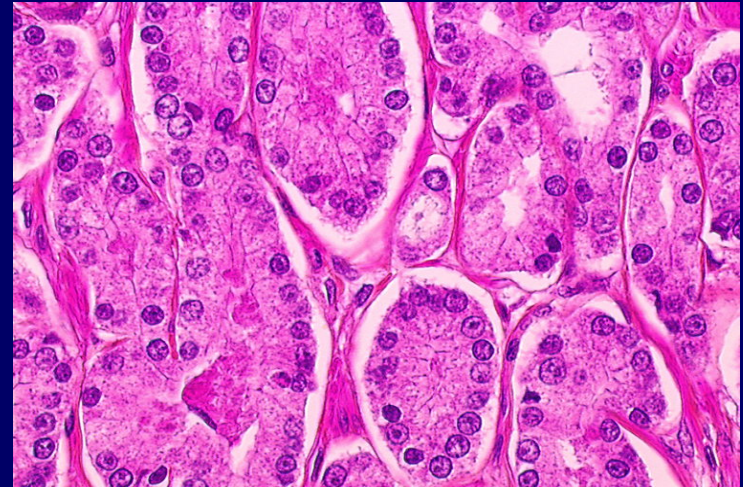
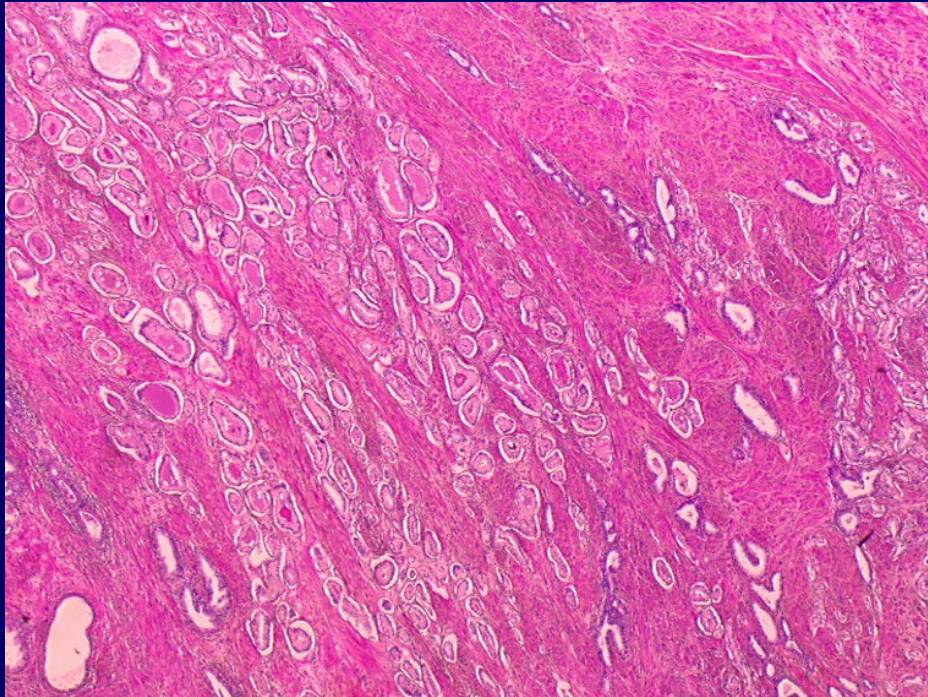


# Comparaison IRM T2 micro/macro





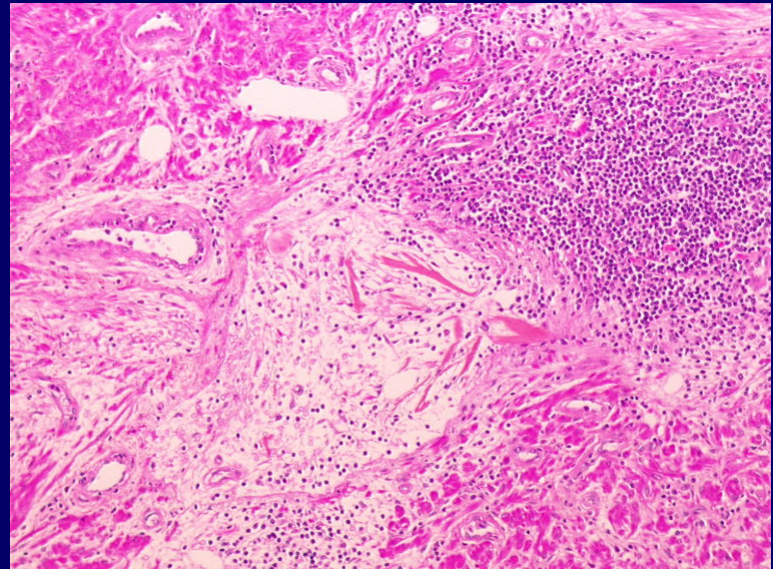
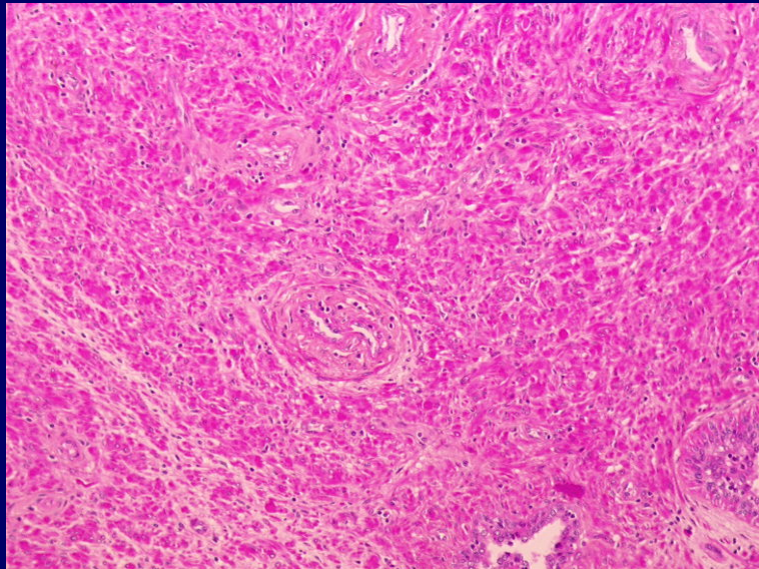
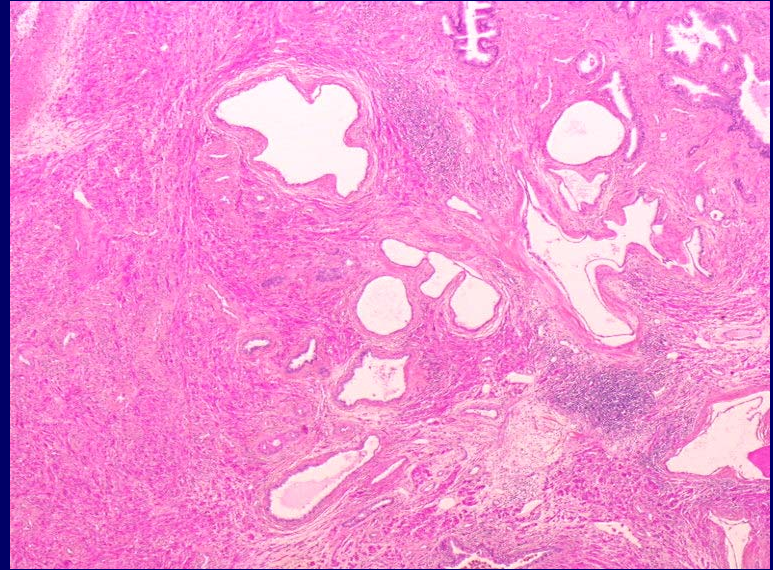
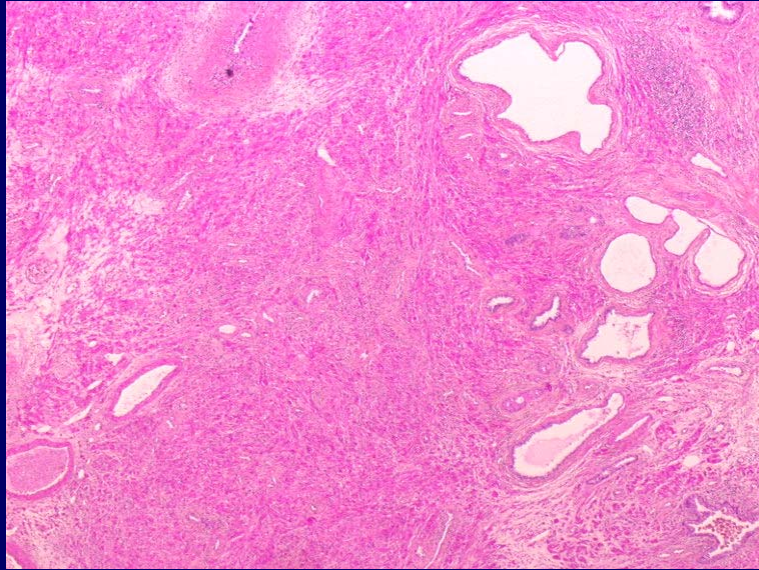
OUI



