

Difficult decisions for invasive cervical tumours

Difficult decisions in SCC

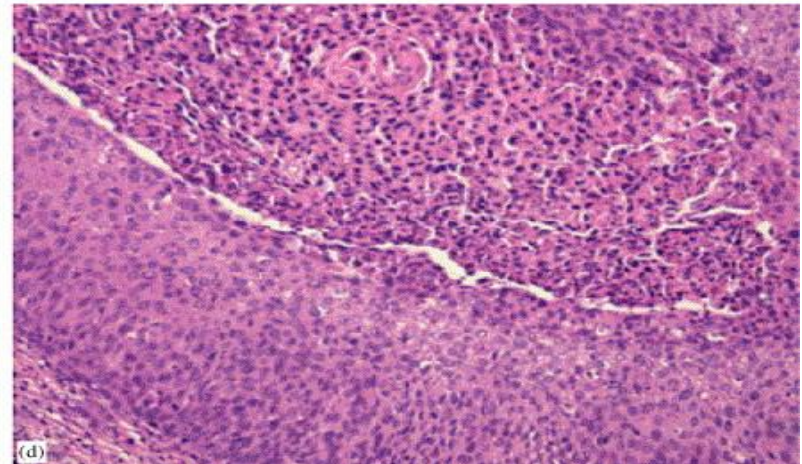
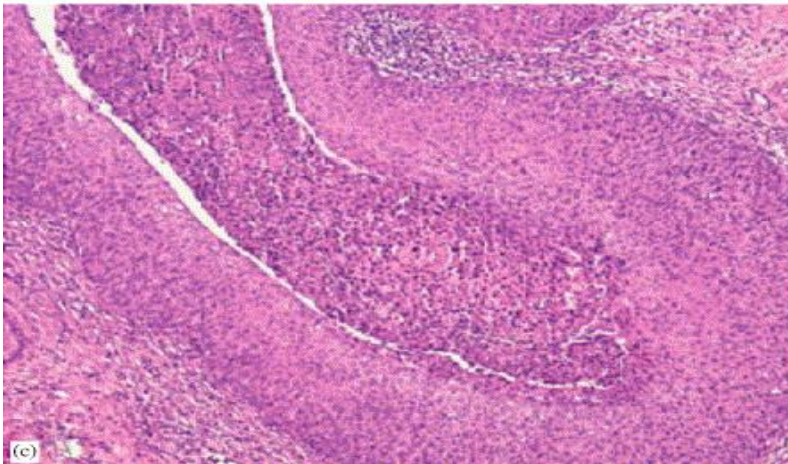
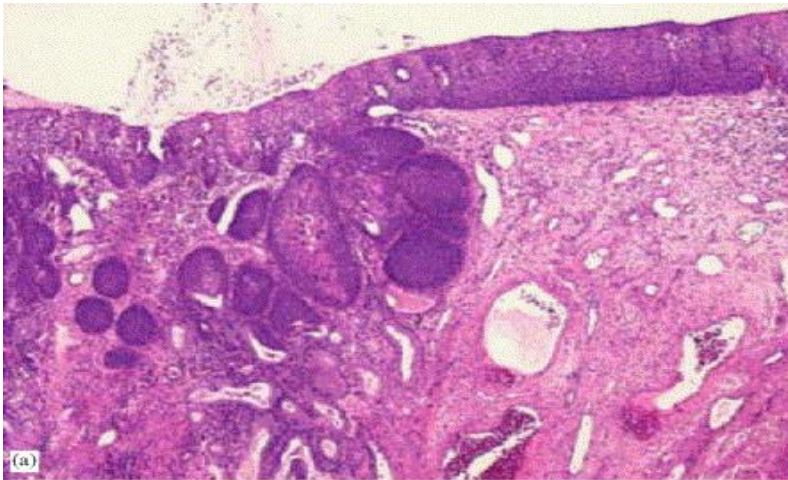
- Microinvasive vs in situ
- Difficult types of SCC to recognise
- Mimics of invasion

Recognising microinvasion

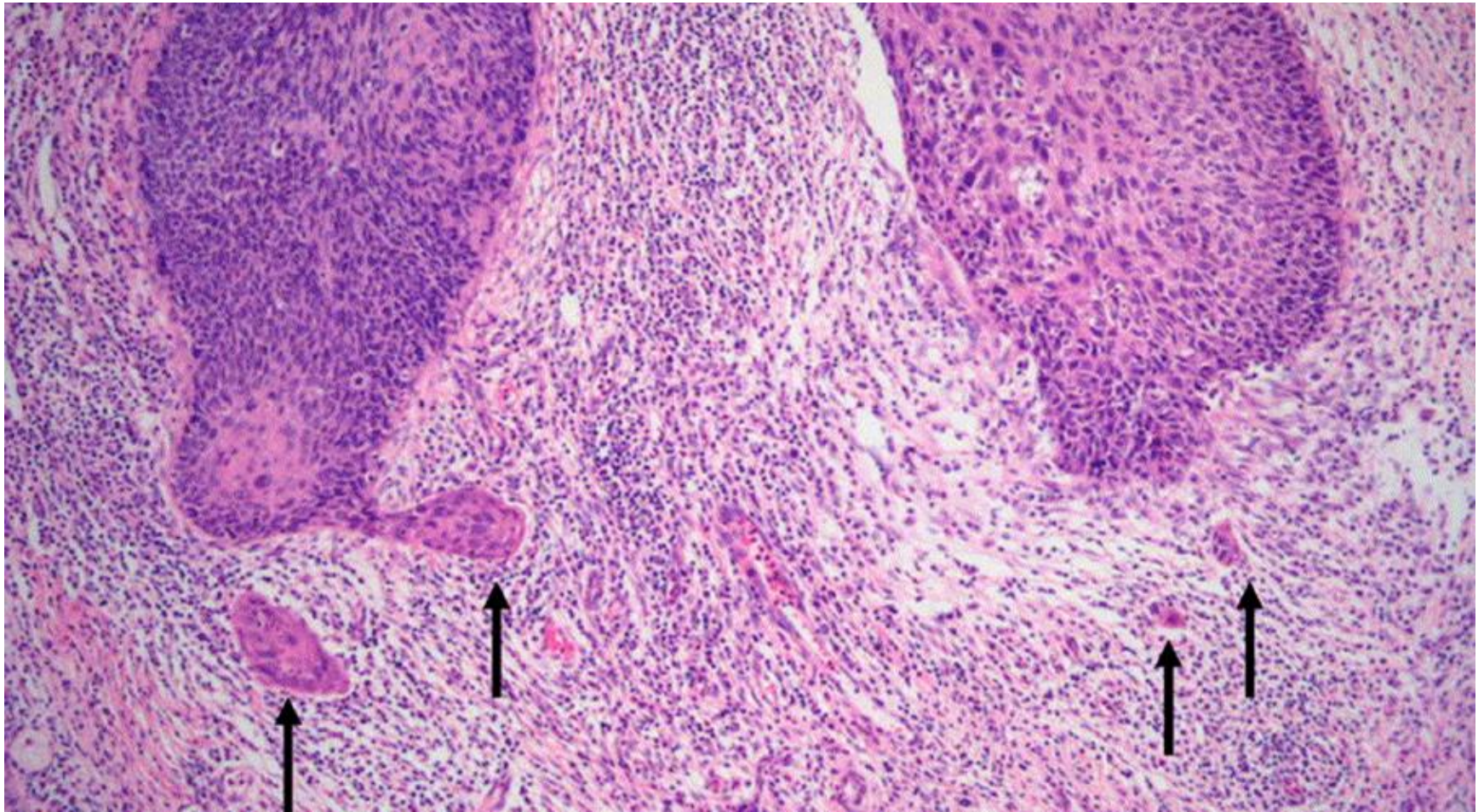
What features alert us to the possibility of microinvasion?

CIN3 with features suggestive of impending or early stroma invasion.

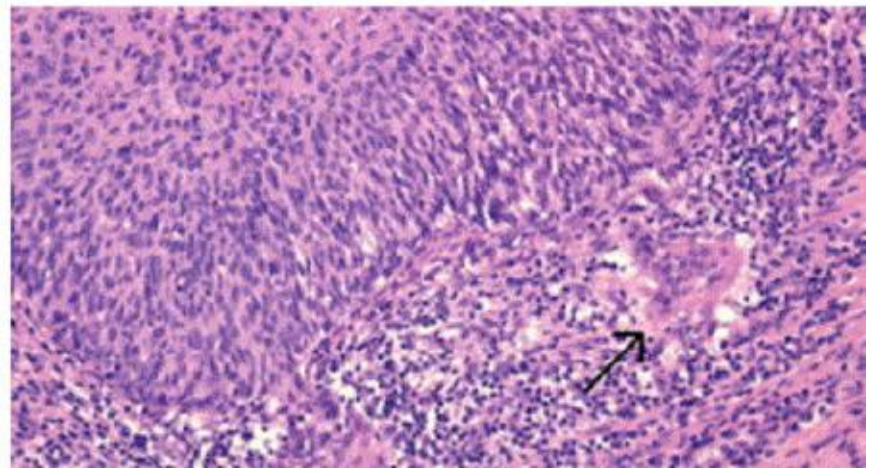
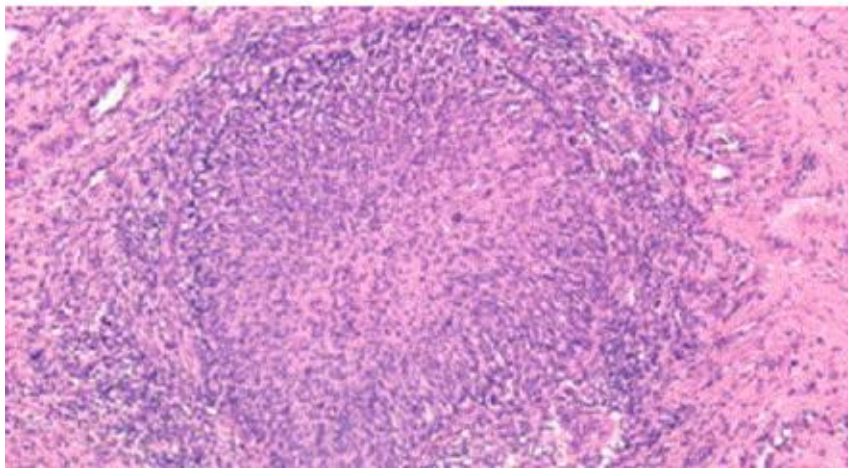
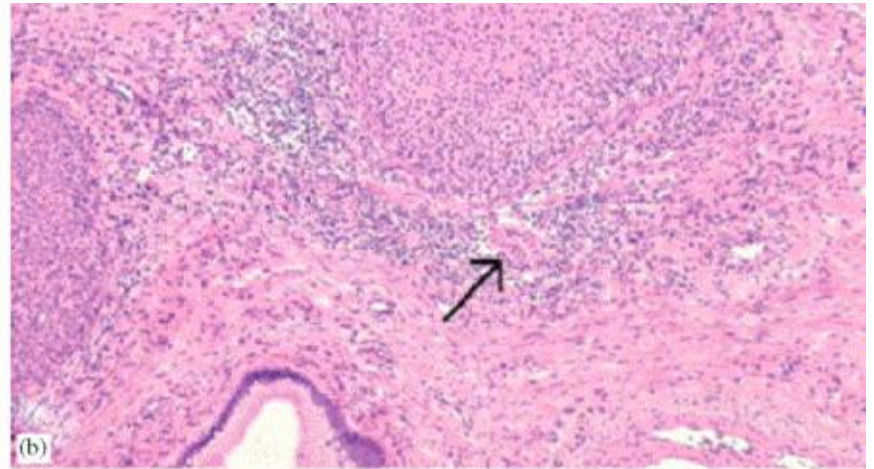
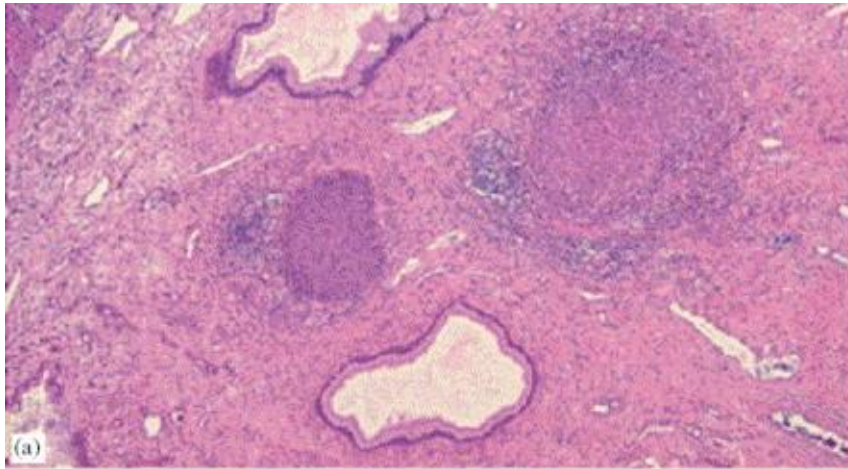
Extensive involvement of both surface epithelium and deep endocervical crypts (a, b). Expansion of the involved crypts with evidence of central comedo-type necrosis (c, d).



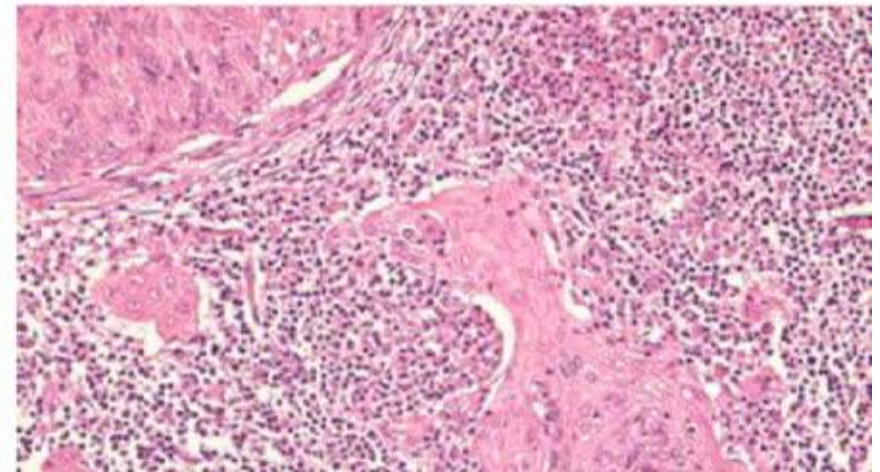
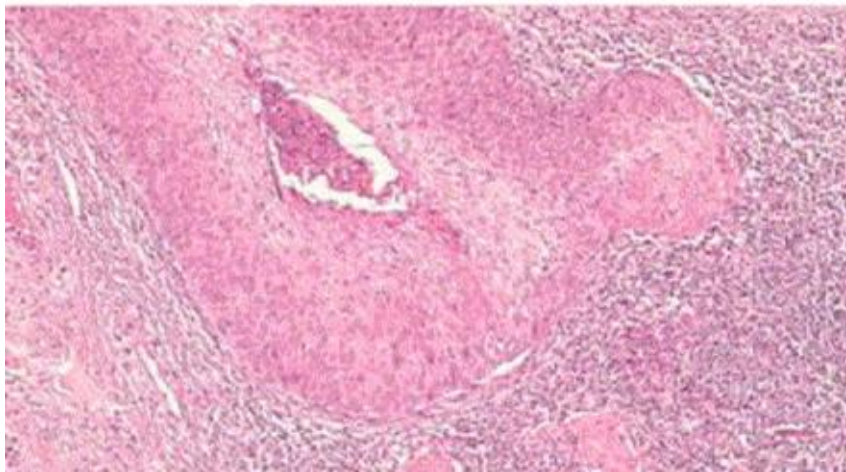
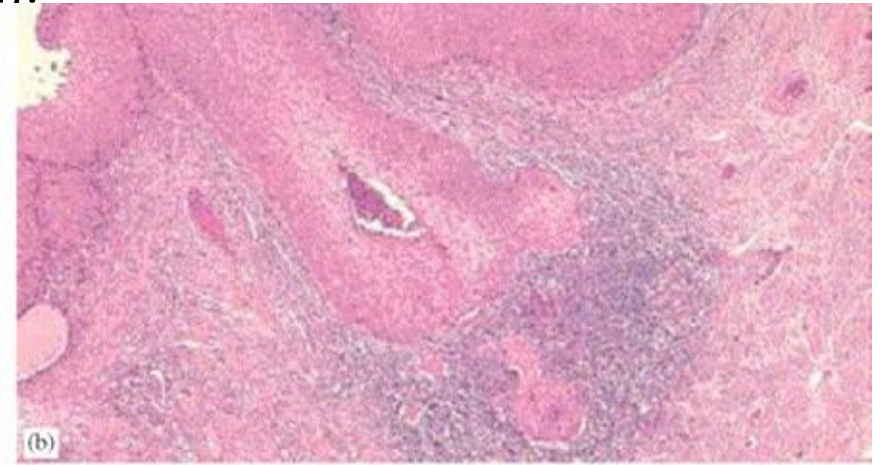
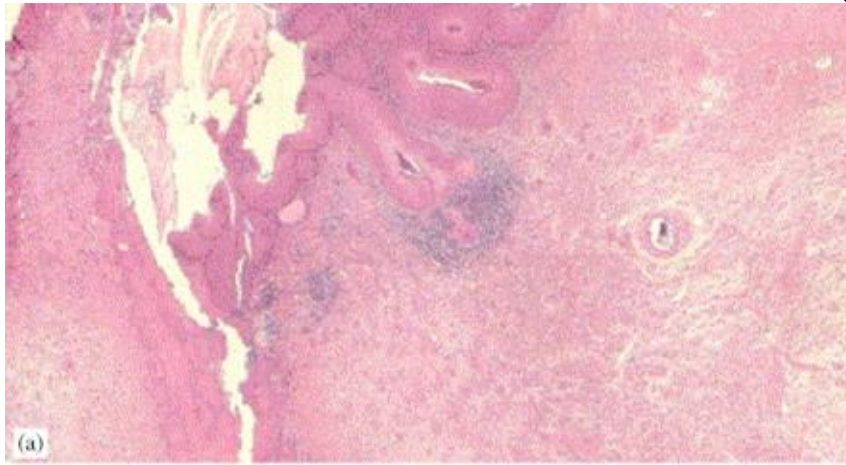
CIN3 with focal squamous or eosinophilic maturation and evidence of very early stromal invasion



Deeper levels of section containing CIN3 with features of impending invasion often reveals foci of early microinvasion (arrows). Also notice inflammatory response.



CIN3 with features of impending invasion showing foci of early stromal invasion. The invasive foci consist of irregular tongues or buds of more differentiated epithelial cells, with intense cytoplasmic eosinophilia and loss of the normal palisade-like arrangement of the basal layer (c and d).



Summary: Clues to microinvasion

“High risk” CIN 3 extensive, deep, expansive,
necrotic

Eosinophilic/paradoxical maturation “pink
bottoms”

Lymphocytes

Loss of peripheral palisading

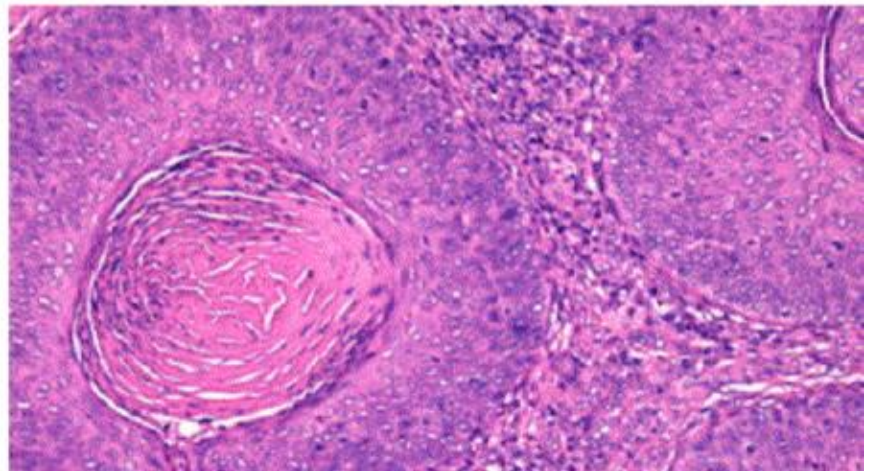
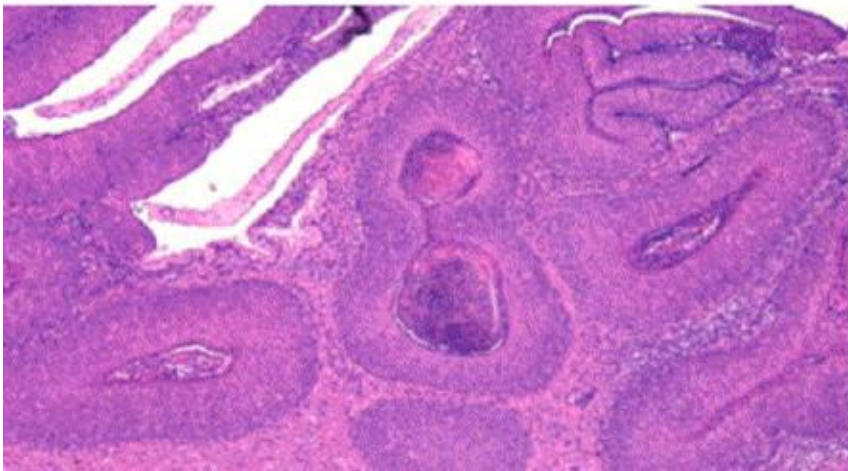
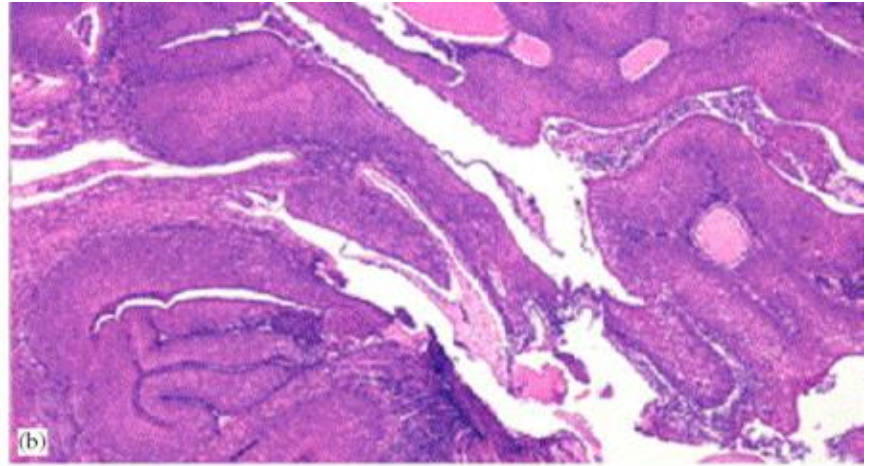
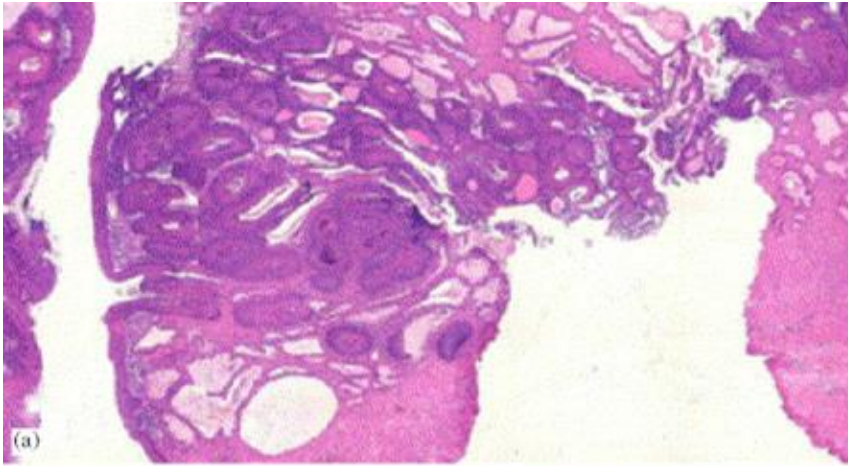
Difficult patterns to SCC to diagnose

- **CIN3-like invasive squamous carcinoma**
- **Papillary squamous (squamotransitional)
cell carcinoma**

Cervical squamous carcinomas with no clear evidence of invasion

- **CIN3-like invasive squamous carcinoma**
- similar to CIN3 occupying deep endocervical crypts with some irregularity and a back-to-back arrangement
- very prominent comedo-necrosis, quite obvious intra-lesional squamous maturation, and frequent peripheral bulging of what appear to be deep endocervical crypts.
- these nests are often seen in association with small tongues of invasion surrounded by stromal loosening and various degrees of inflammation.

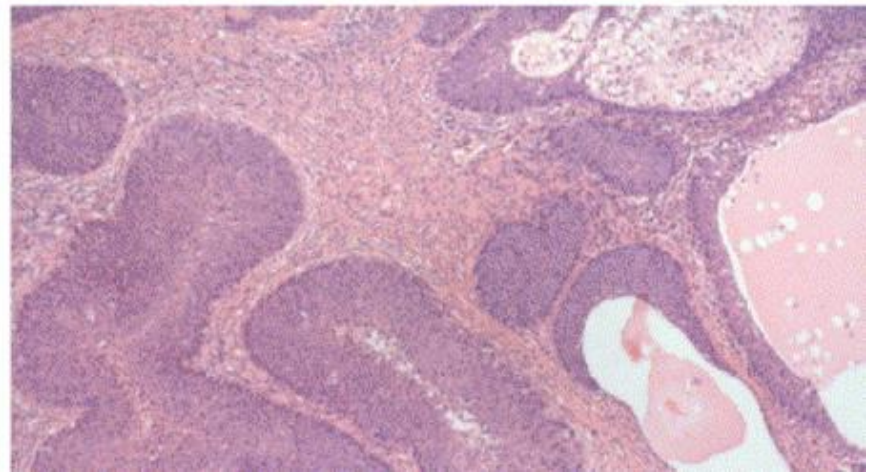
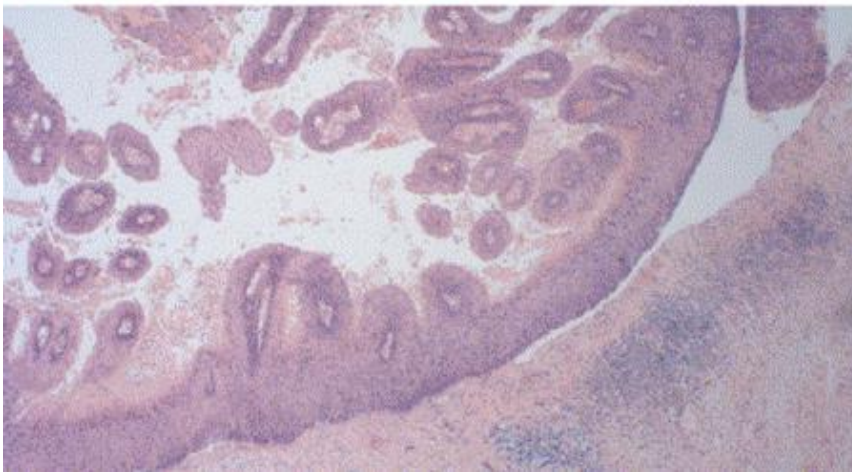
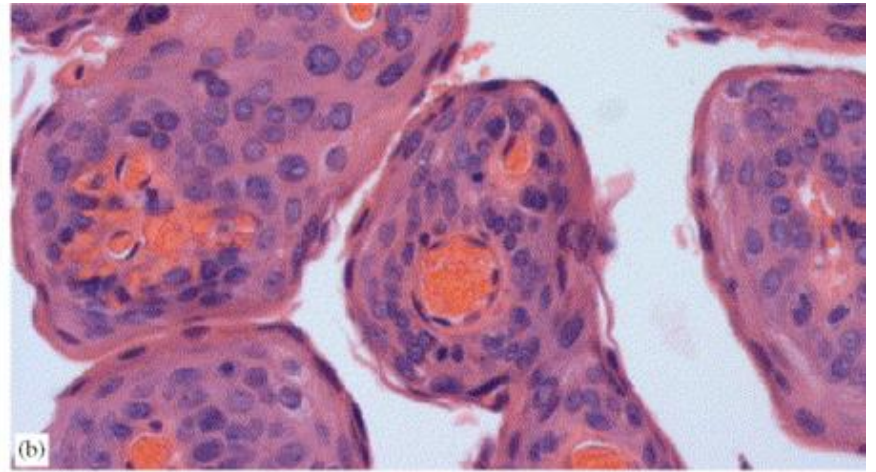
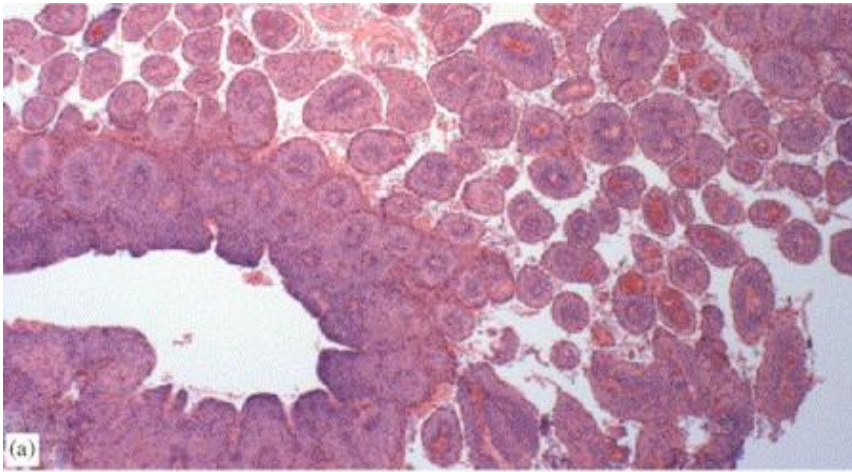
CIN3-like invasive squamous carcinoma showing CIN-like lesion occupying deep endocervical crypts with some irregularity, back-to-back arrangement and very prominent comedo necrosis.



- **Papillary squamous (squamotransitional) cell carcinoma**

- This tumour is frequently mistaken for a squamous papilloma
- in a small biopsy, one may only see the papillary non-invasive component
- reminiscent of grade 1 or 2 papillary transitional cell carcinoma of urothelial origin
- be cautious in diagnosing squamous papilloma in postmenopausal women, especially if these lesions exhibit dysplasia.
- a diagnosis of papillary squamotransitional cell carcinoma should alert you to the possibility of more advanced disease, or deeper invasion, in the remaining cervix.

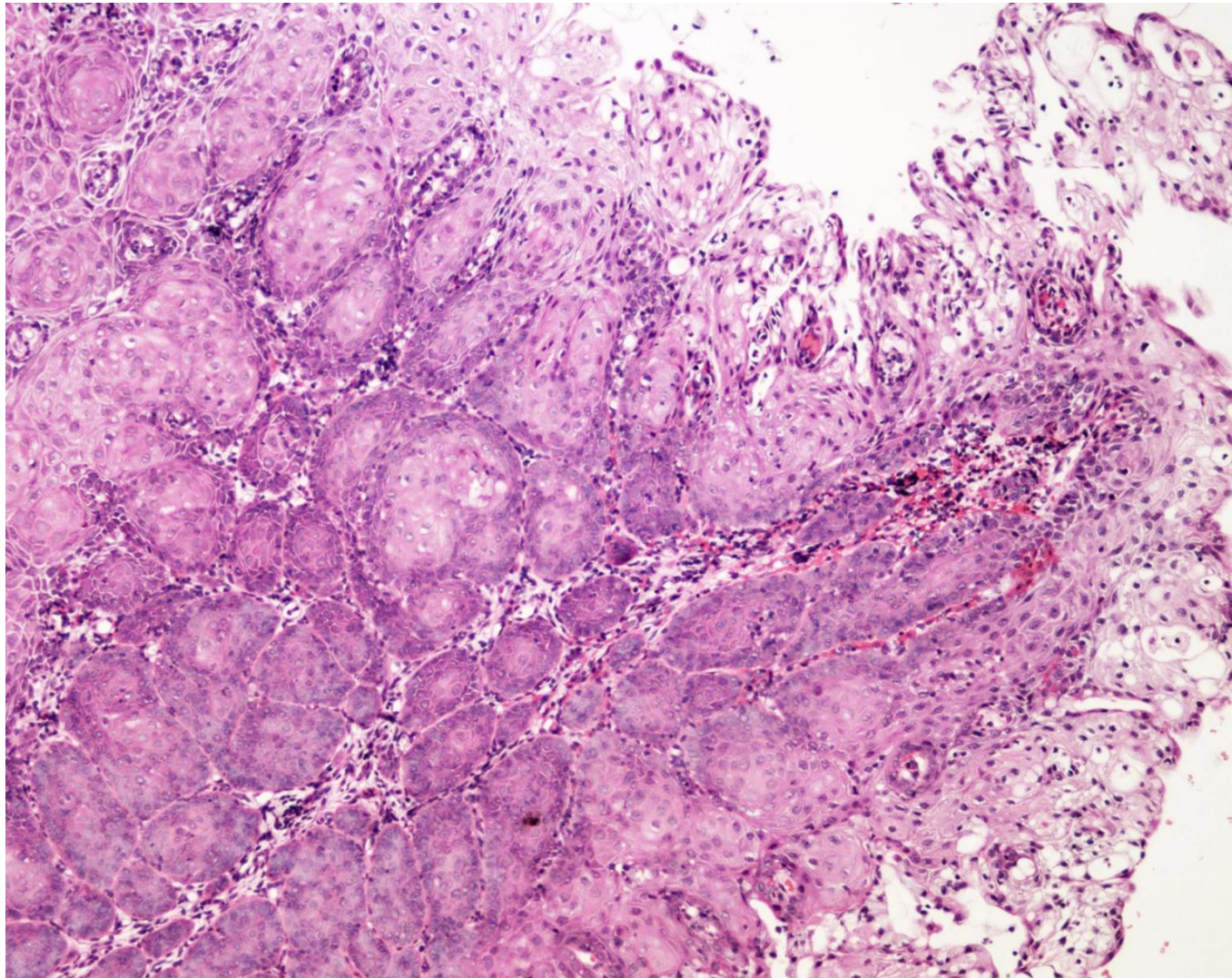
Papillary squamotransitional cell carcinoma of the uterine cervix. The original cervical biopsy (a and b) shows superficial non-invasive papillary component. The follow-up hysterectomy (c and d) reveals similarly non-invasive component (c) and an in situ conventional CIN3 areas (d).



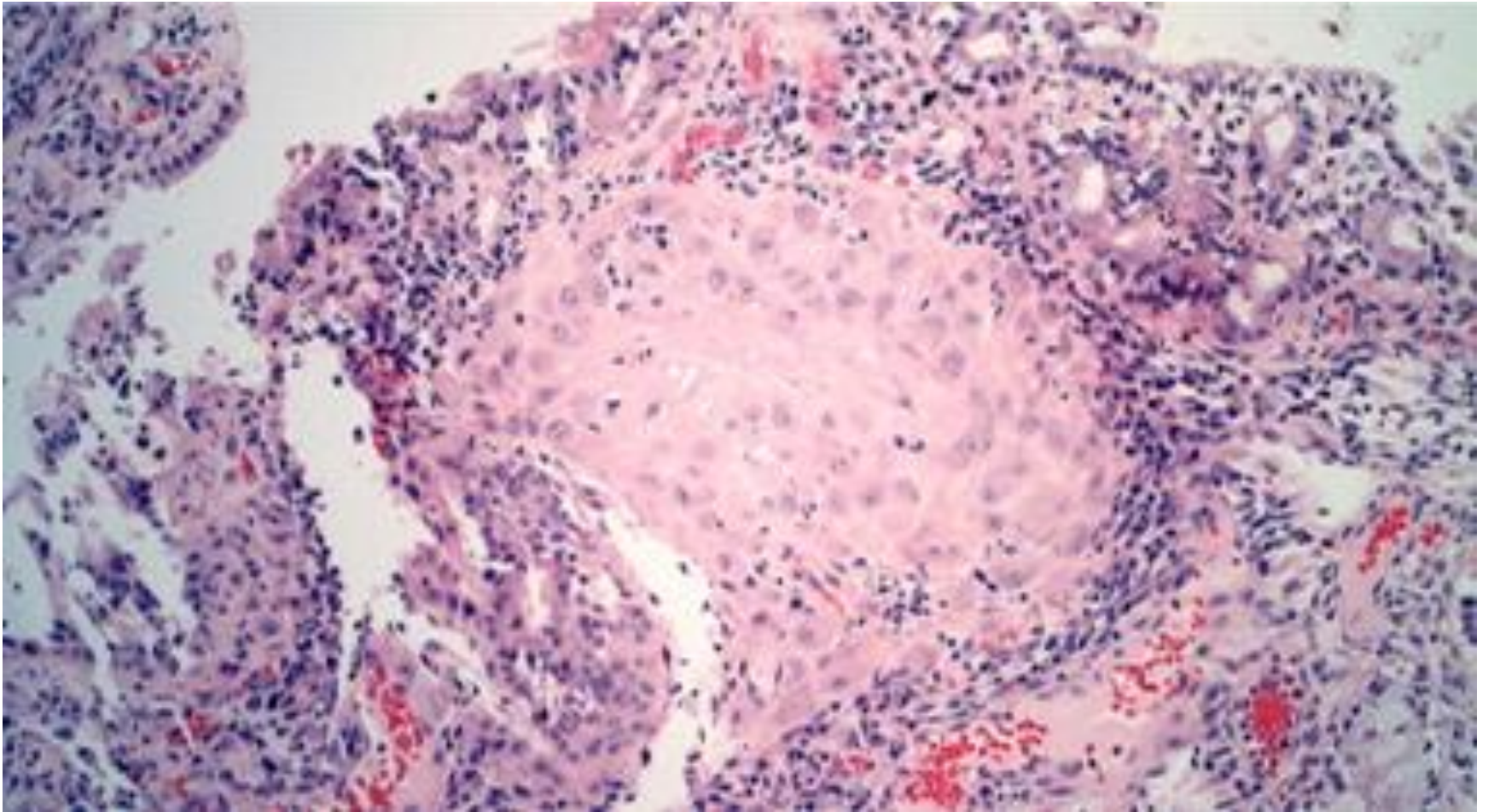
Mimics of invasive SCC

- microglandular metaplasia with squamous metaplasia
- decidual nodule/decidual reaction
- extensive HSIL in glands