Zone tumorale  
Gleason 3 + 2



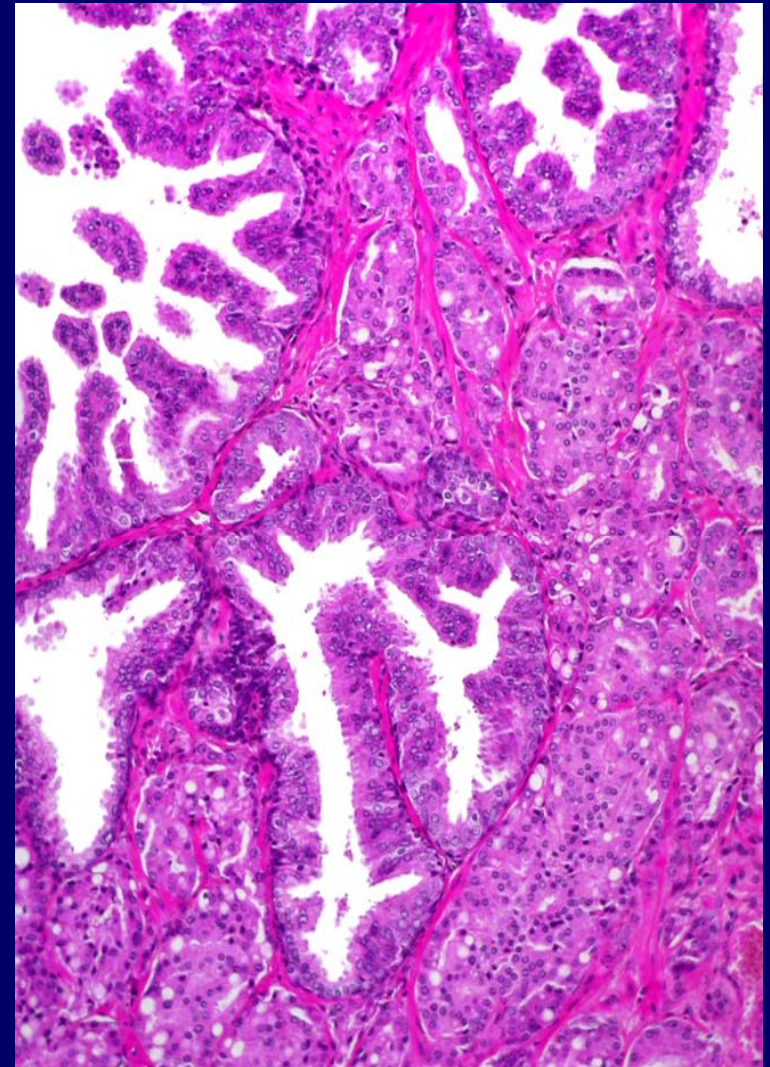
# Faux positif



Zone myomateuse et inflammatoire



secteurs de carcinomes histologiquement divers  
séparés par des secteurs sains ou PIN

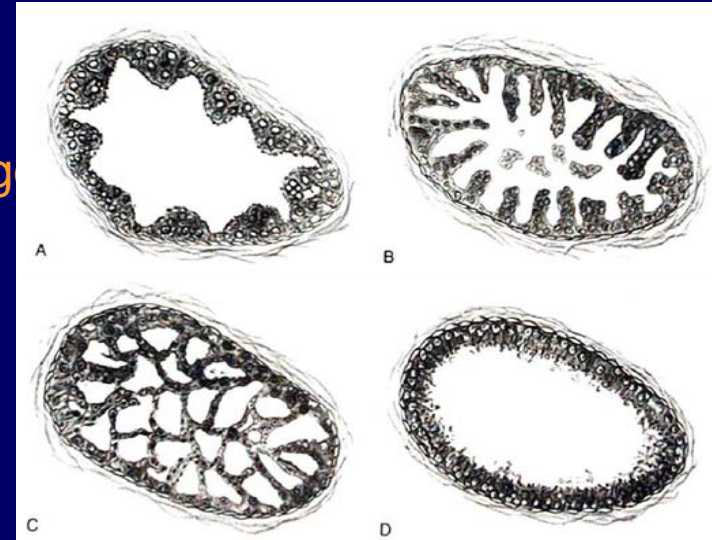




# Intraepithelial neoplasia

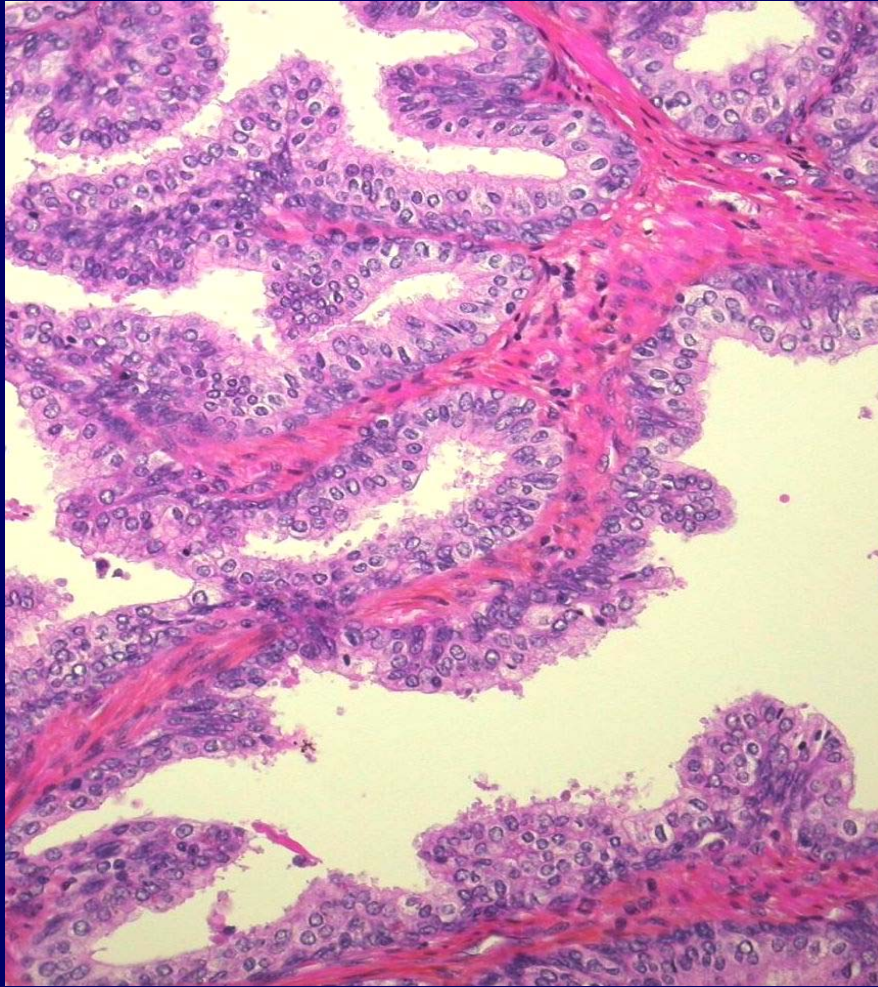
## PINHG

Stade pré invasif du cancer de la prostate  
Prévalence des lésions de PIN augmente avec l'âge  
Précède l'âge de survenue du cancer de 5 ans