Squamous metaplasia in microglandular hyperplasia



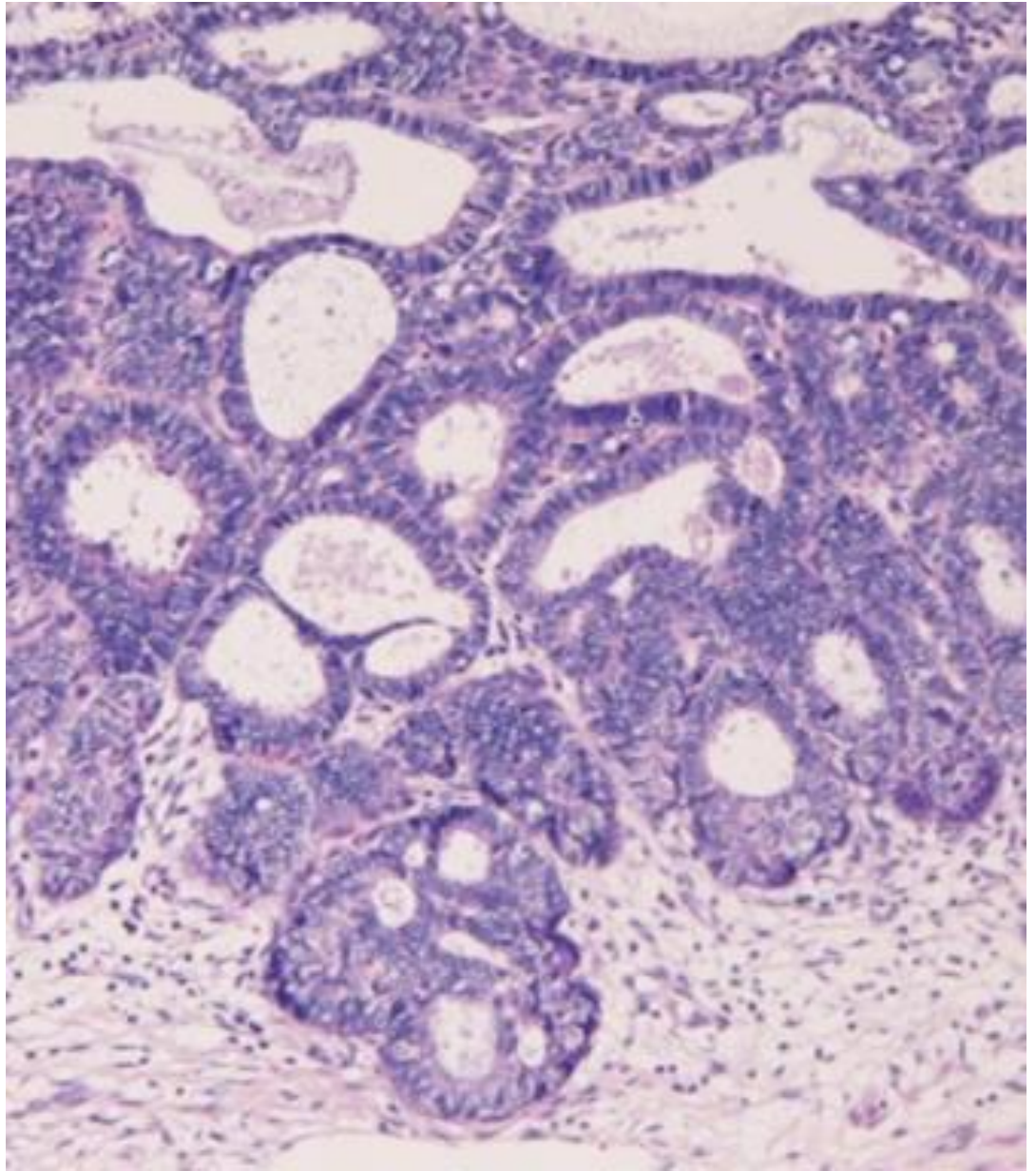
Stromal decidualization.



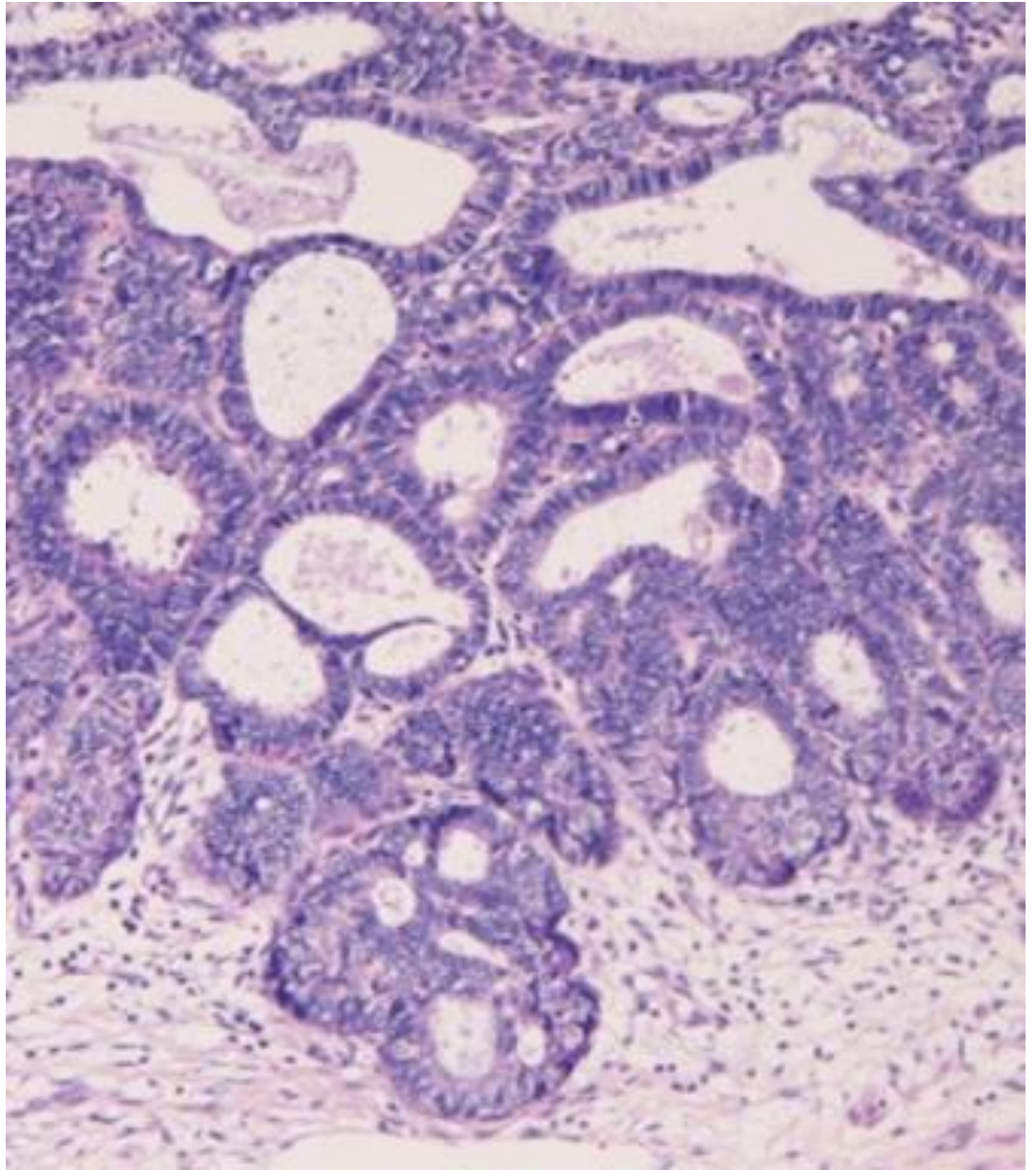
Difficult decisions in adenocarcinoma

- Microinvasive vs insitu
- Well differentiated (adenoma malignum)
- Benign lesions mimicking adenocarcinoma
- Cx vs endometrial adenocarcinoma

**Morphological
patterns of early
invasive adeno
carcinoma**



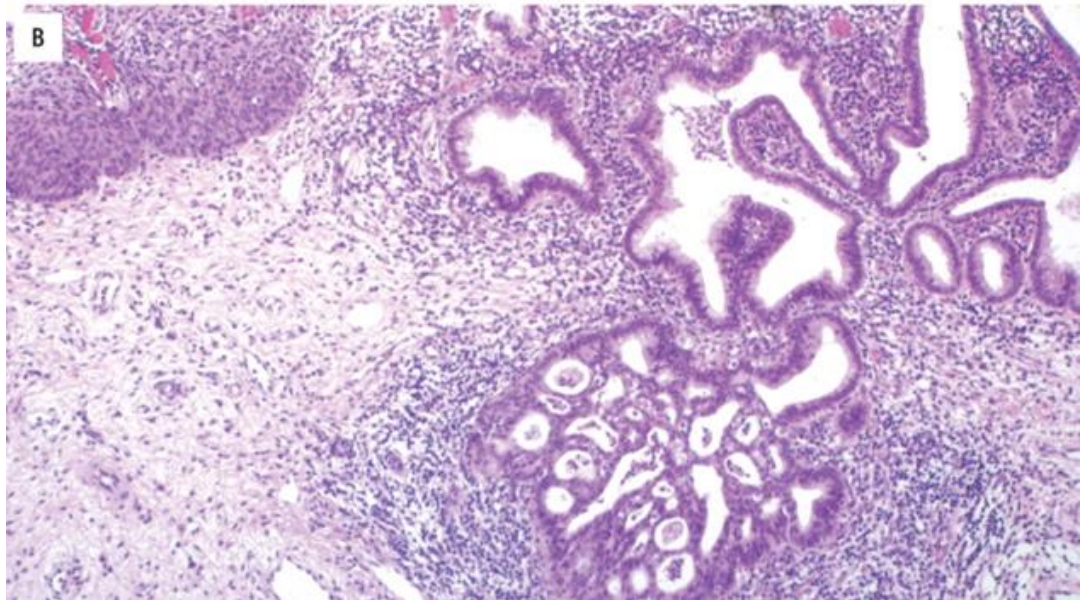
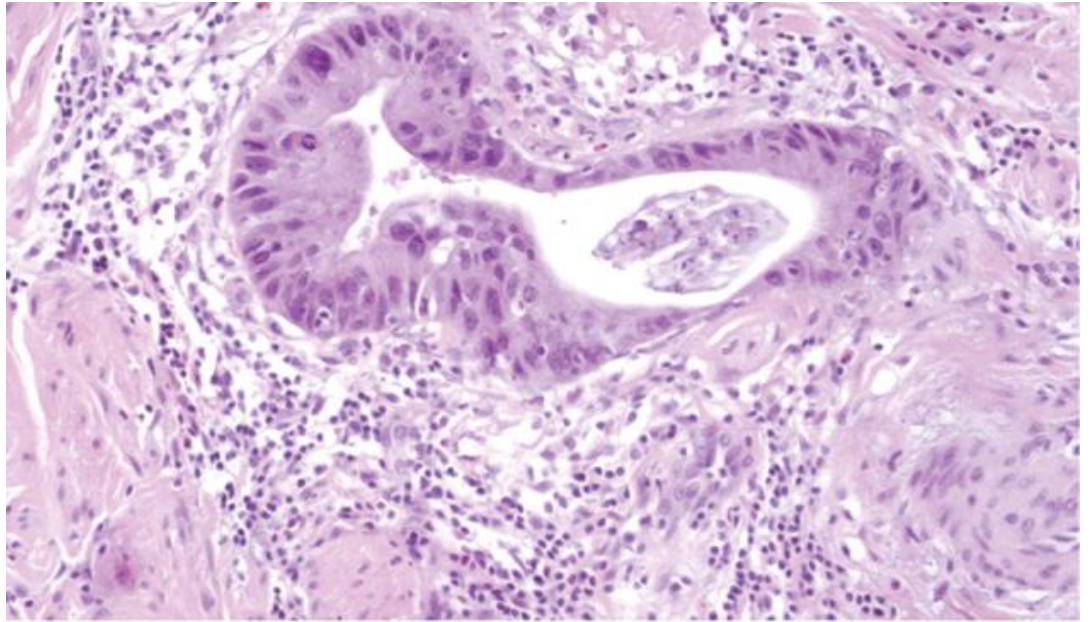
Glandular pattern becomes complicated cribriform or solid, with a stromal reaction - oedema, desmoplasia, or an inflammatory infiltrate.



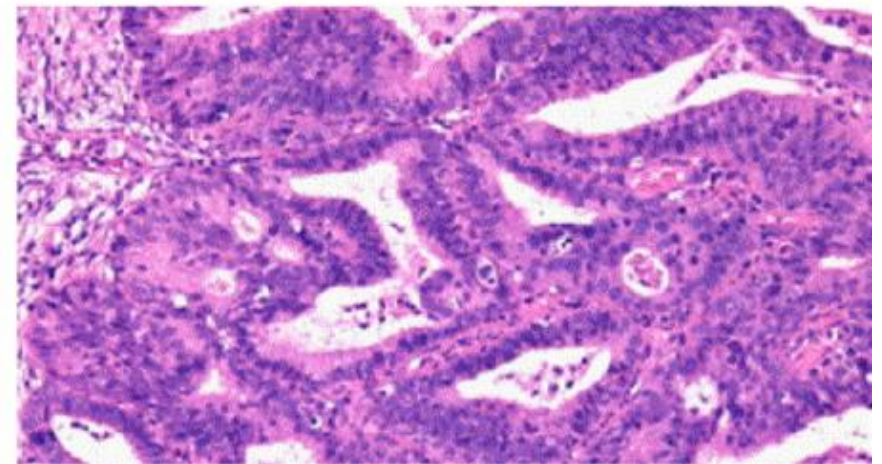
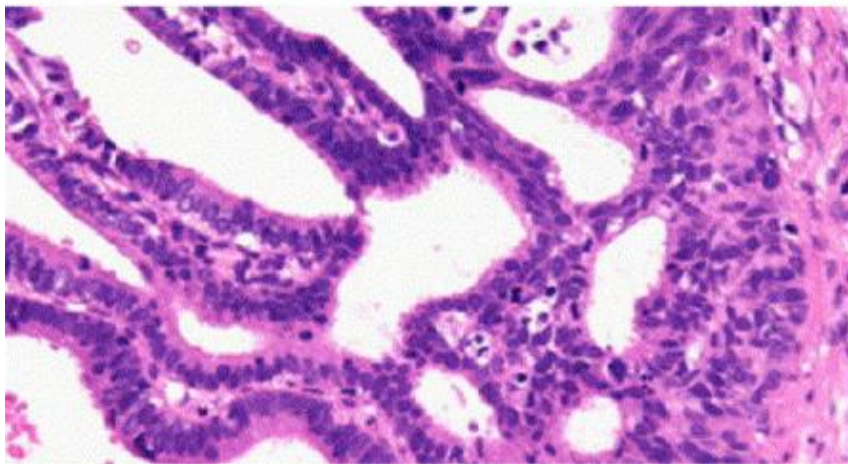
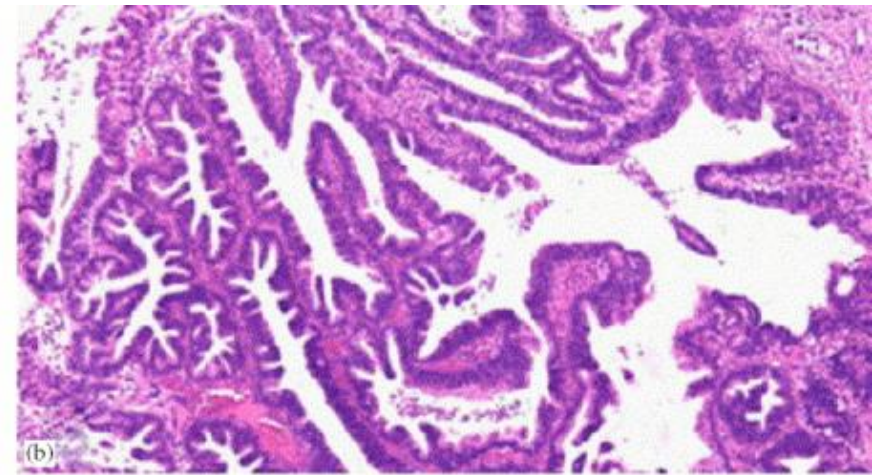
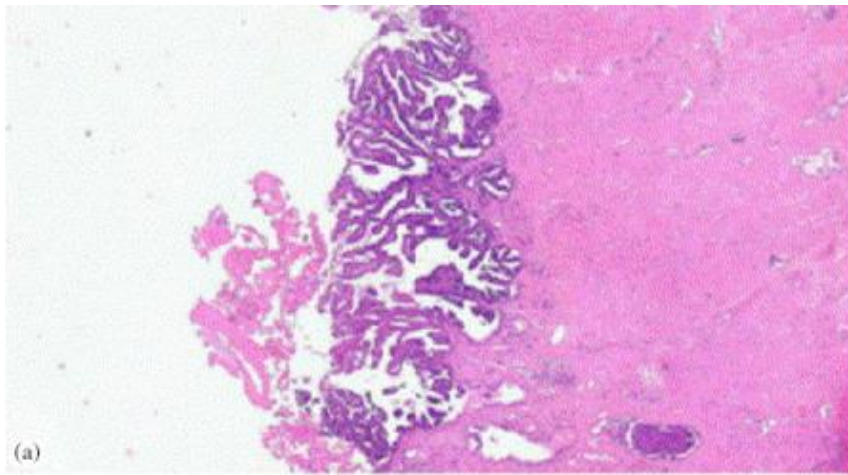
Early invasive adenocarcinoma

A focally incomplete gland is associated with marked stromal reaction (A).

Cribriform growth of malignant epithelium devoid of stroma within a single gland profile is associated with a prominent inflammatory response (B).