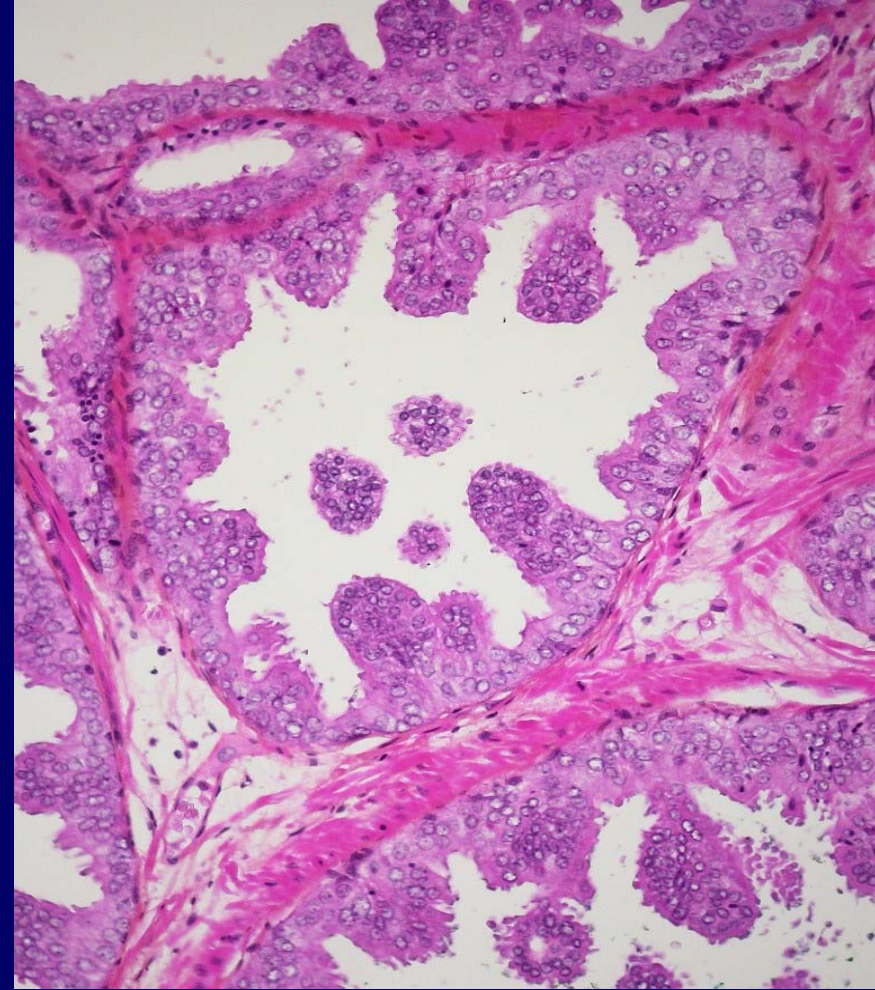




## PIN de haut grade : Ne pas en faire le dg par excès



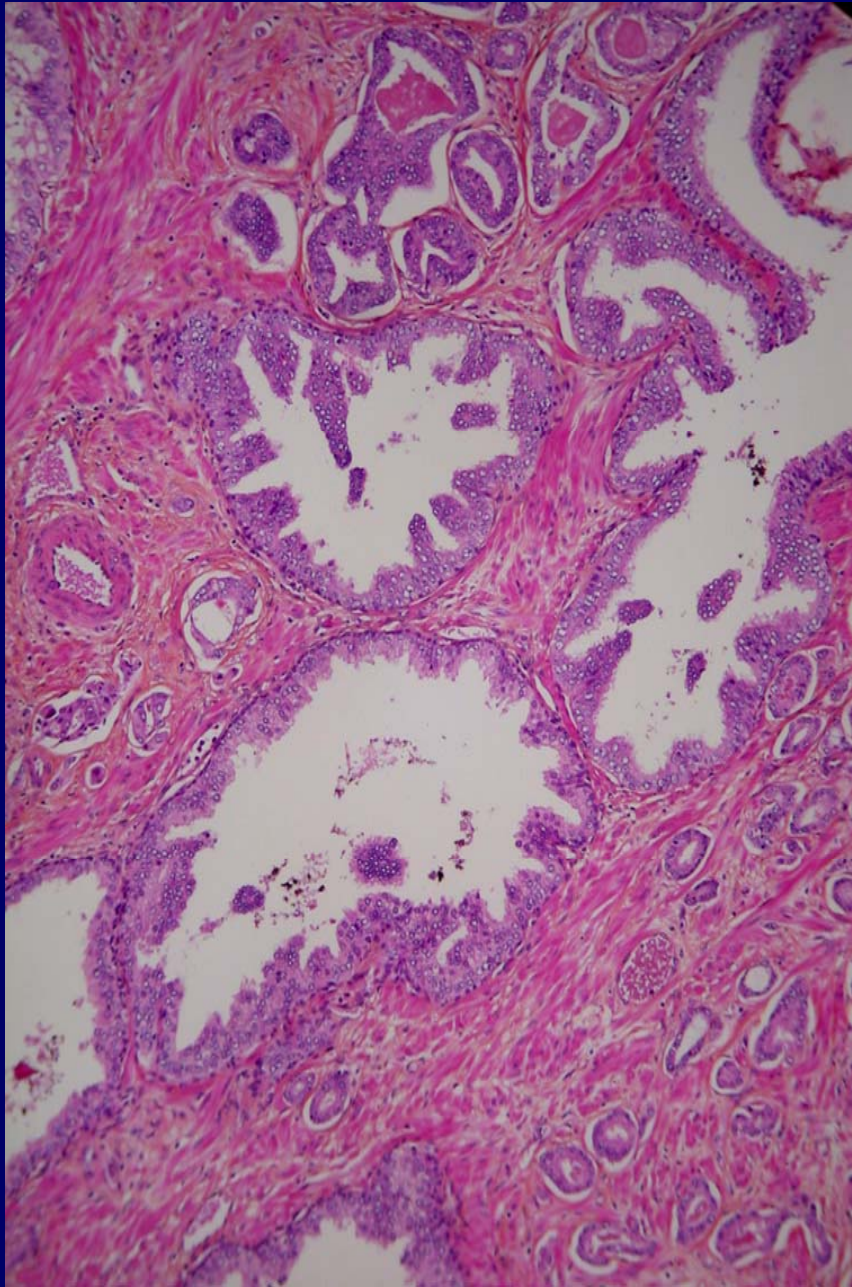
Glandes de la zone centrale (ZC)



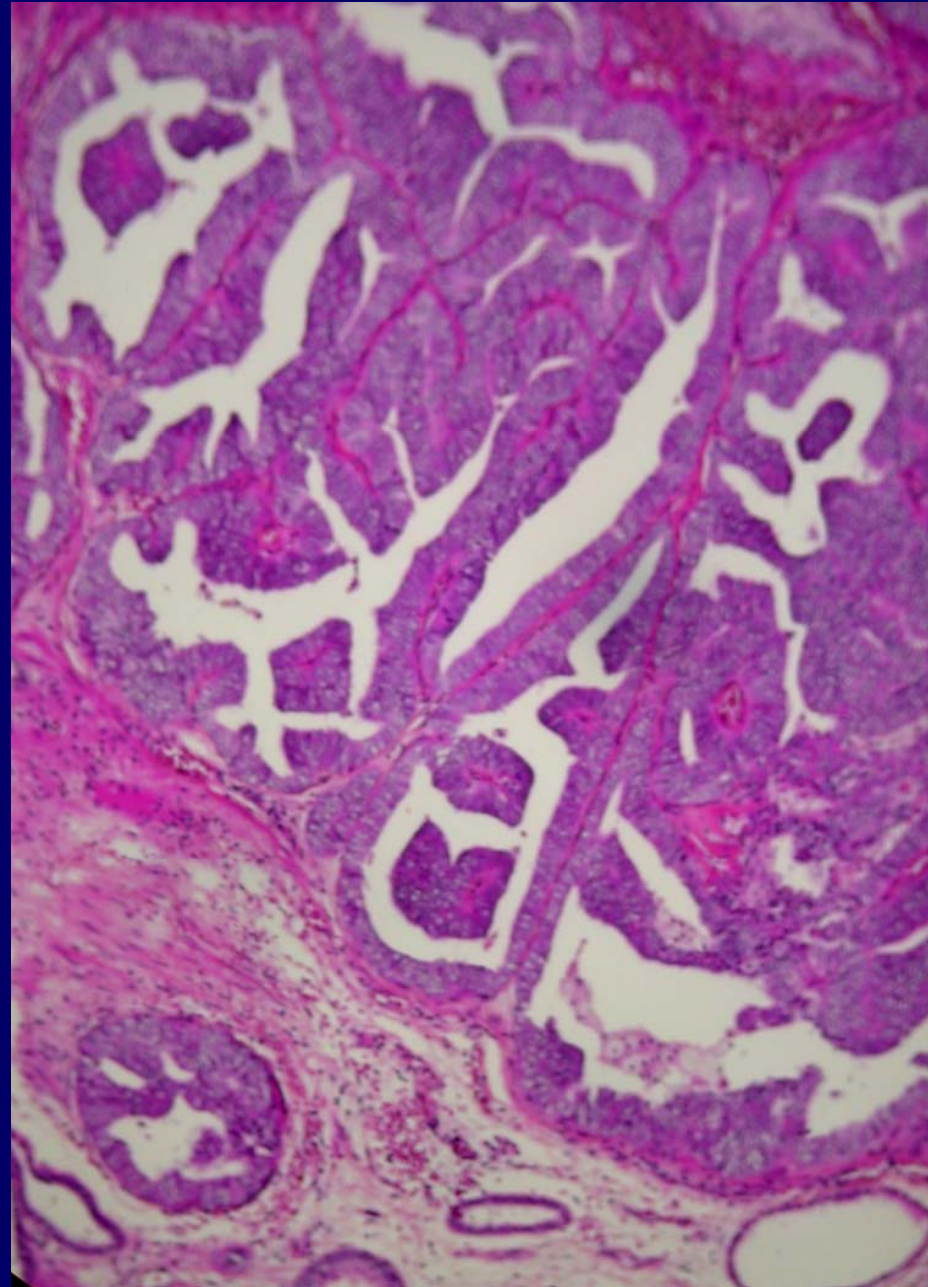
PINHG



PIN et carcinome Gleason 3+3

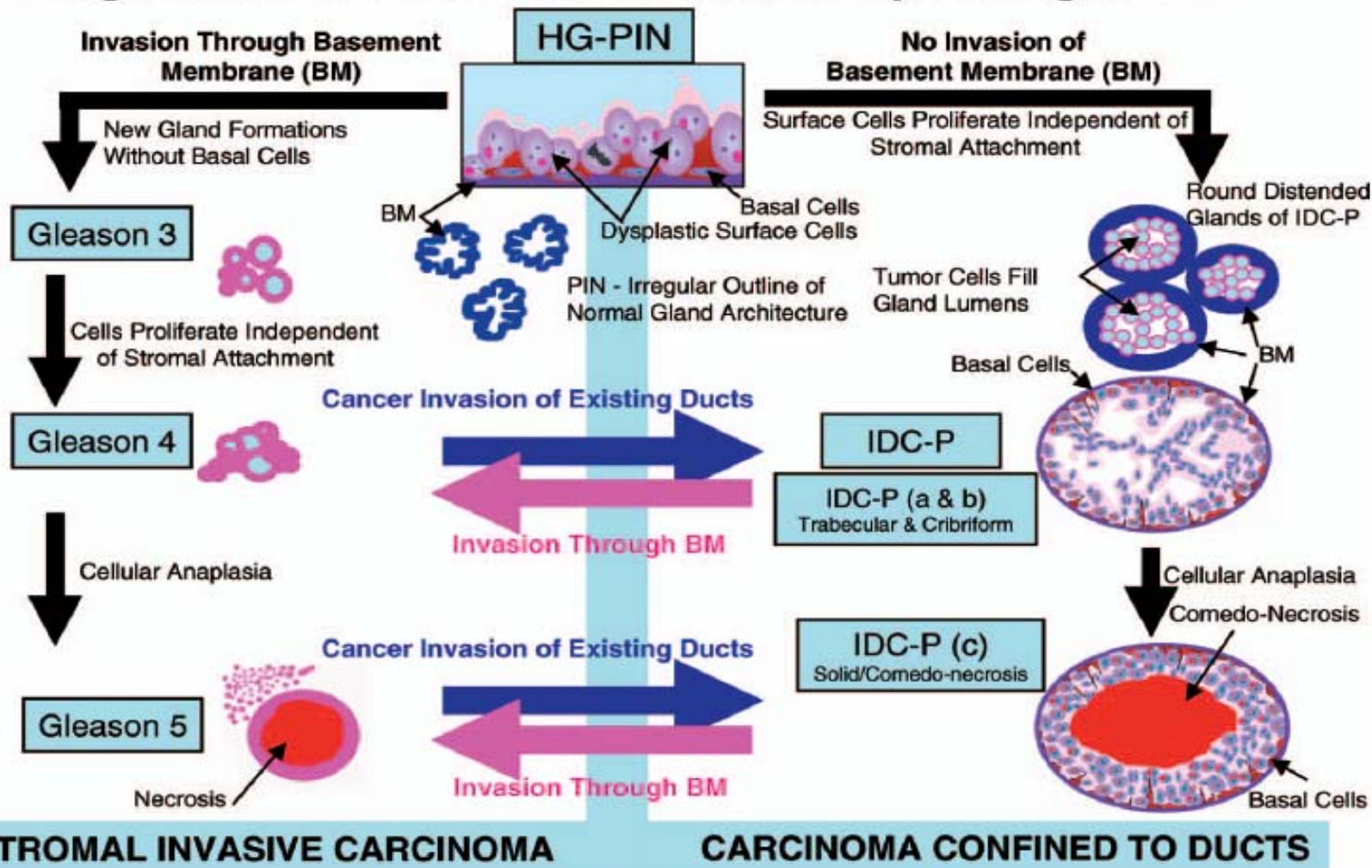


K ductal Gleason 4+4





# Progression of PIN to Carcinoma Incorporating IDC-P



**Figure 2.** Diagrammatic representation of the theoretic progression of high-grade prostatic intraepithelial neoplasia (HG-PIN) to invasive carcinoma (left side) and intraductal carcinoma (right side). The dynamic relationship between intraductal carcinoma of the prostate (IDC-P) and Gleason grade 4 and 5 carcinoma is demonstrated. Despite the inability of IDC-P to invade stroma, it has the ability to grow and proliferate independent of stromal attachment, as does Gleason pattern 4 and 5 carcinoma.