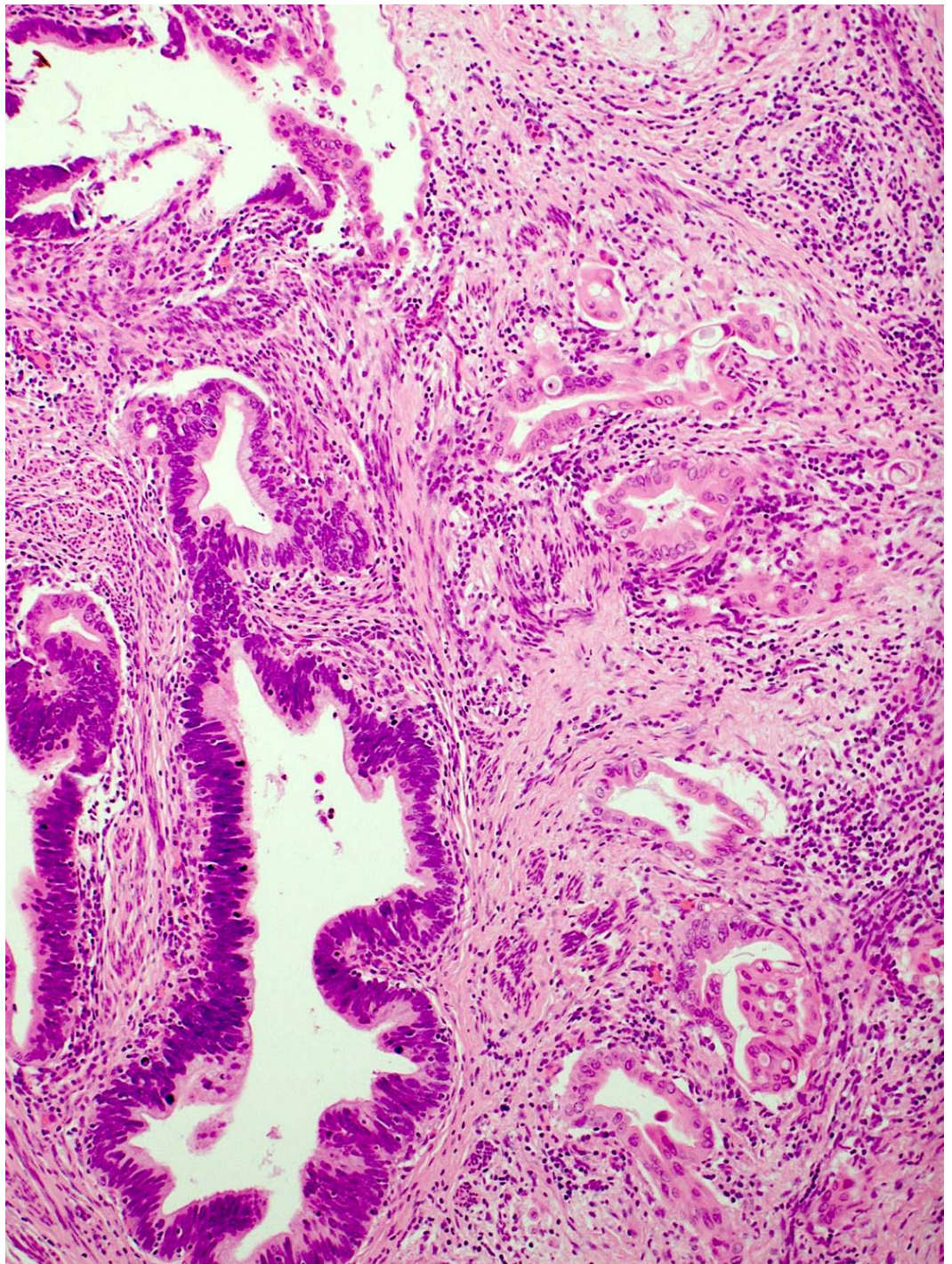


Features suggestive of early invasion are the presence of confluence and back-to-back arrangement of the involved glands and cribriform pattern

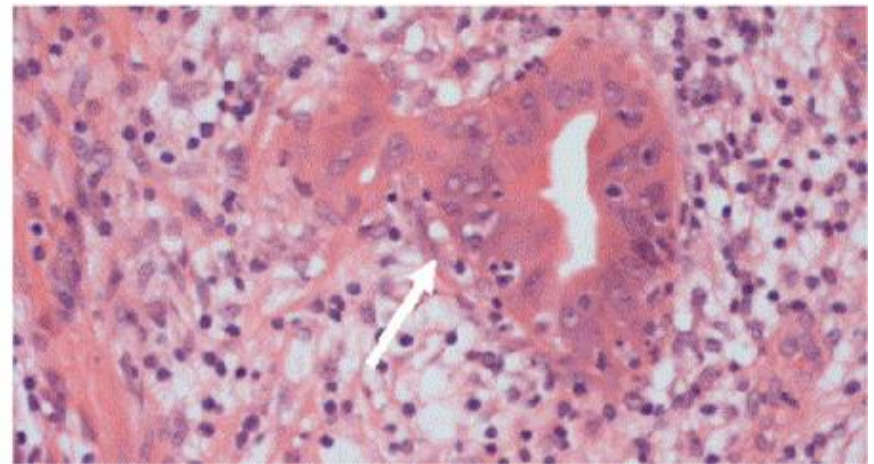
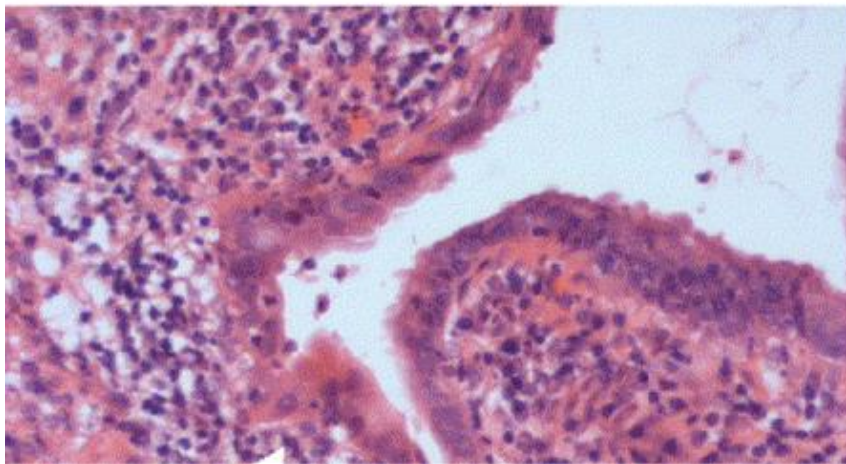
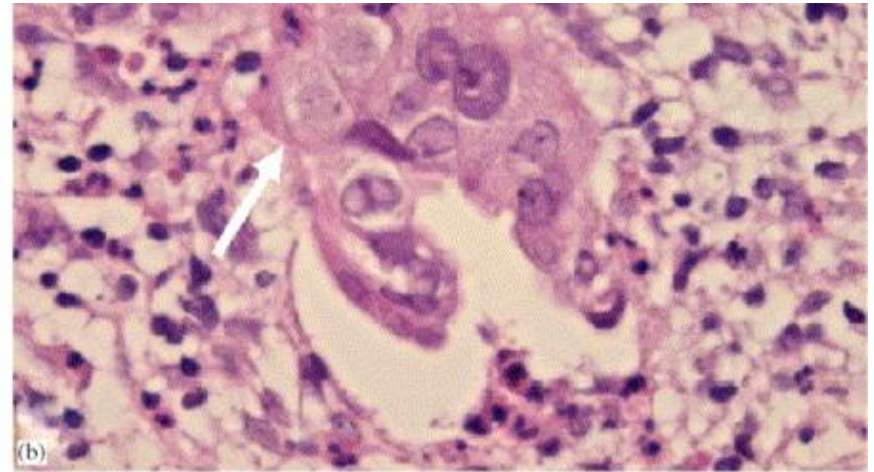
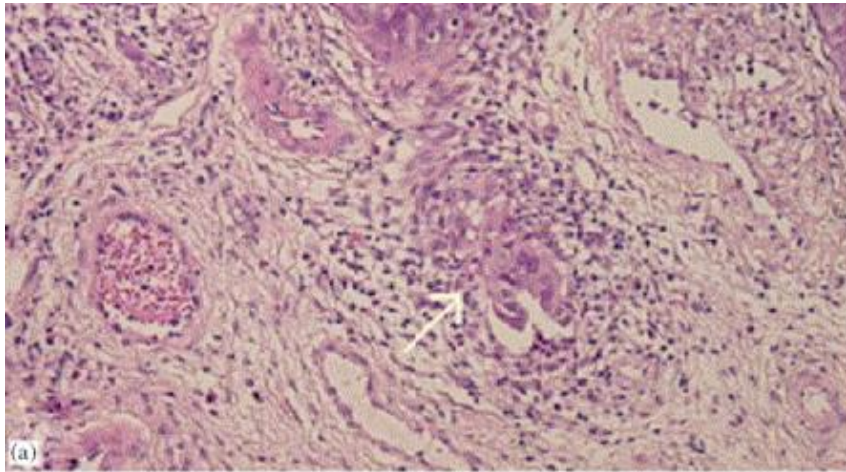


Morphological patterns of early invasive adenocarcinoma

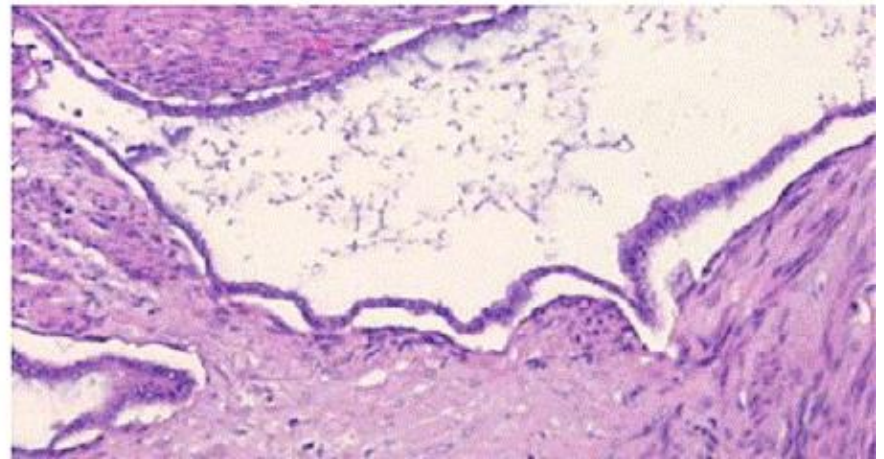
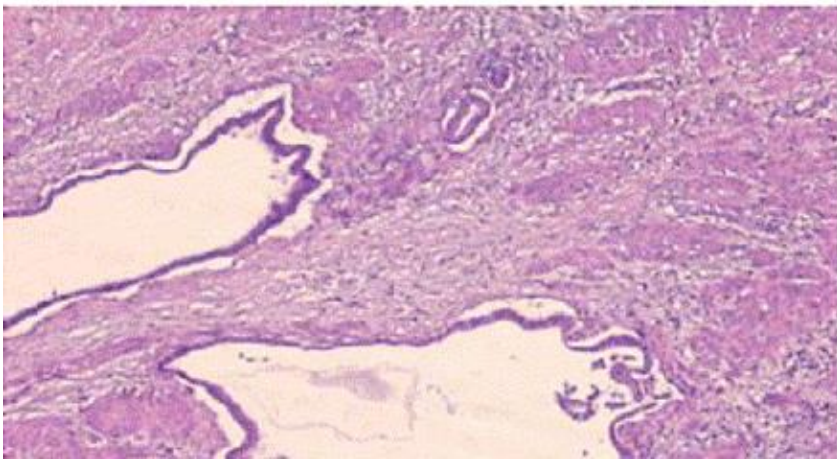
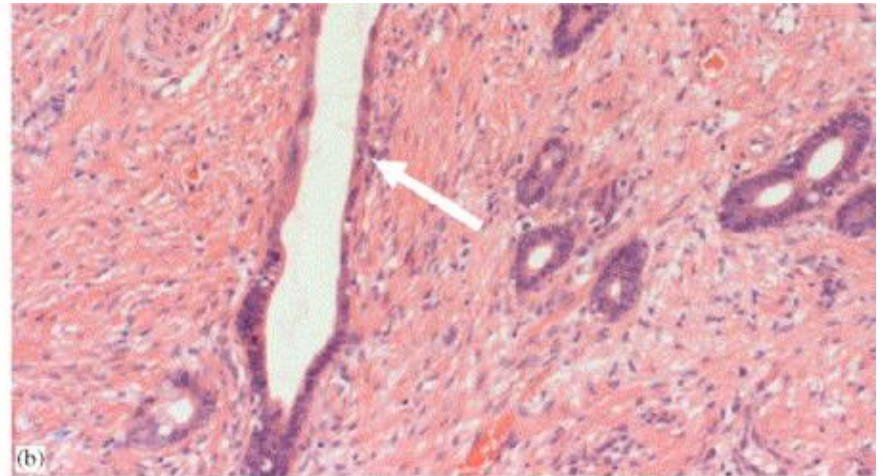
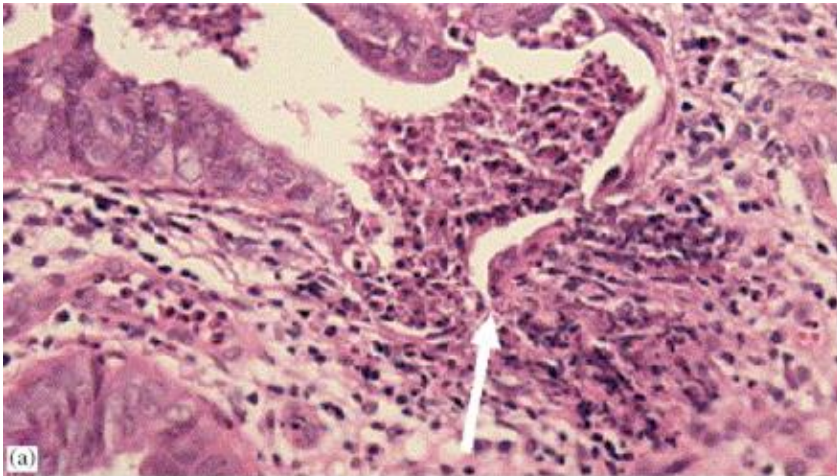
3. Small buds of cells often with a squamoid appearance arising from AIS



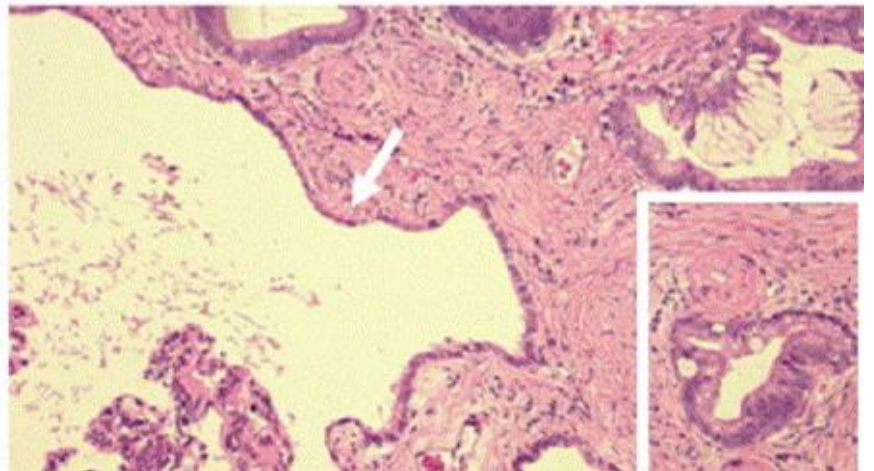
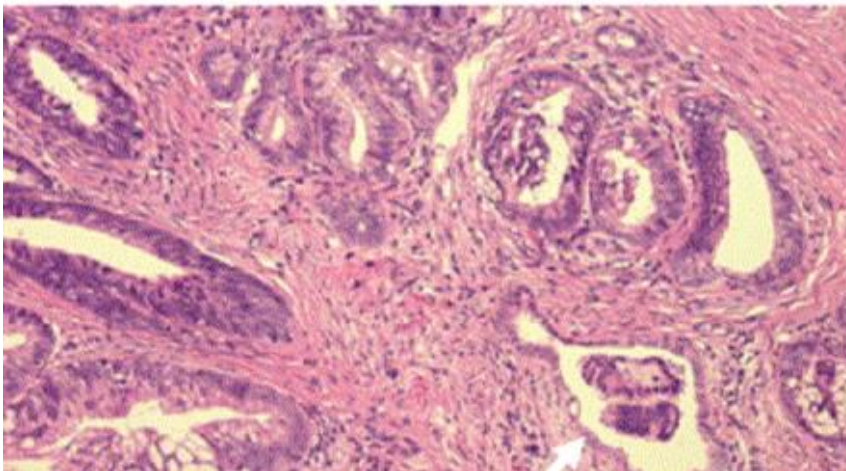
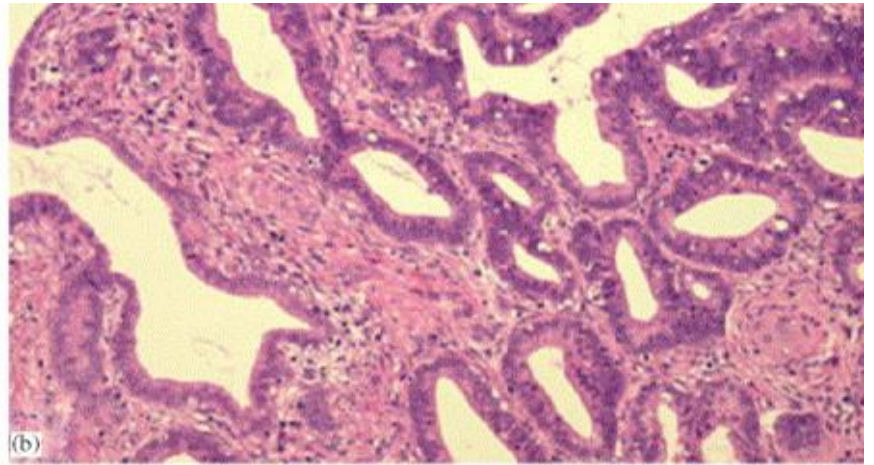
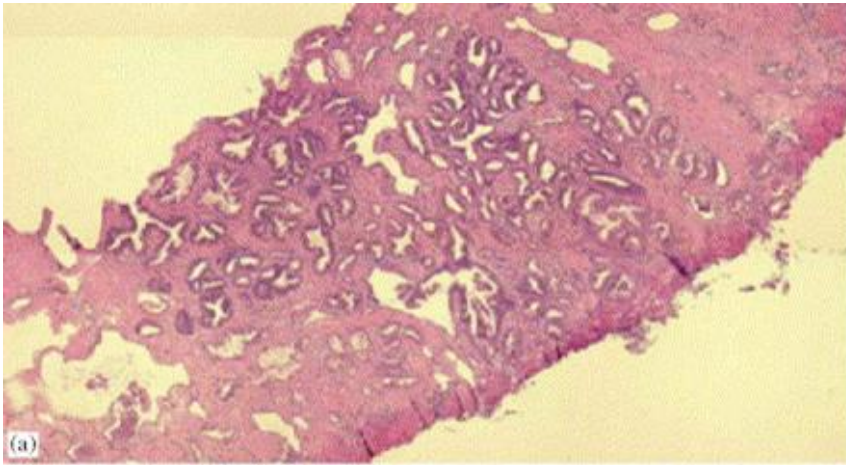
Amongst the features suggestive of stromal invasion is the presence of focal squamoid cytoplasmic change of the abnormal epithelium (arrows) resembling buds of early microinvasive squamous carcinoma. Also notice the florid inflammatory response.



Another feature suggestive of invasion is the thinning and attenuation or stretching of part of the glandular wall in an 'elastic band-like' manner (arrows in a and b). The thin stretched glands in (c) and (d) are from frankly invasive carcinoma.



AIS with foci of early stromal invasion involving the entire thickness of the LLETZ. Notice 'elastic band-like' pattern (arrows in c and d) and a thickened blood vessel (a rectangle in d).



Summary: Clues to microinvasion

Glandular pattern becomes complicated cribriform or solid, with a **stromal reaction** - oedema, desmoplasia, or an **inflammatory infiltrate**.