A Proposal on the Identification, Histologic Reporting, and Implications of Intraductal Prostatic Carcinoma

(Arch Pathol Lab Med. 2007;131:1103-1109)

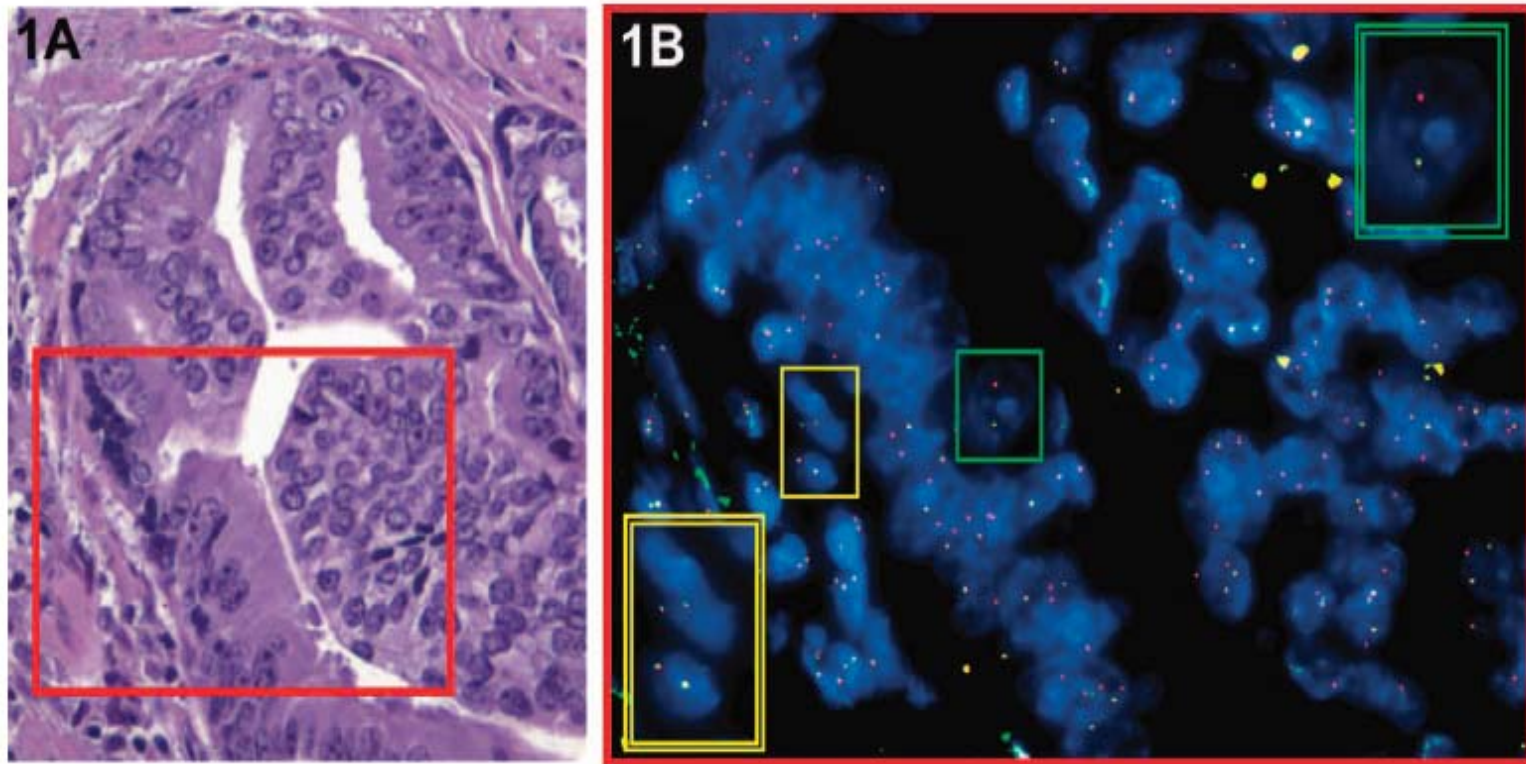
Ronald J. Cohen, MBBCH, FFPATH, FRCPA, PhD; Thomas M. Wheeler, MD; Helmut Bonkhoff, MD; Mark A. Rubin, MD



# A Proposal on the Identification, Histologic Reporting, and Implications of Intraductal Prostatic Carcinoma

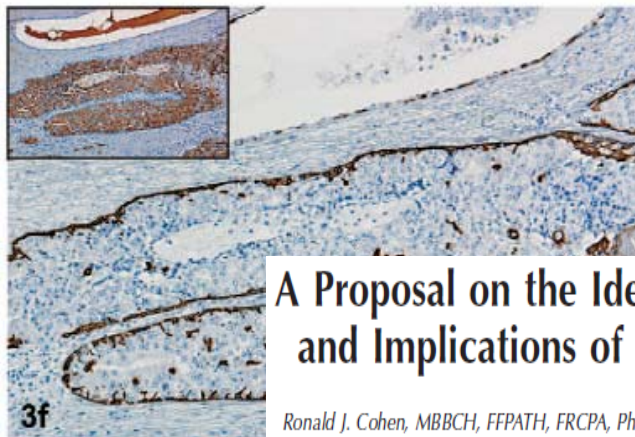
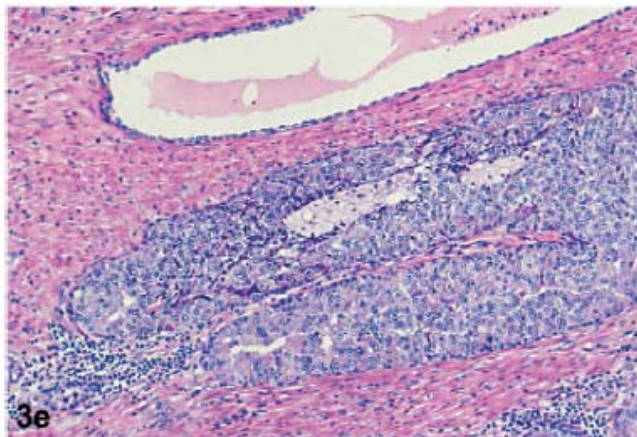
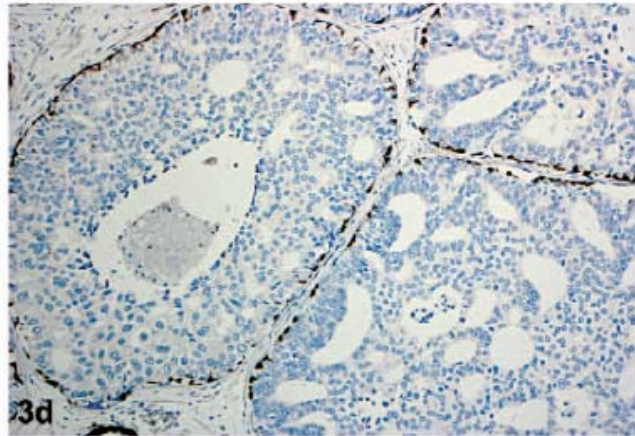
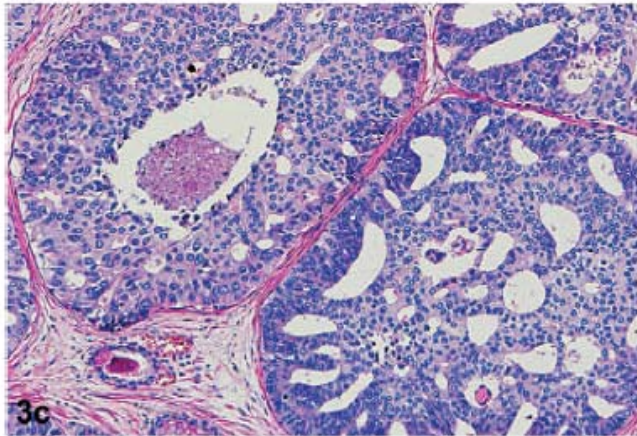
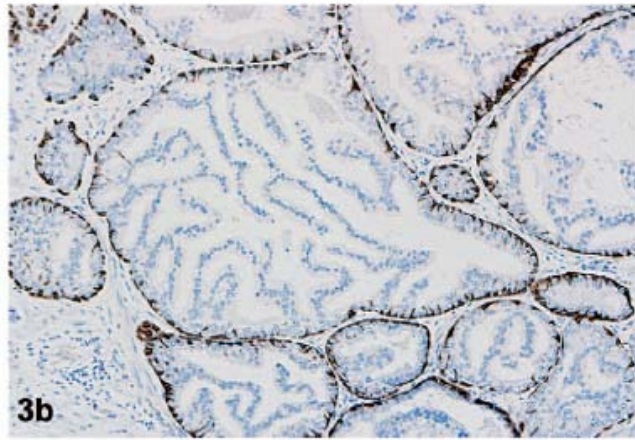
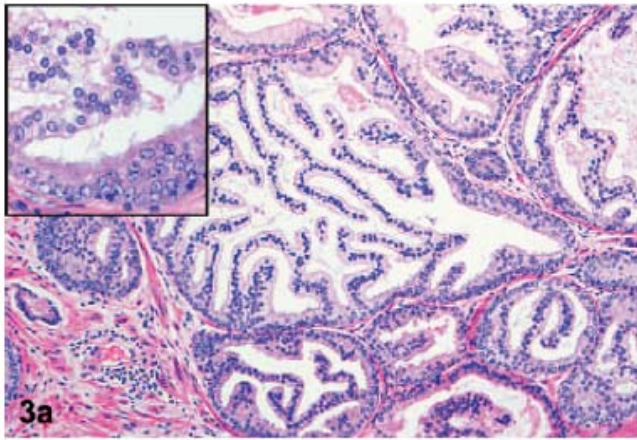
Ronald J. Cohen, MBBCH, FFPATH, FRCPA, PhD; Thomas M. Wheeler, MD; Helmut Bonkhoff, MD; Mark A. Rubin, MD

(*Arch Pathol Lab Med.* 2007;131:1103–1109)



**Figure 1.** Intraductal carcinoma (IDC) and TMPRSS2-ERG gene fusion. A, The IDC demonstrates cribriform growth with piling up of neoplastic cells (hematoxylin-eosin, original magnification  $\times 60$ ). B, Analysis of the red boxed area from (A) using break-apart fluorescence in situ hybridization assay (original magnification  $\times 100$ ). One yellow and one red signal in nuclei of the IDC cells demonstrate TMPRSS2-ERG fusion through break apart of the ERG probes with intronic deletion (green box), whereas basal cells lining the duct show 2 yellow signals indicating no break apart (yellow box). The double-framed green and yellow insets show a higher magnification of representative nuclei (original magnification  $\times 200$ ).



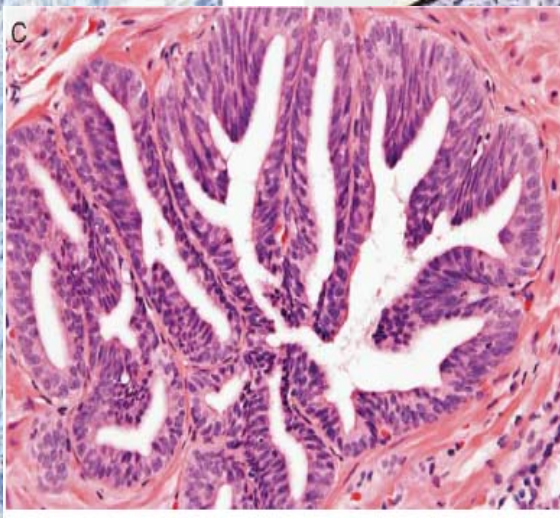
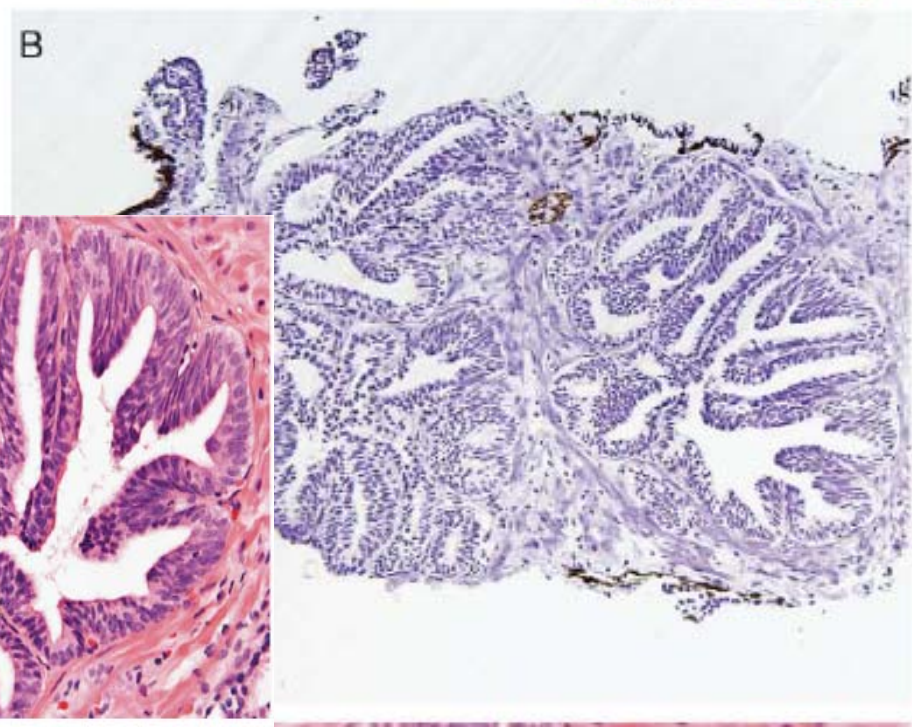
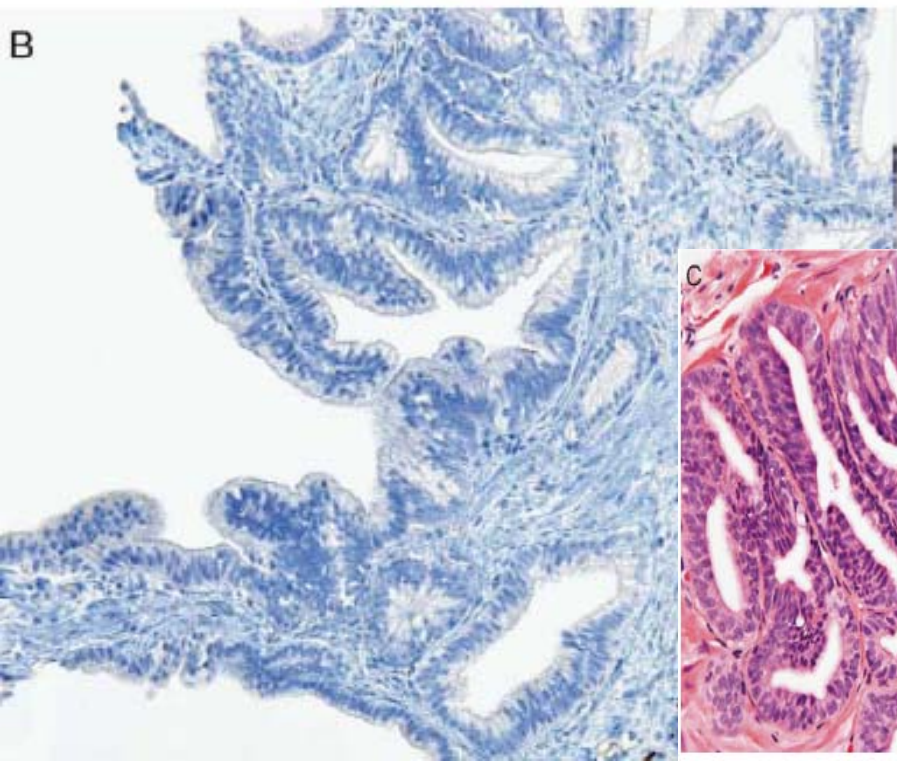
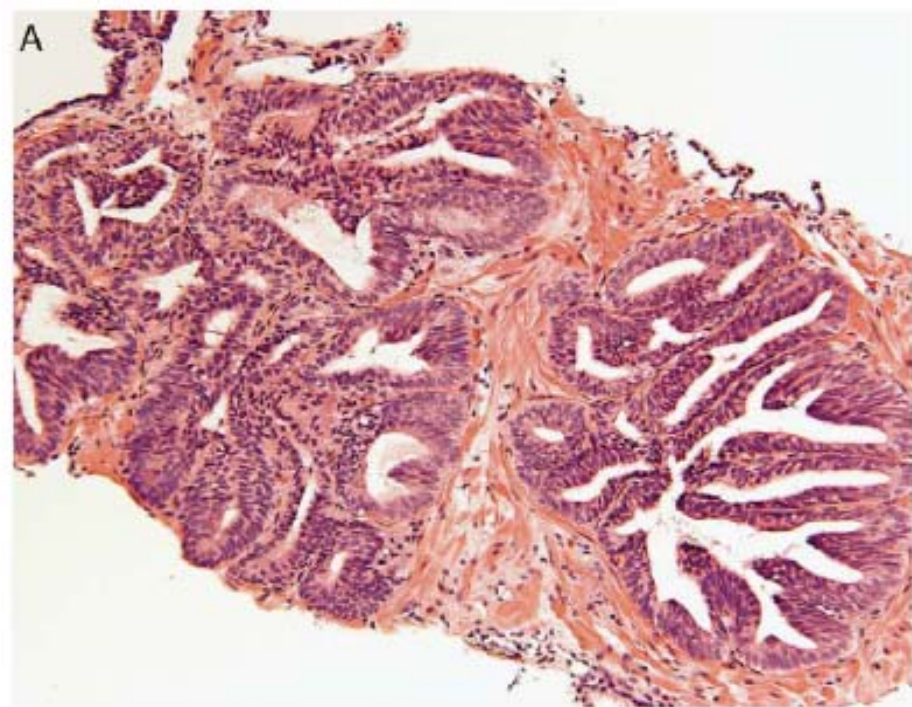
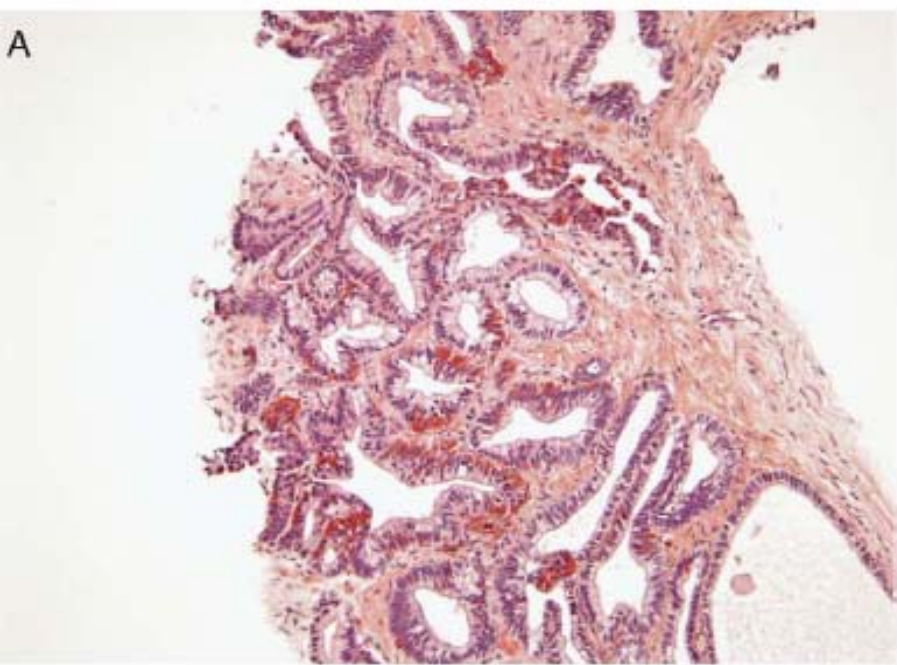