Squamoid buds

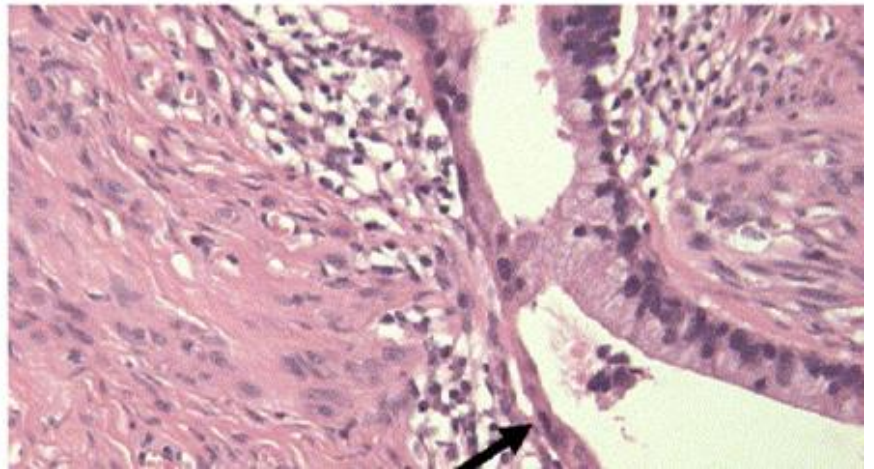
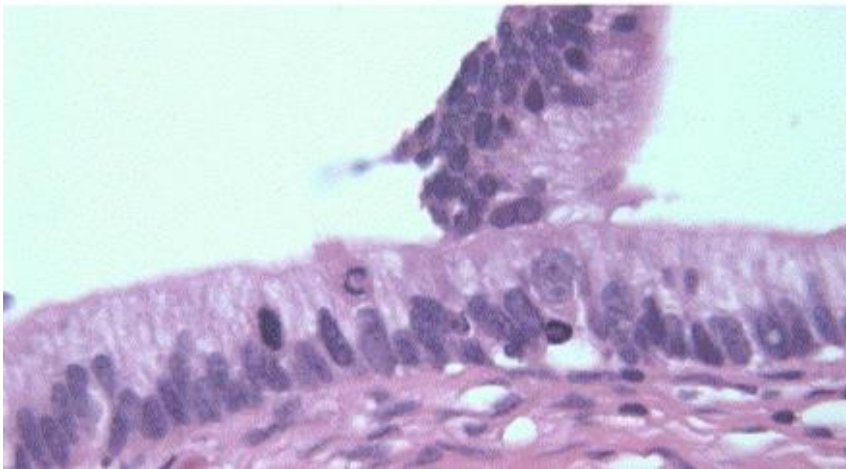
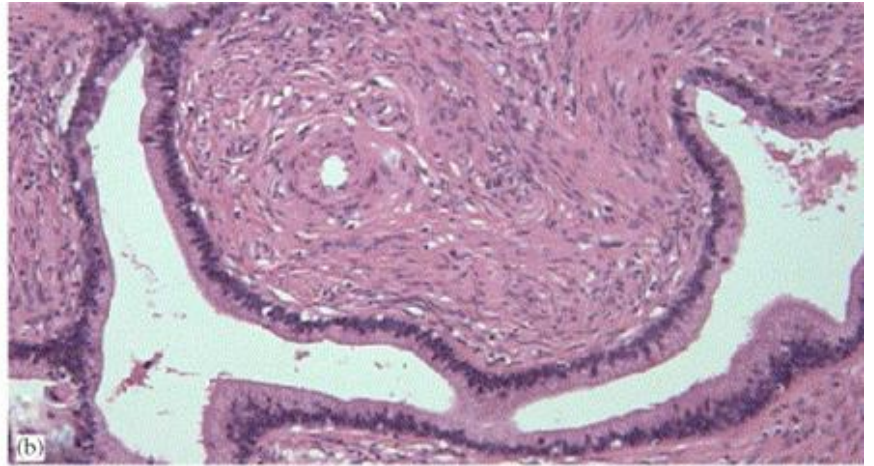
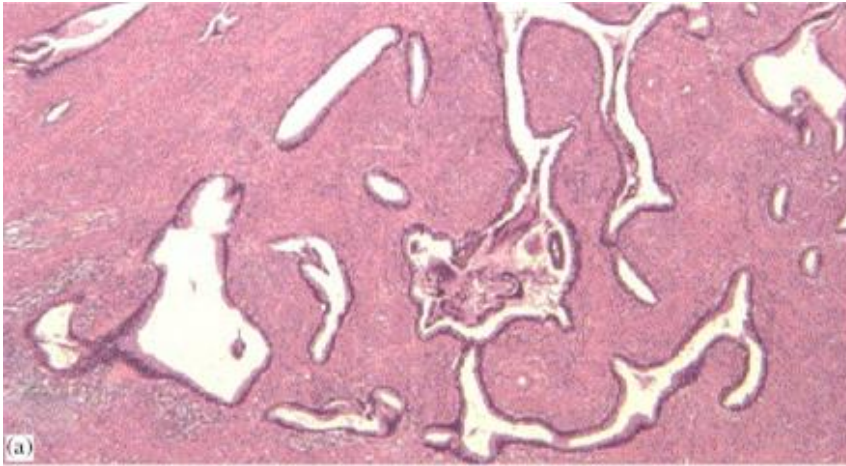
Thinning of the glands

Cervical adenocarcinomas with difficult to diagnose invasion

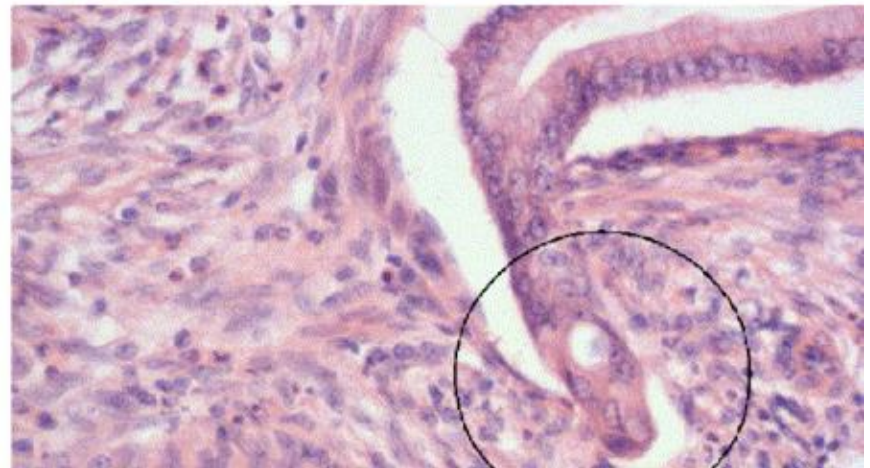
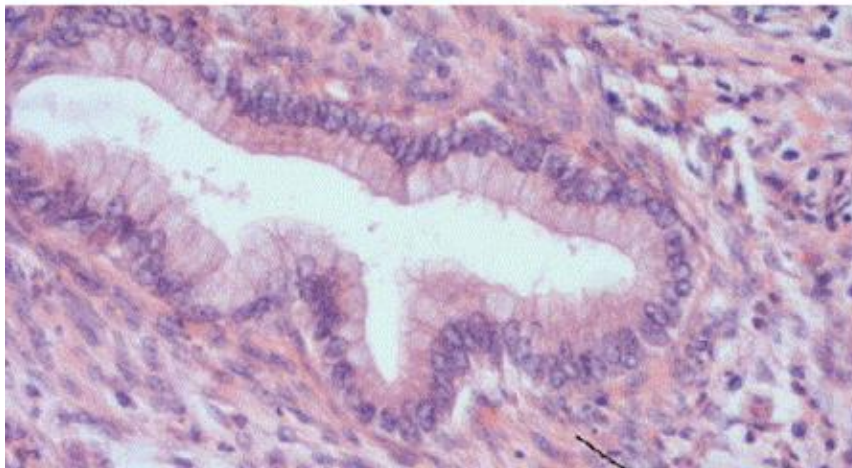
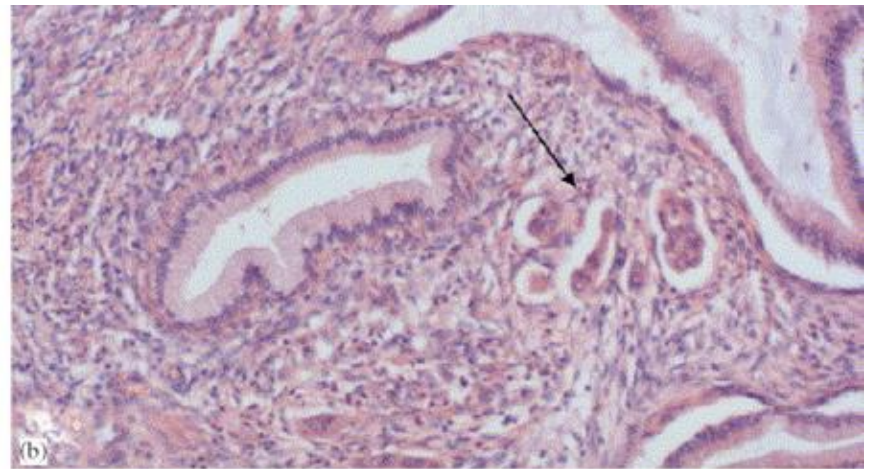
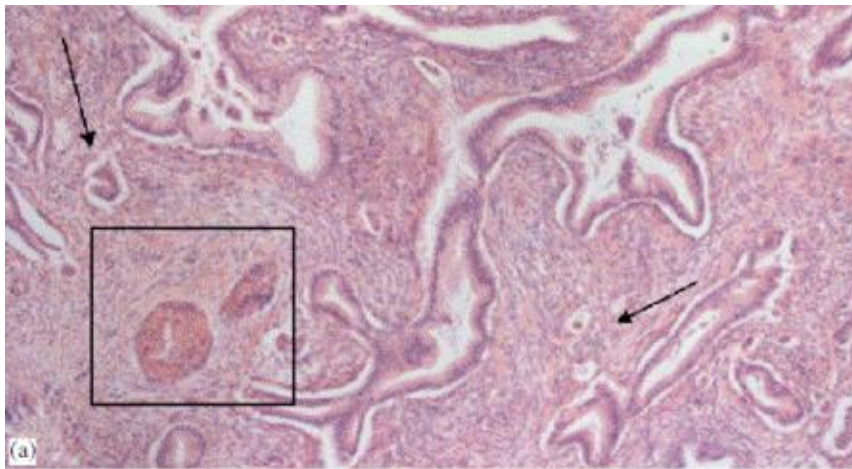
- **Minimal deviation adenocarcinoma /gastric type carcinoma**
- the glands are often irregular in size and shape and lined predominantly by pinkish mucin-containing columnar epithelial cells with basal nuclei

- Search for **mitotic figures** and for features indicative of invasion, such as **squamoid change, thickened blood vessels, thinning and attenuation and stromal nests or single cells**
- **Proximity to large, thick blood vessels**
- Minor foci of tumour with a less well-differentiated appearance are present in over 50% of cases. Take more sections/levels.

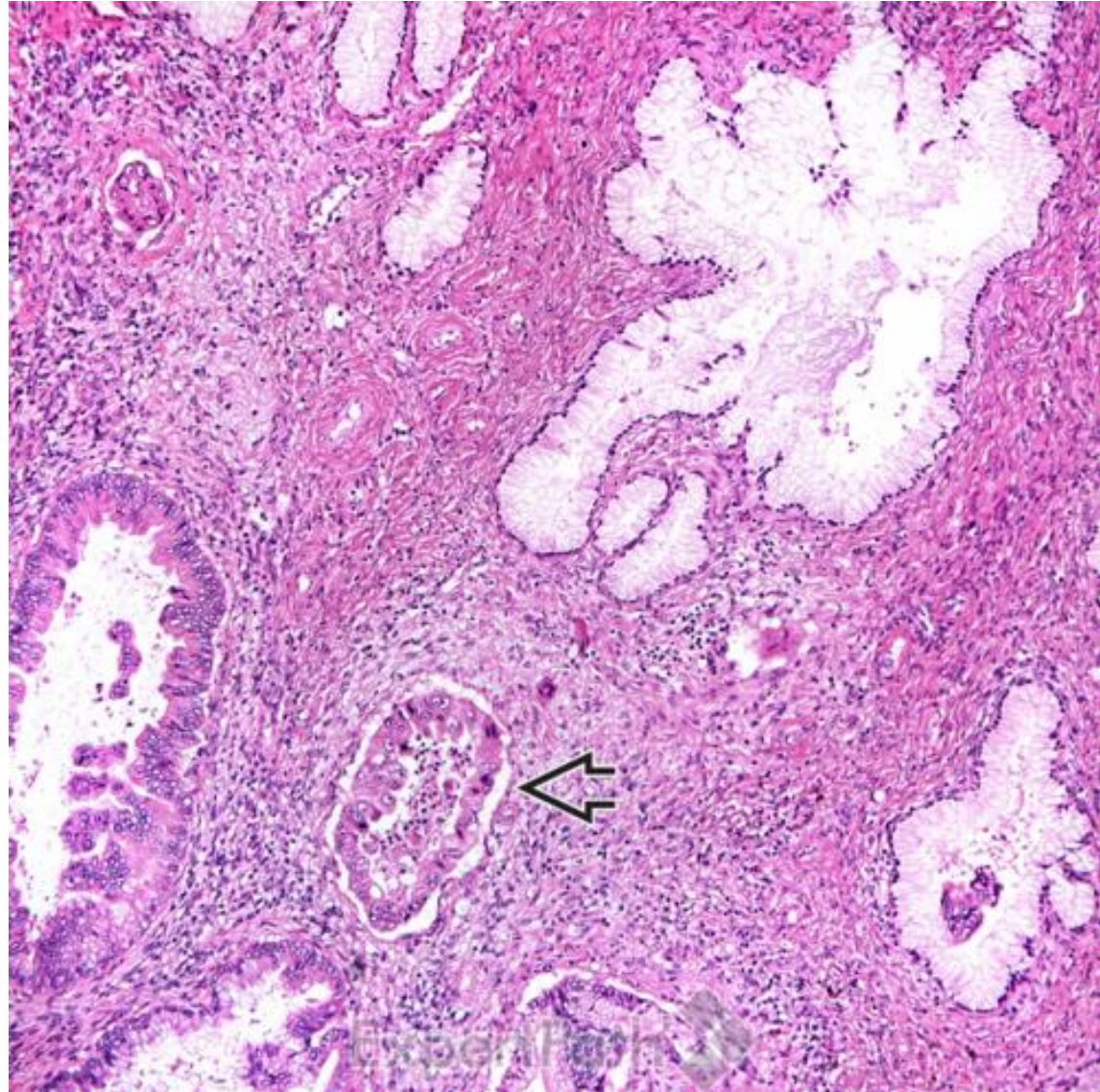
Gastric type of MDA (adenoma malignum) diagnosed on LLETZ. There is clear architectural abnormality of the abnormal glands (a and b), mitotic figures (c) and some features of invasion such as 'elastic-band' pattern and inflammatory response (arrow in d).



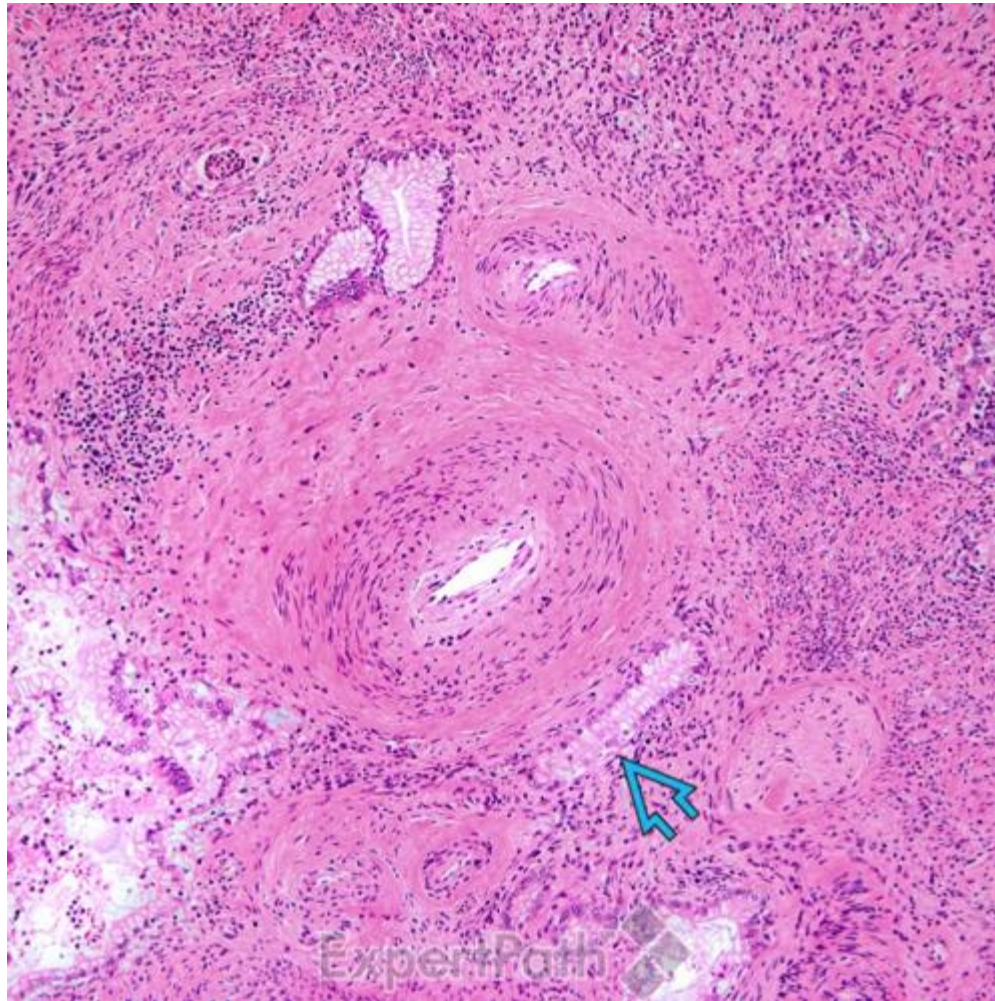
There is clear architectural abnormality of the abnormal glands (a). Features of invasion are seen: thickened blood vessels (arrow in a), isolated nests and single cells within the stroma (arrows a–c) and squamoid change (circle in d).



Less well differentiated glands

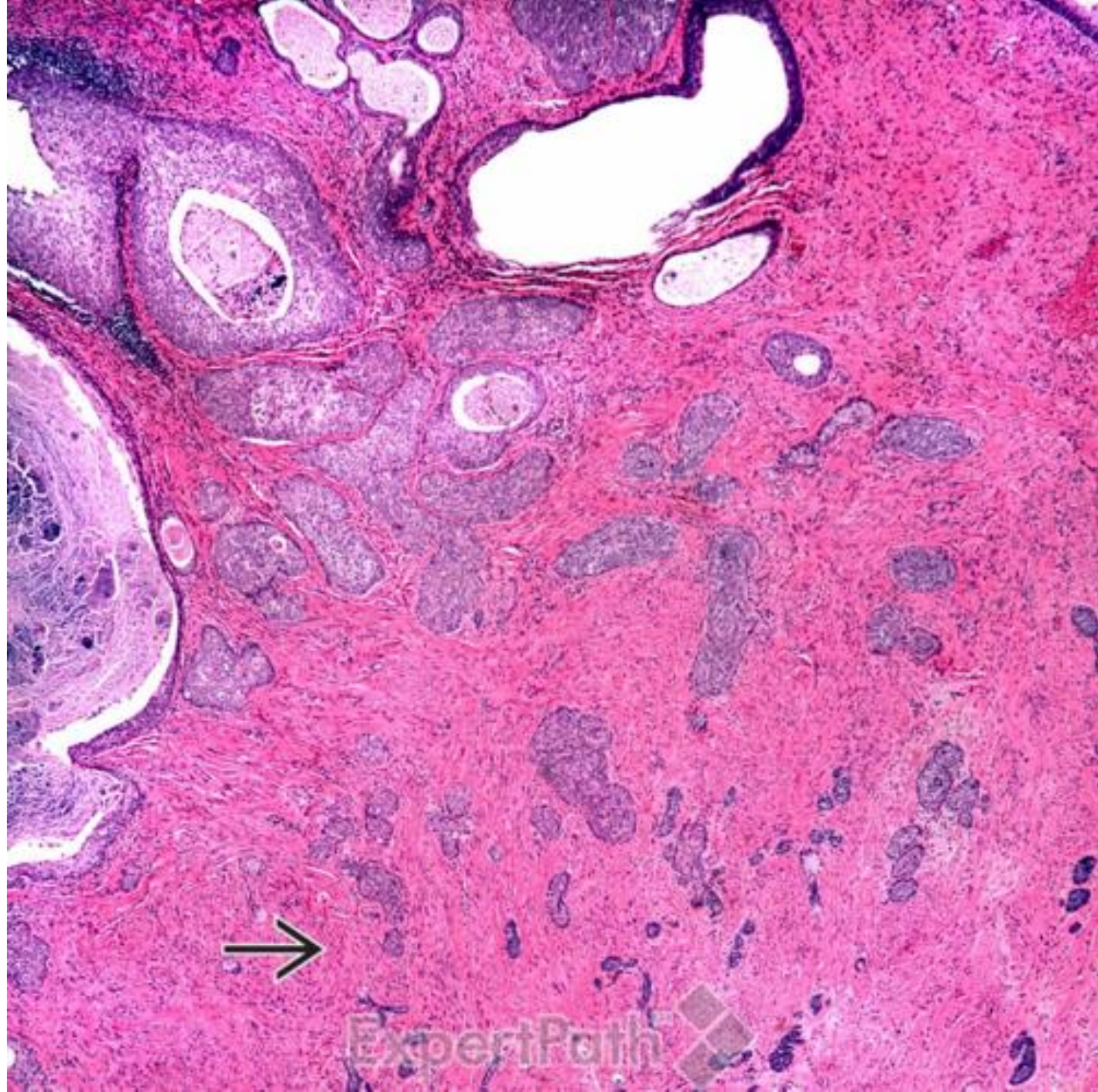


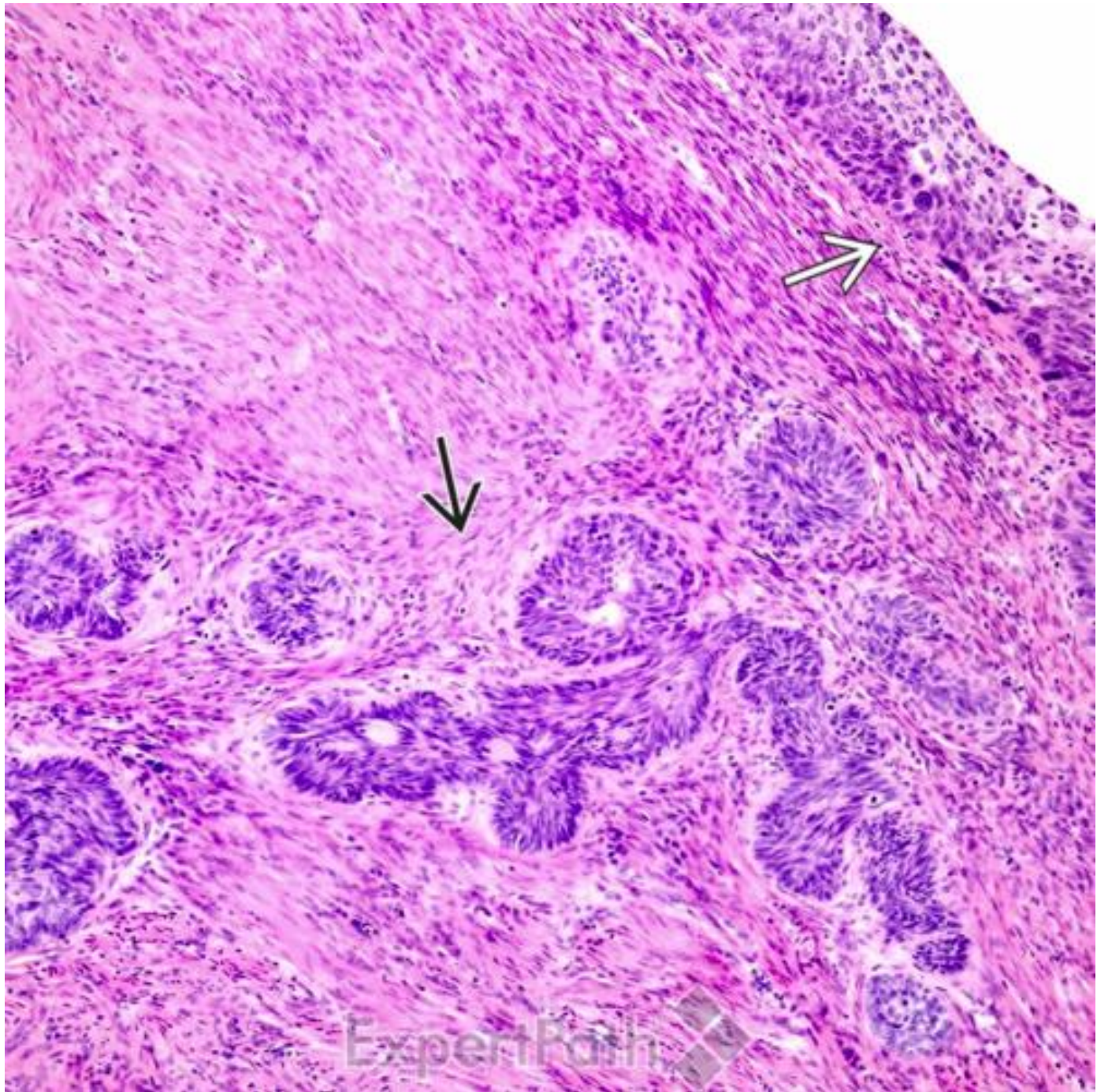
Thick walled blood vessels



Adenoid basal carcinoma

- Nests or cords of small basaloid cells with prominent peripheral palisading of cells and no significant stromal reaction
- An associated HSIL often seen
- p16 positive
- ?arise from reserve cells



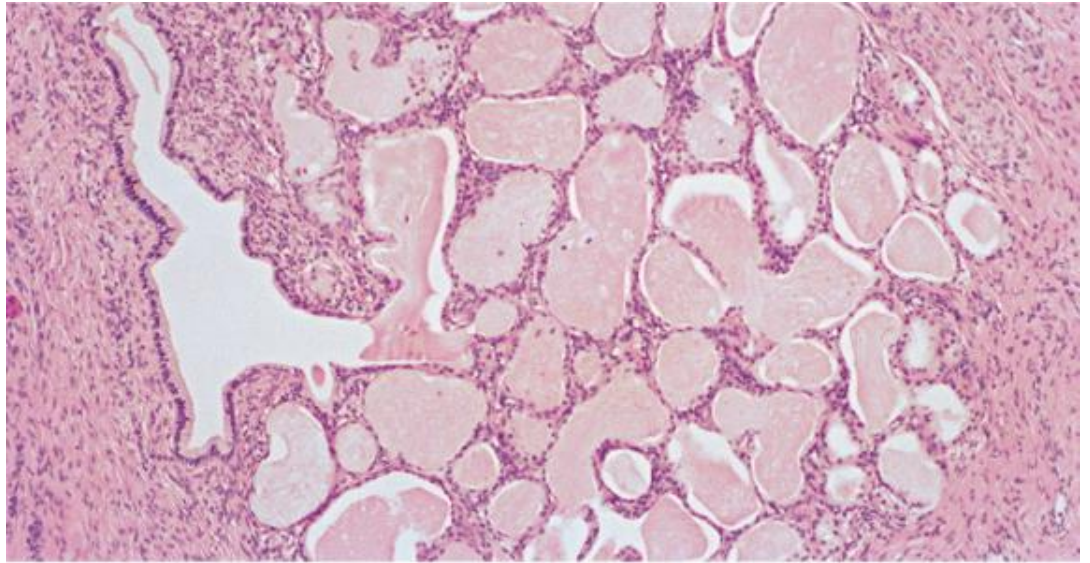


Mimics of invasive adenocarcinoma

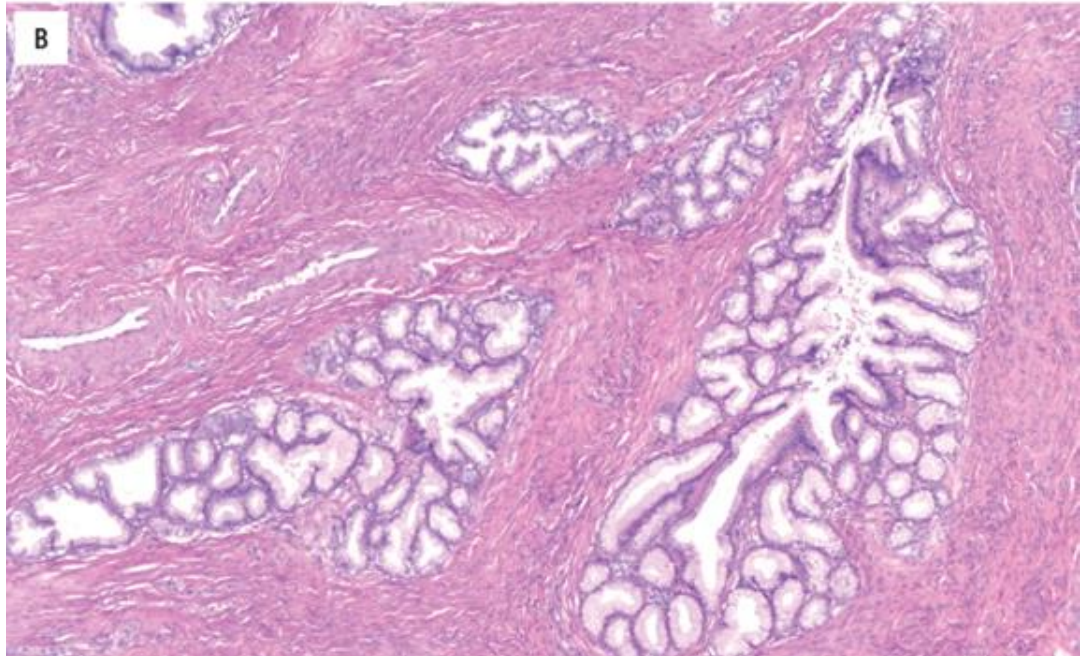
- **tunnel clusters**
- Type A displays tightly packed small glands lined by columnar mucinous epithelium, whereas type B consists of closely packed dilated glands containing inspissated mucin, lined by cuboidal to flattened mucinous epithelium.
- Both types have a **lobular architecture**.

- **Lobular endocervical glandular hyperplasia (LEGH)**
- **a lobular proliferation** of variably sized rounded endocervical glands, sometimes clustered around a central dilated gland
- The tall mucinous columnar lining shows **bland cytology**

Type B tunnel clusters exhibit crowded glands that have a lobular arrangement and bland lining epithelium (A).

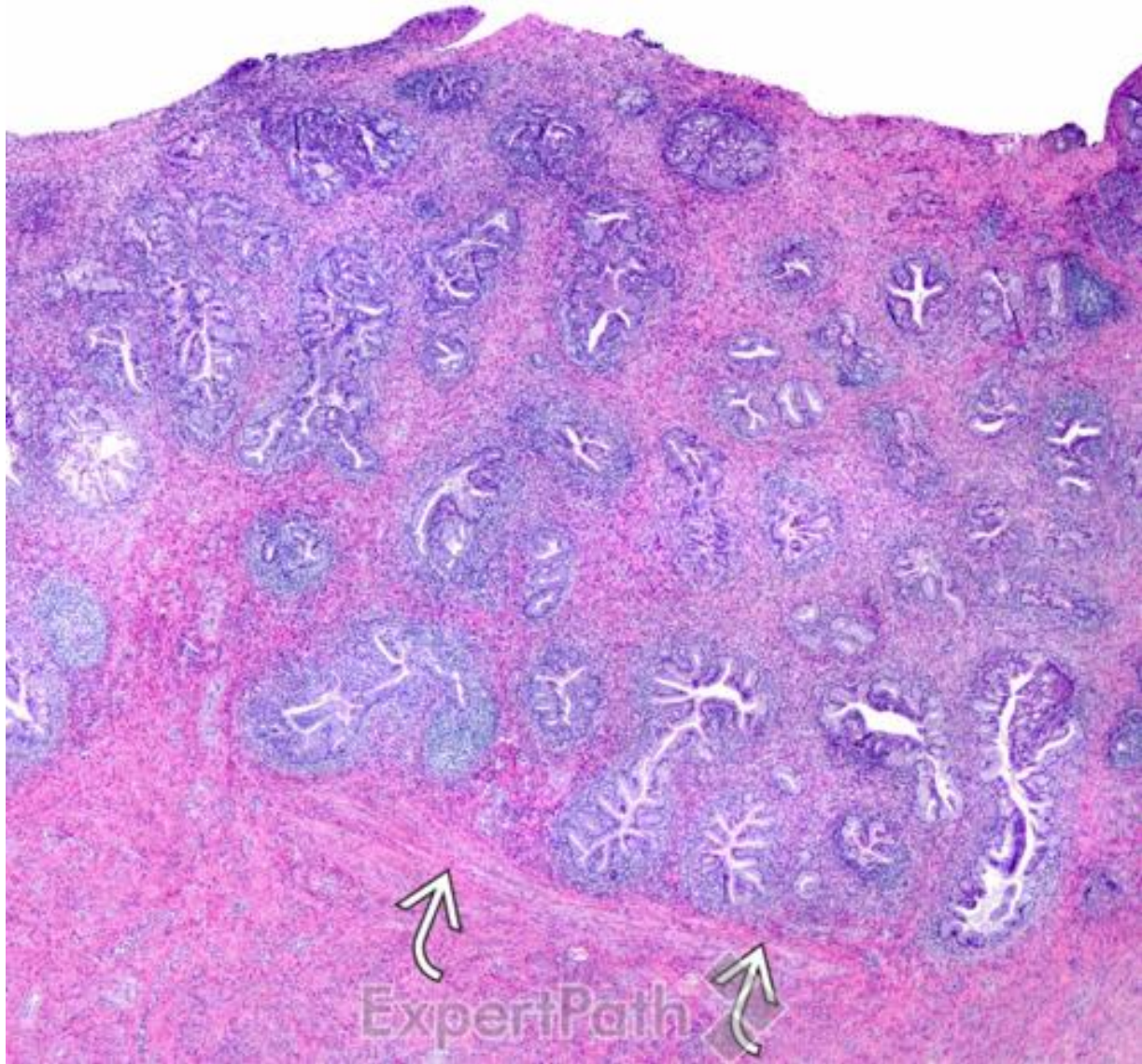


Lobular endocervical gland hyperplasia is well demarcated and it is composed of a larger central duct surrounded by smaller acini. (B)

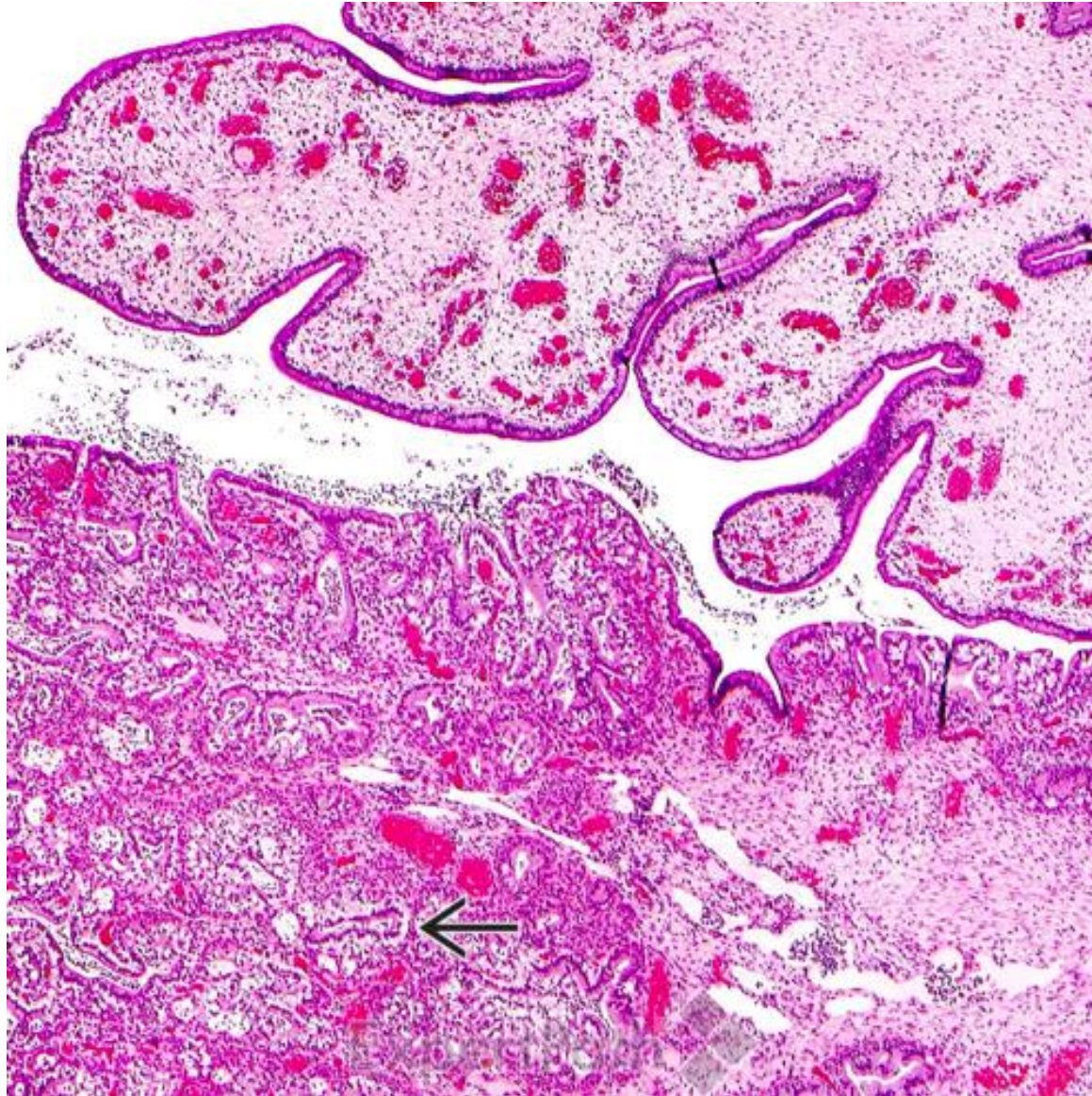


Diffuse laminar endocervical hyperplasia (DLEH)