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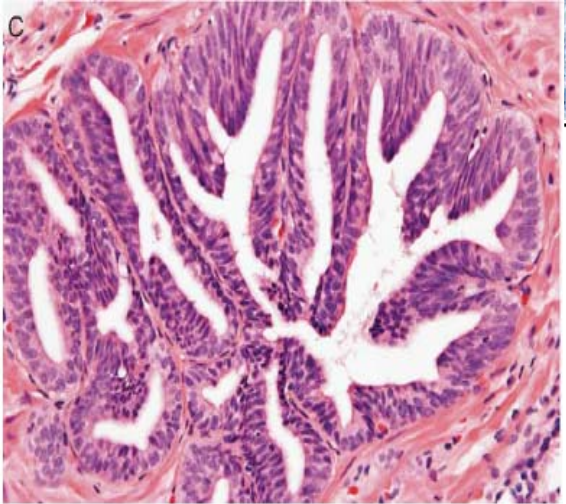
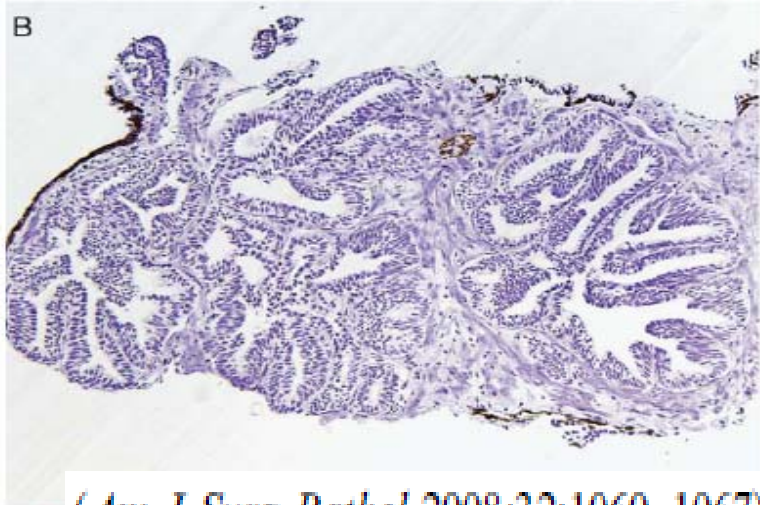
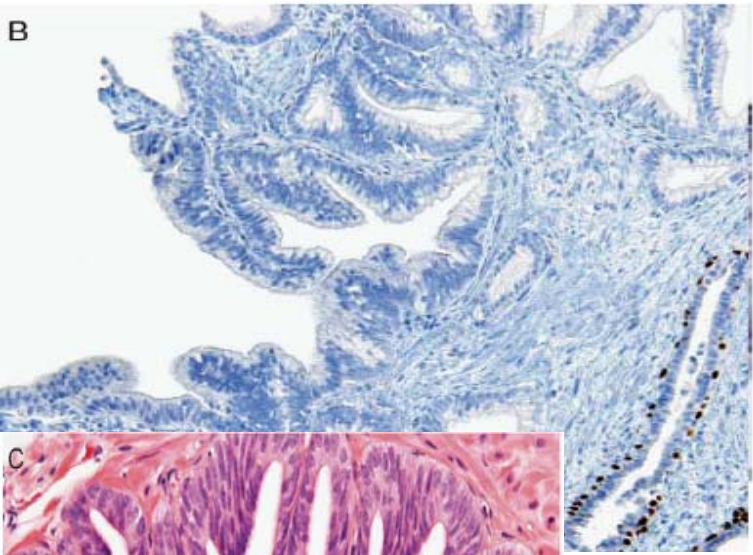
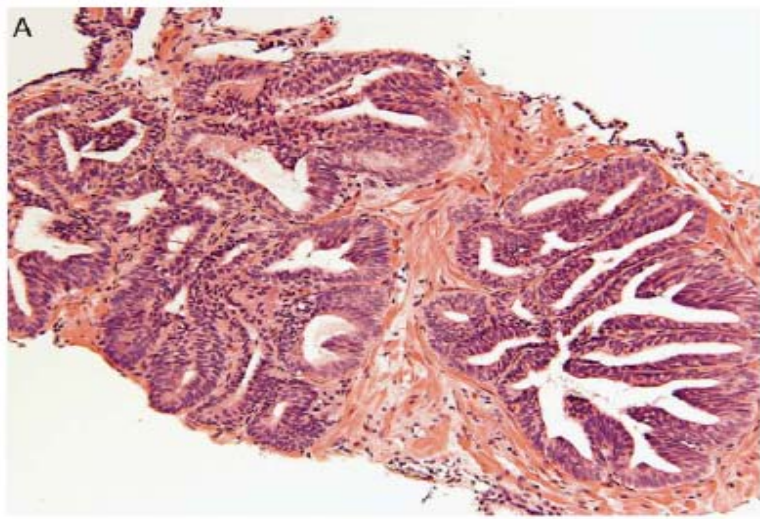
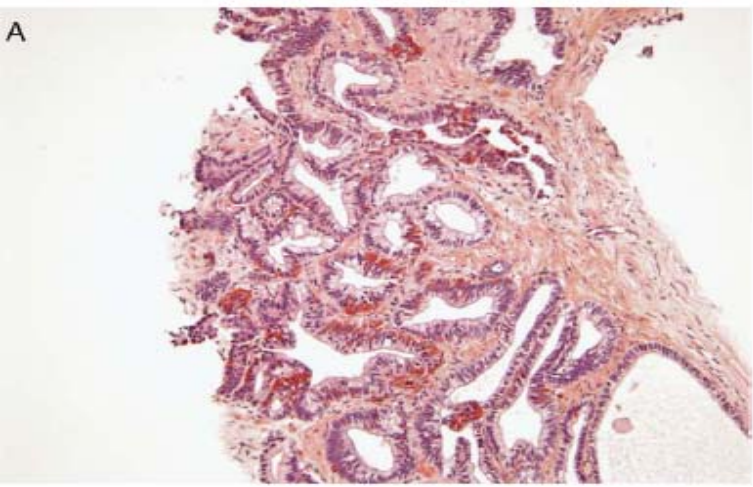
## A Proposal on the Identification, Histologic Reporting, and Implications of Intraductal Prostatic Carcinoma