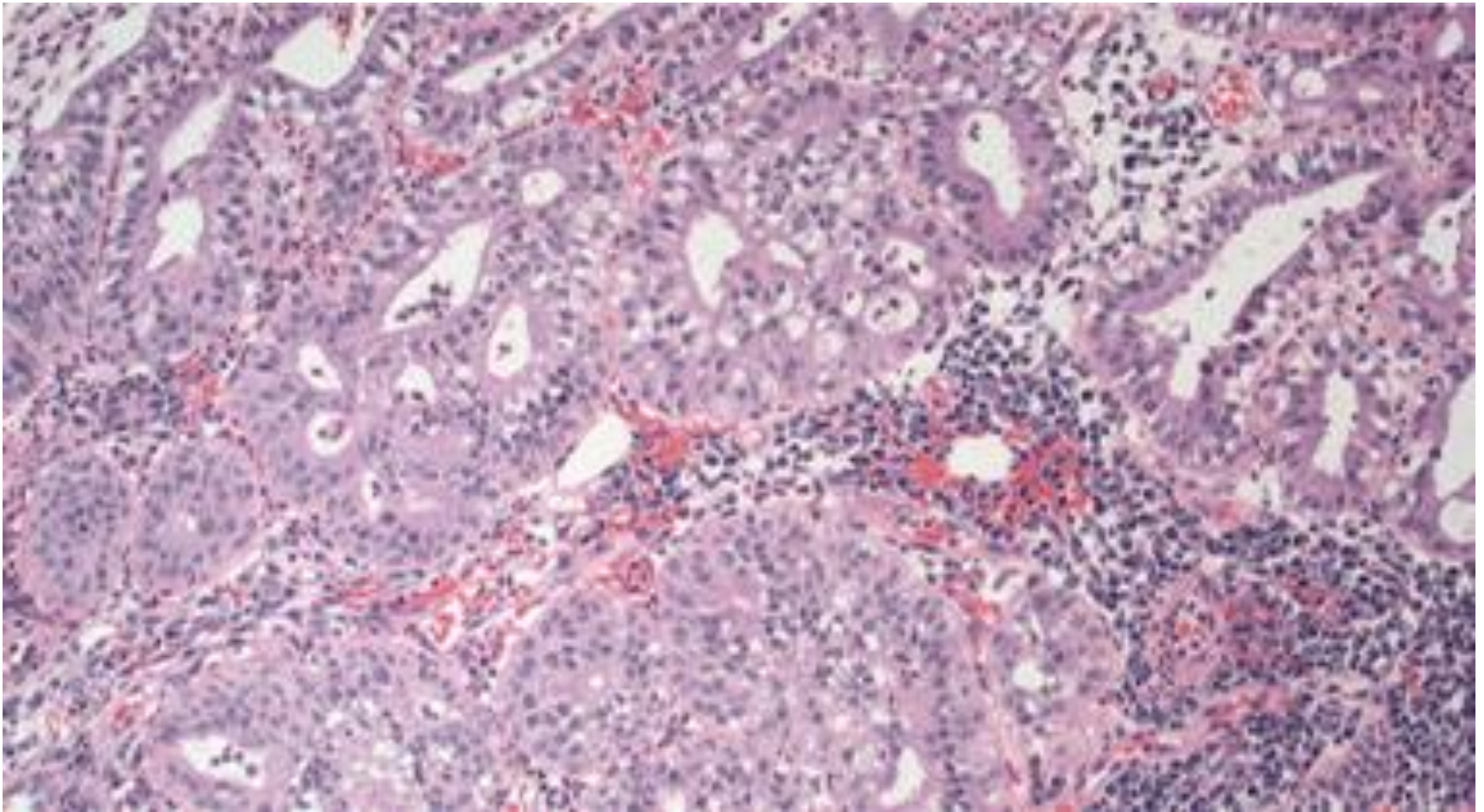
- well-differentiated, evenly spaced endocervical glands which are well-demarcated from the underlying stroma and **form a discrete layer**
- confined to the **inner third** of the cervical wall.
- **lack of irregular stromal infiltration.**



Microglandular hyperplasia



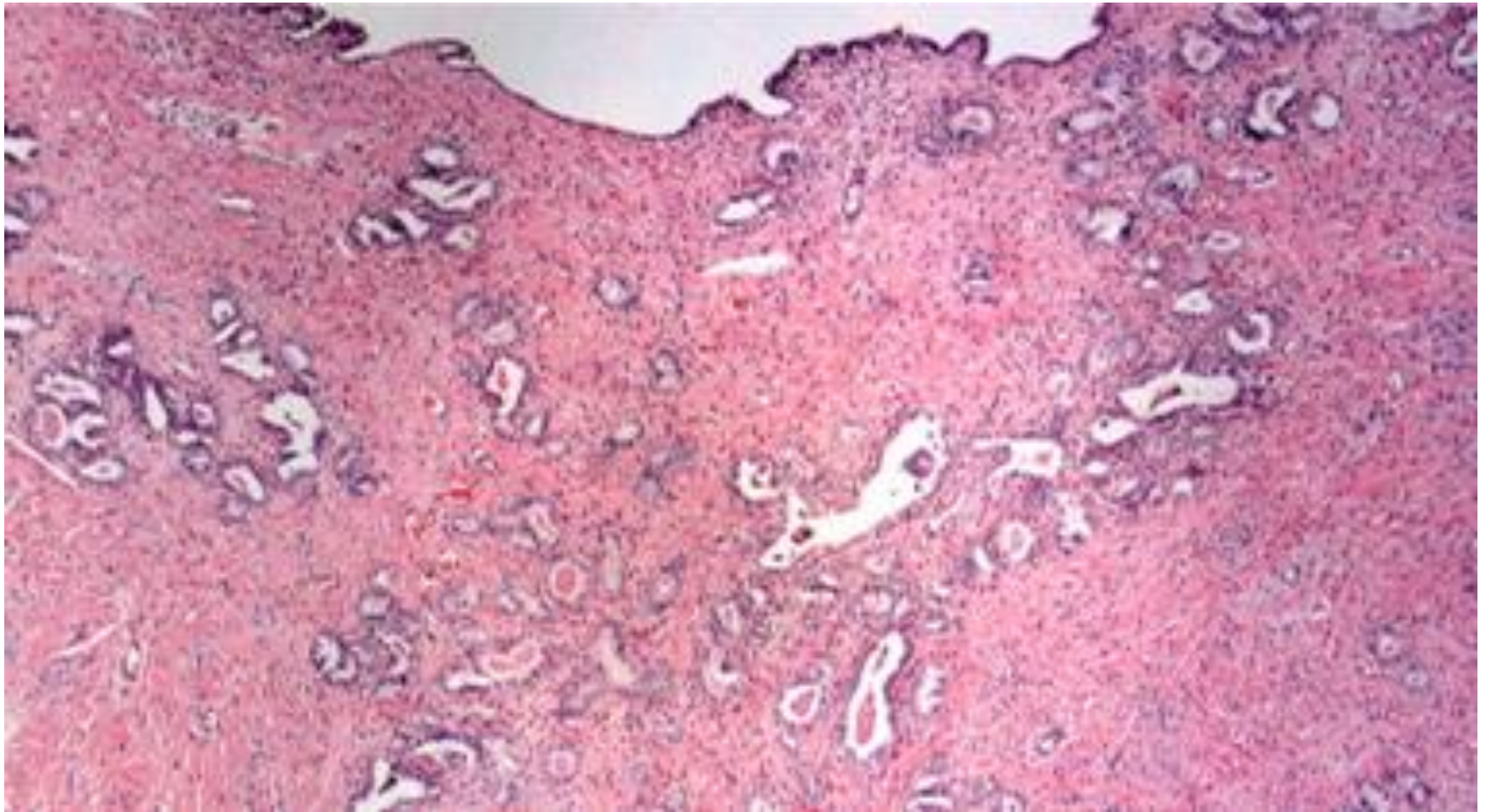
Microglandular hyperplasia. Note cribriform architecture, inflammatory infiltrate/exudate, associated squamous metaplasia and bland cytologic features.



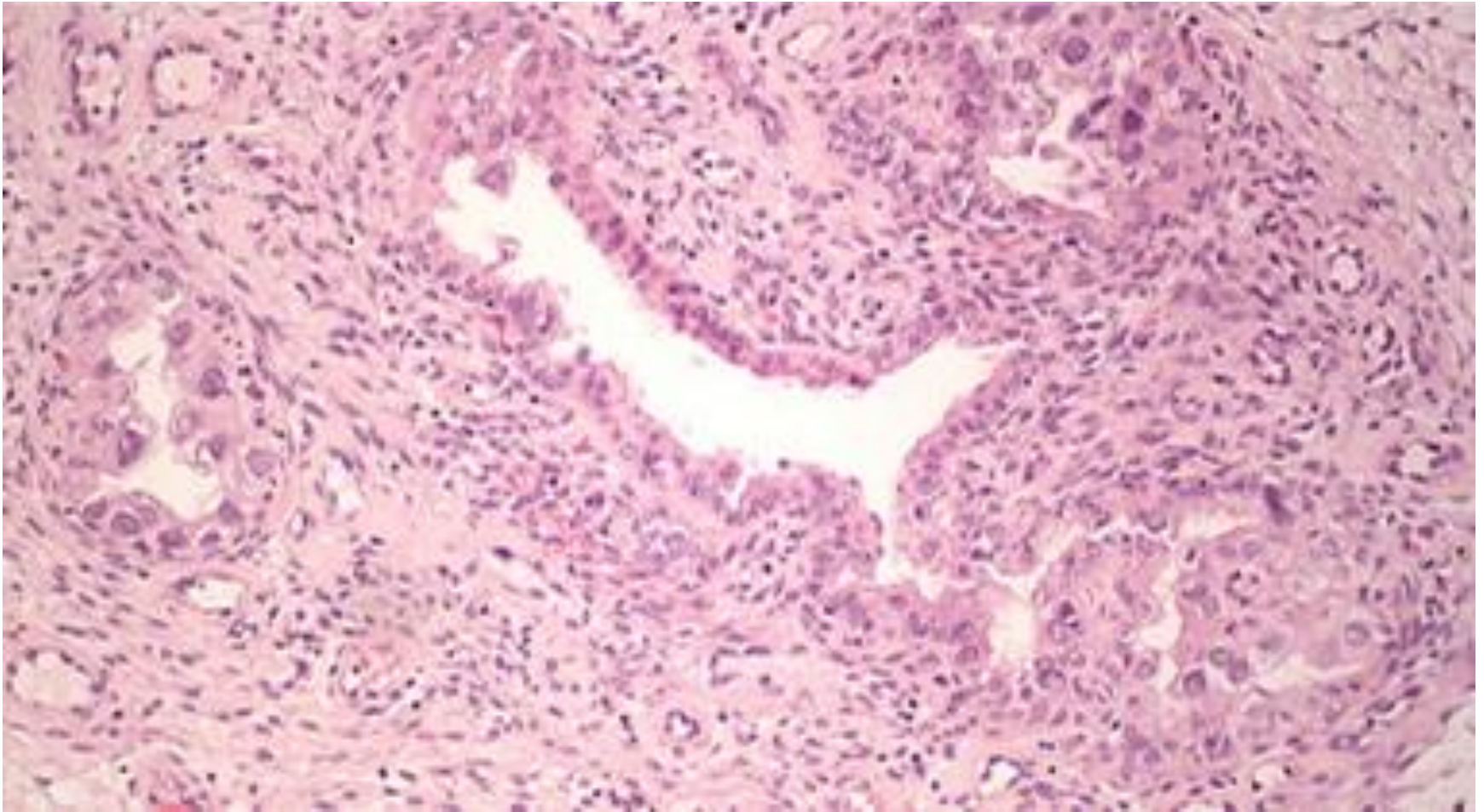
Danger Danger

- AIS in areas of microglandular hyperplasia or tunnel clusters

Mesonephric hyperplasia, lobular type. Mesonephric duct remnant (upper part of image) and lobe-shaped glandular proliferations budding off.



Arias-Stella change. Marked nuclear atypia including hobnailing

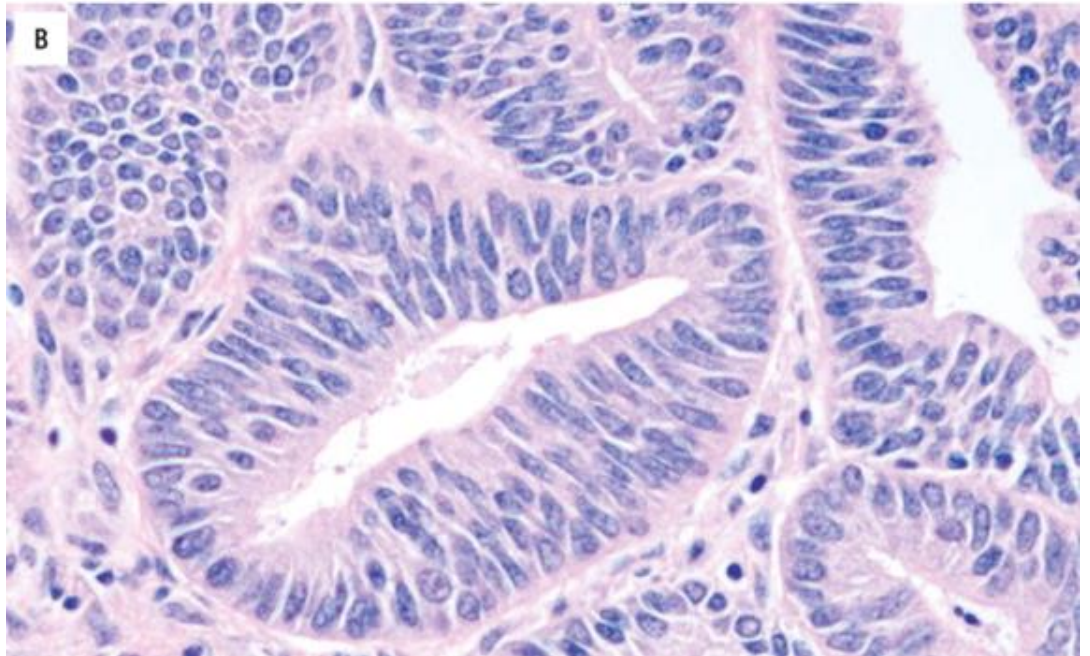
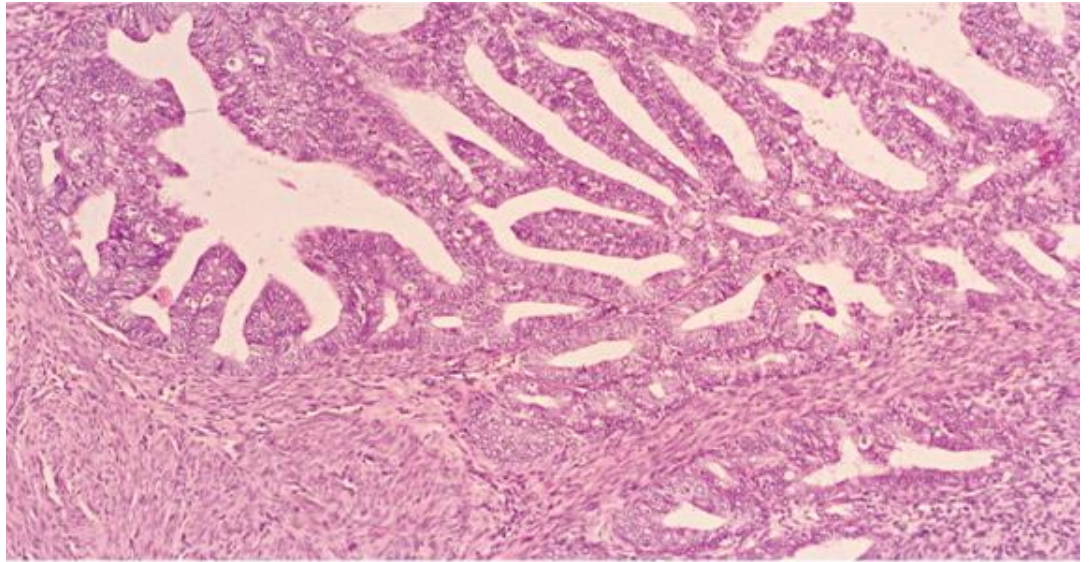


Endocervical vs endometrial

Endometrioid adenocarcinoma

H and E clues:

IHC: Endometrial has:
Negative staining for
CEA, positive staining
for ER, PR, and
vimentin. p16, ptchy
not solid