Ronald J. Cohen, MBBCH, FFPATH, FRCPA, PhD; Thomas M. Wheeler, MD; Helmut Bonkhoff, MD; Mark A. Rubin, MD







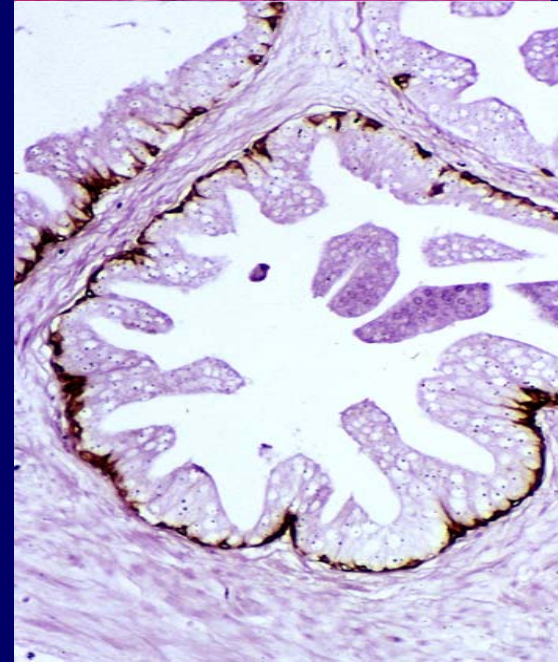
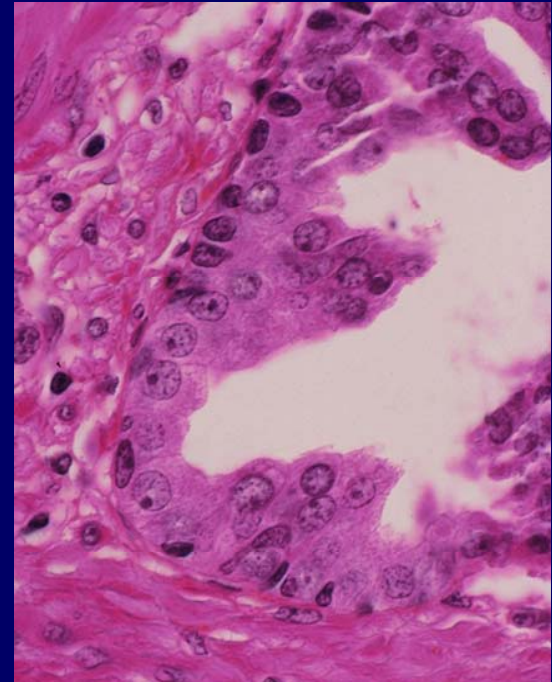
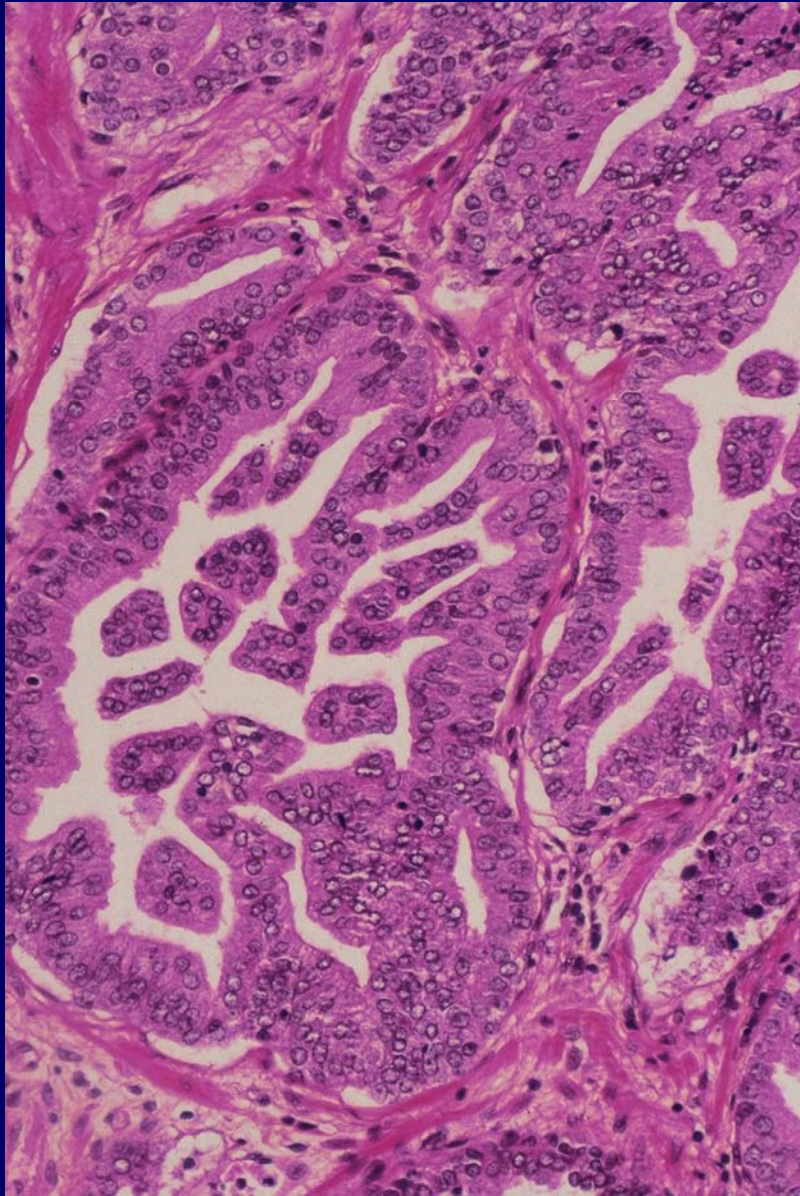


(*Am J Surg Pathol* 2008;32:1060–1067)

## High-grade Prostatic Intraepithelial Neoplasialike Ductal Adenocarcinoma of the Prostate: A Clinicopathologic Study of 28 Cases

Fabio Tavora, MD\* and Jonathan I. Epstein, MD\*†‡





Recouper, recouper.....