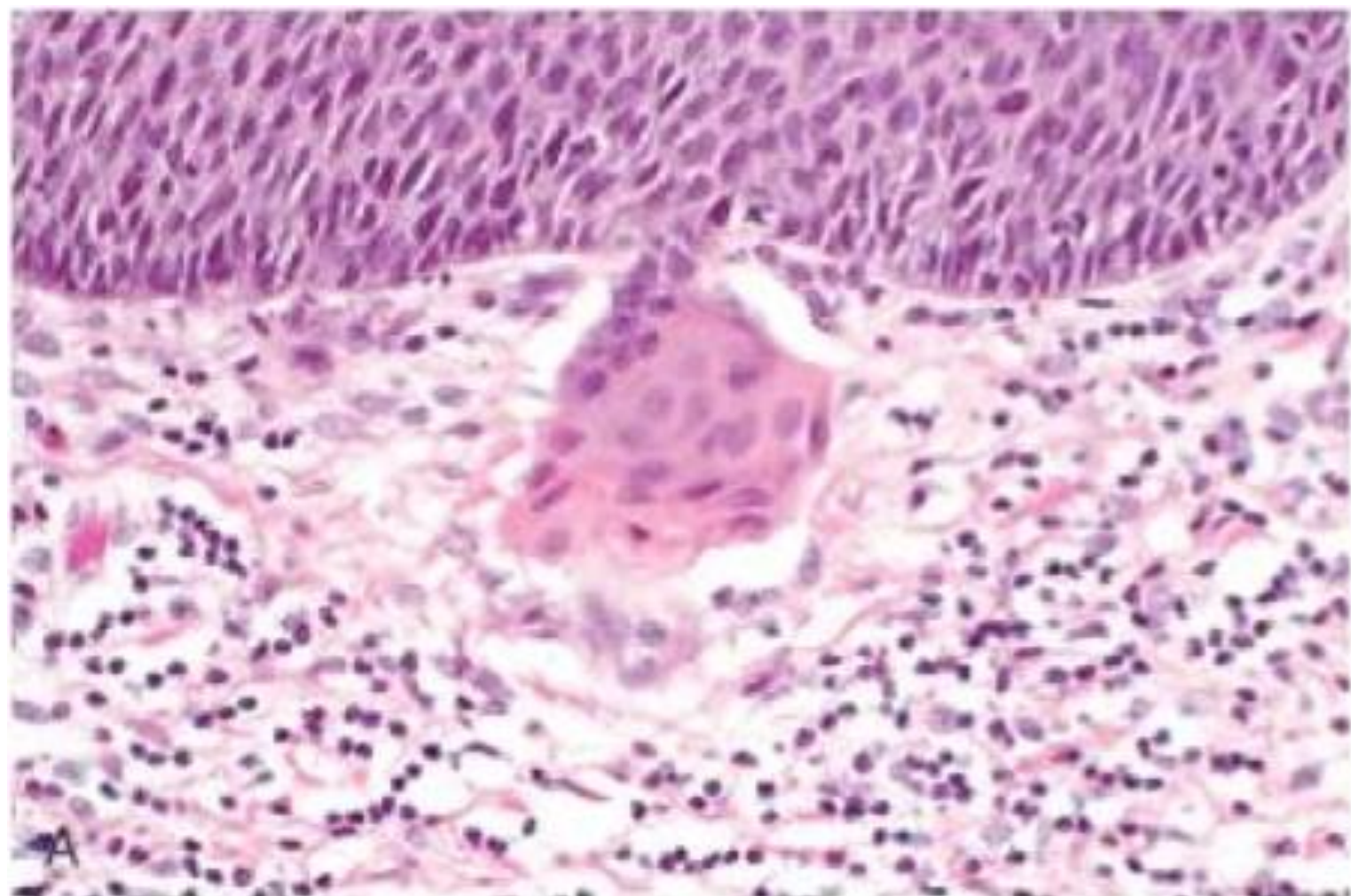


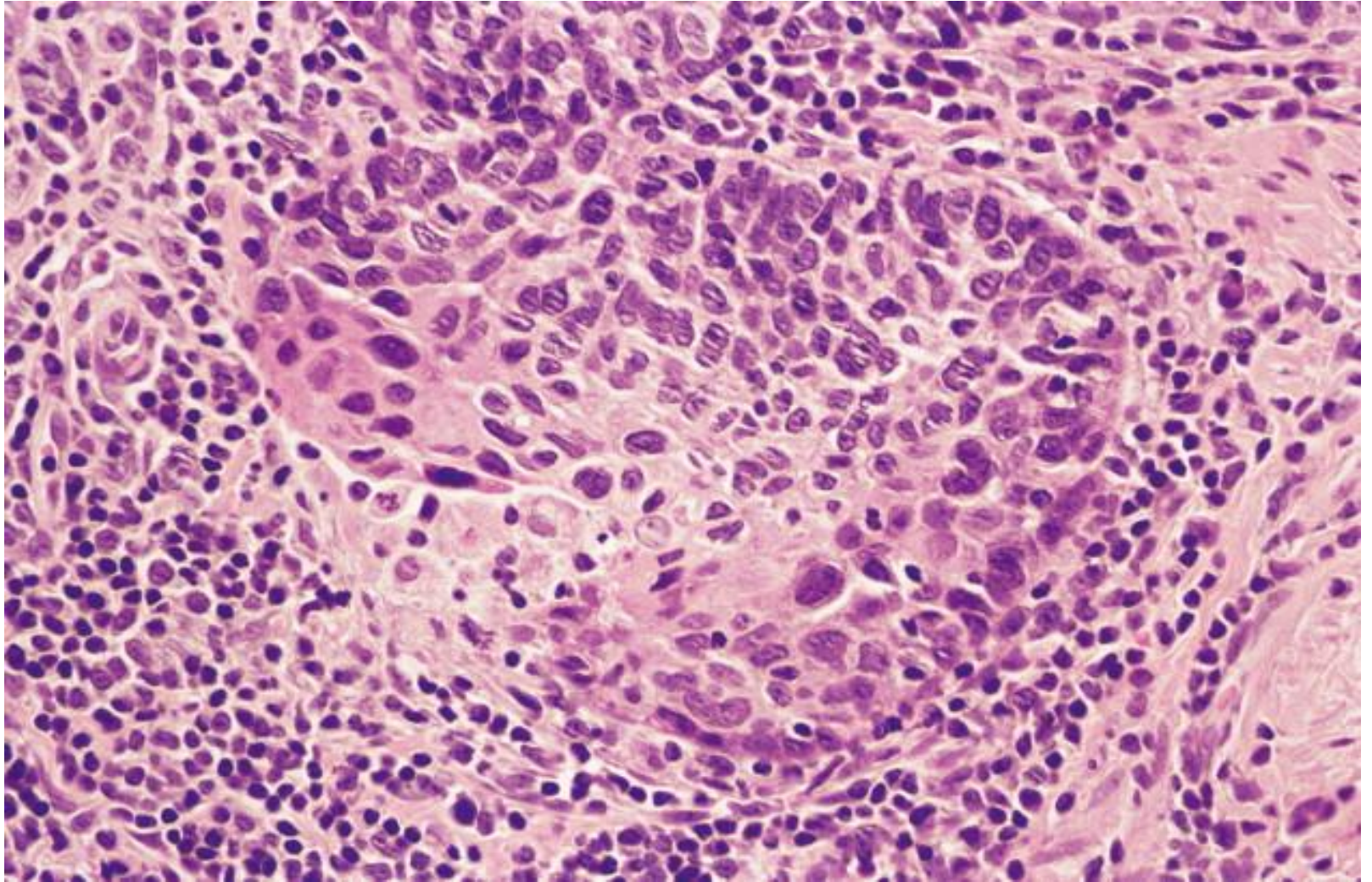
A short note on measuring

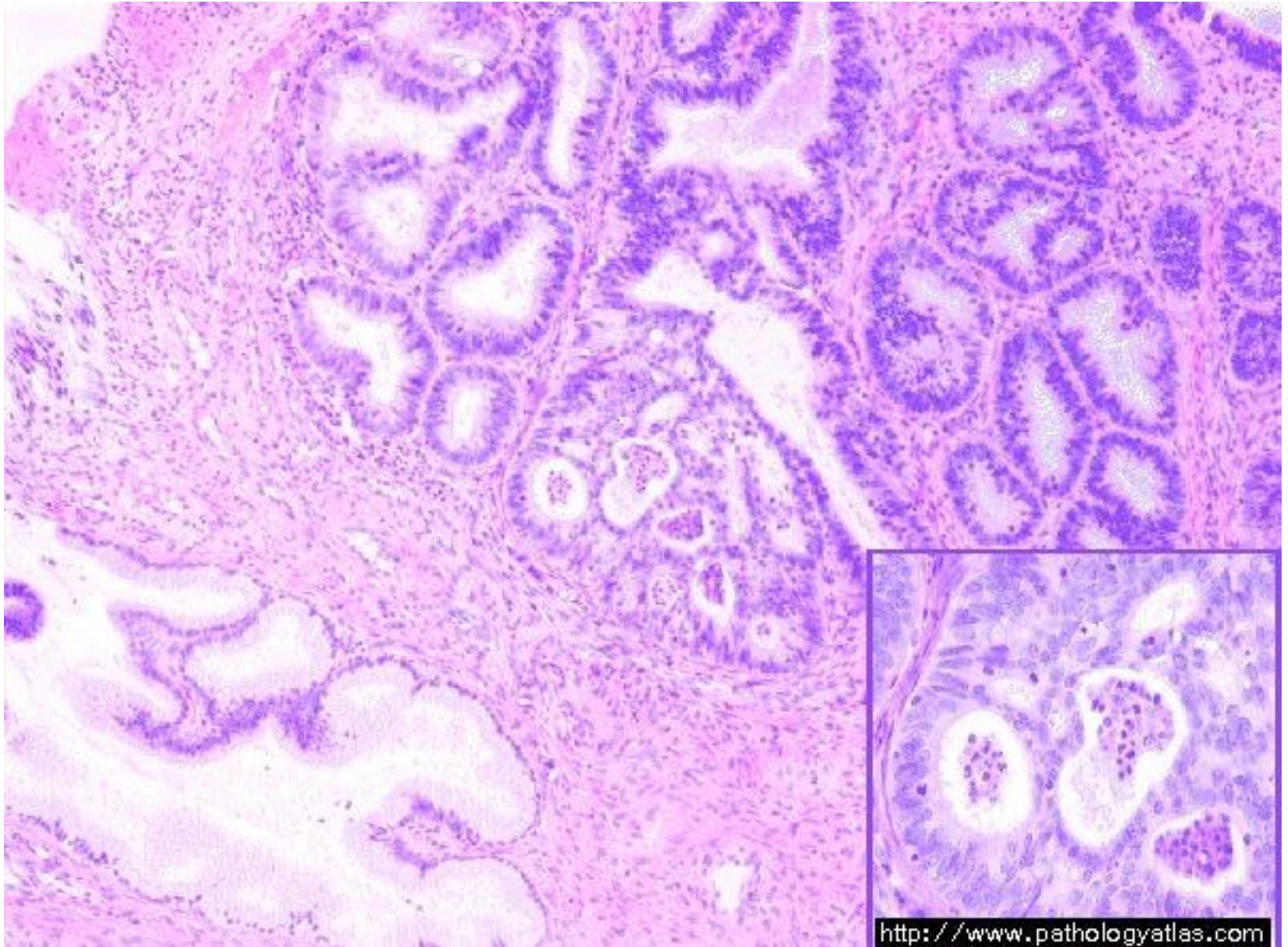
- Do it from the base of the AIS
- Multiple small foci close together – measure the whole thing
- Multiple small foci far apart – measure each one
- A final size cannot be given when there is AIS or invasive adenoca at the biopsy edge

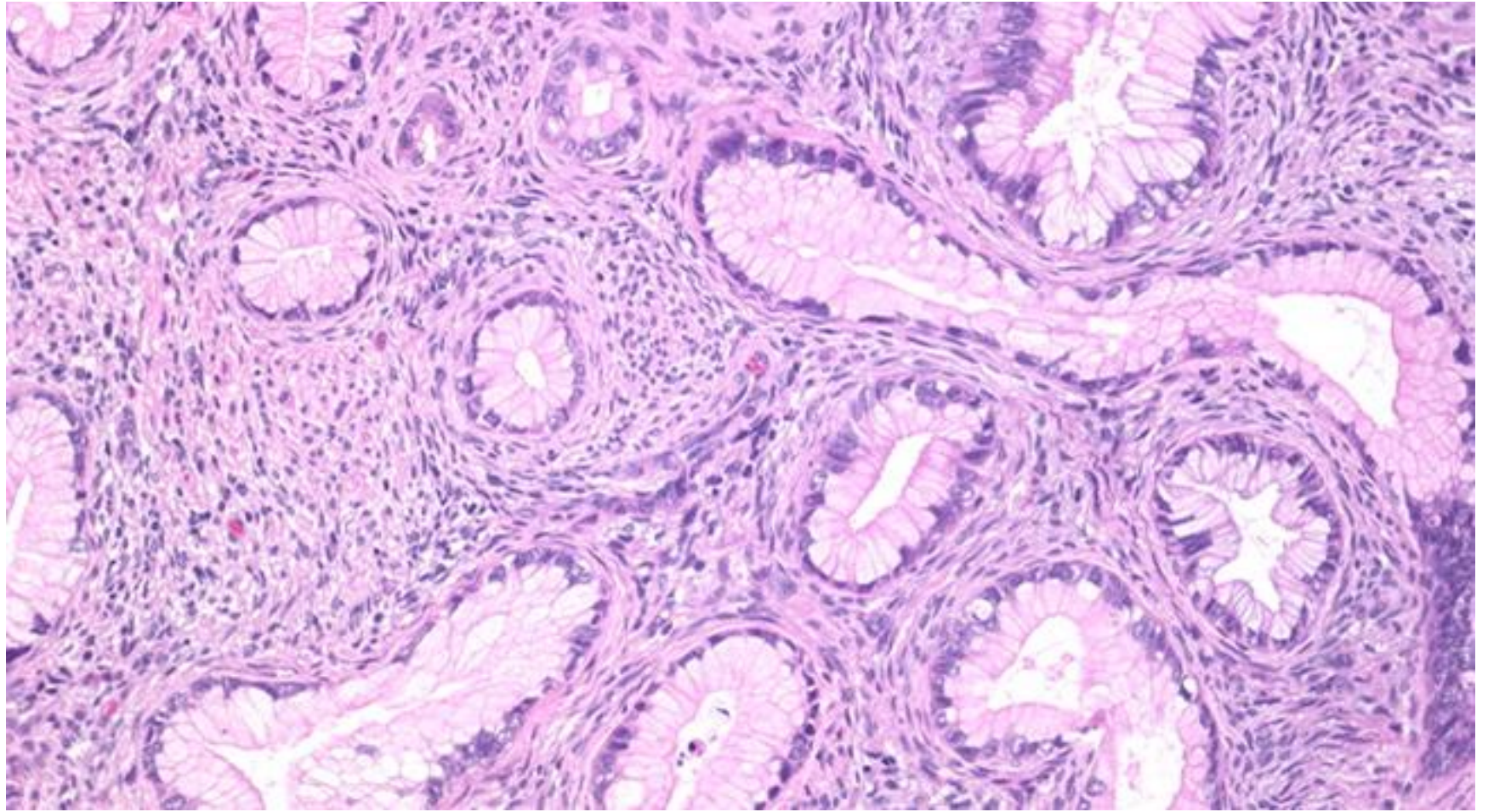
QUIZ

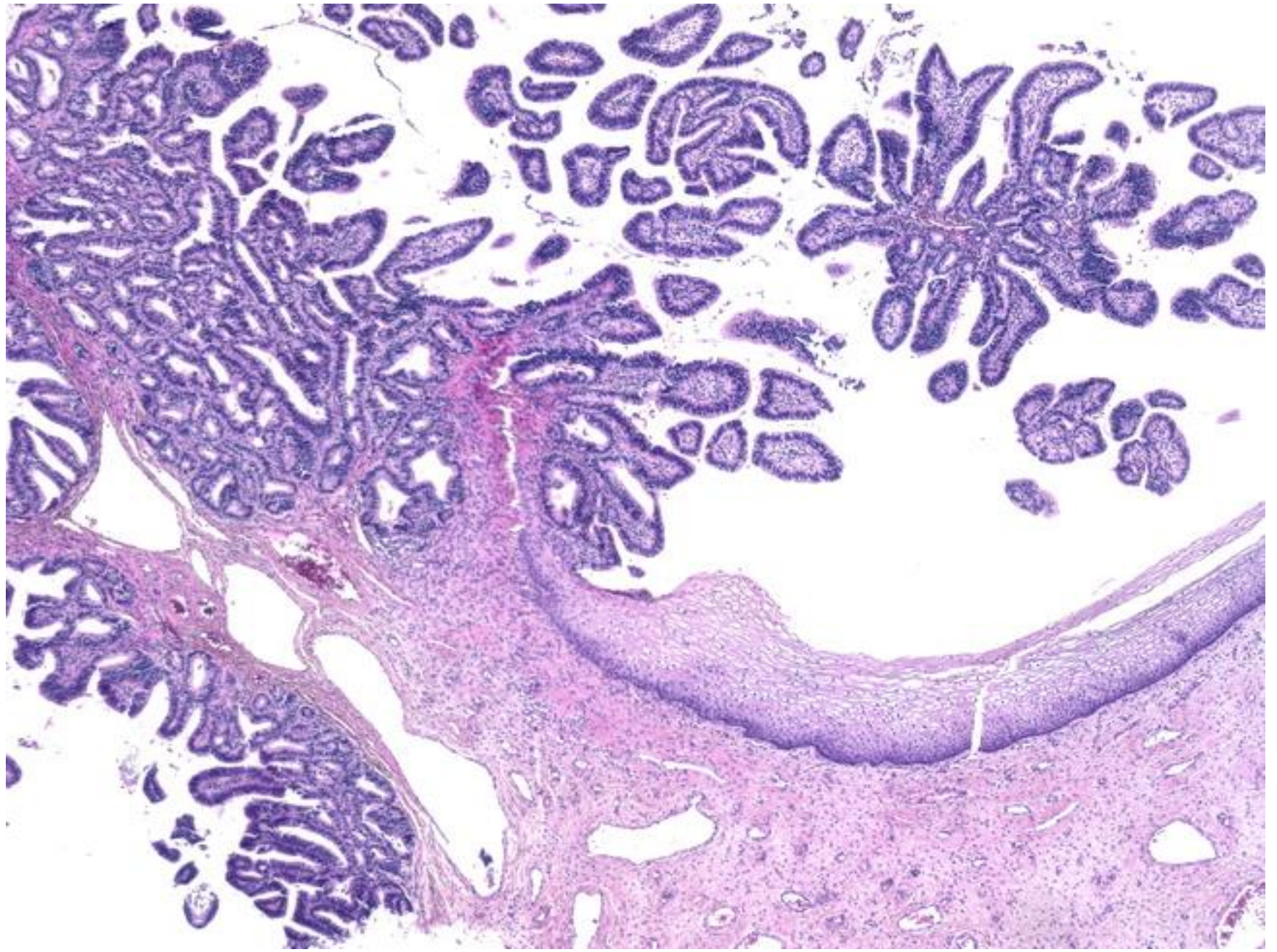
What is the lesion?

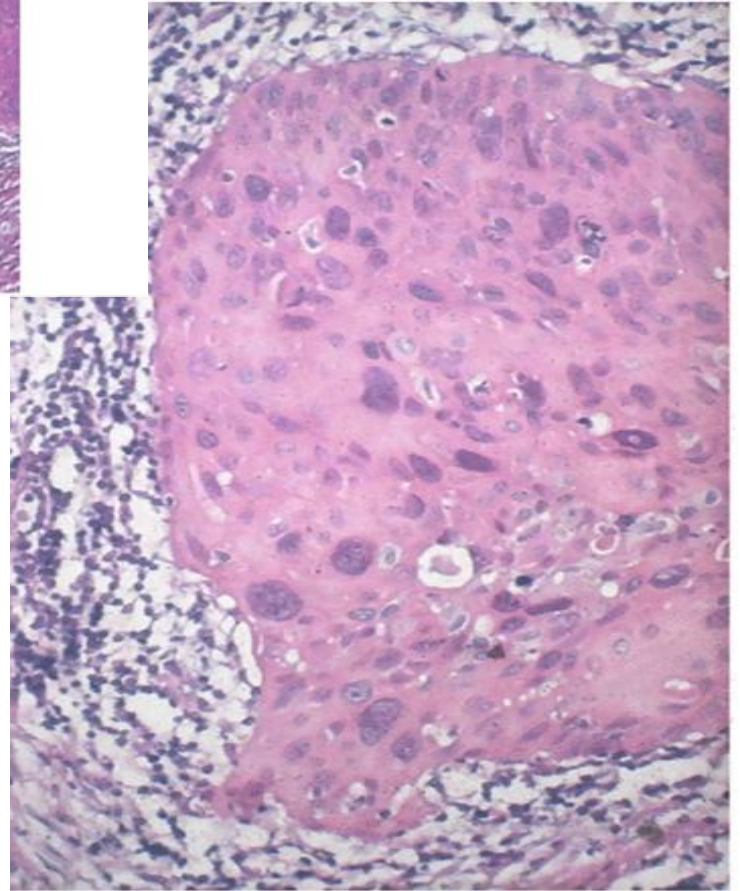
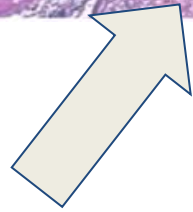
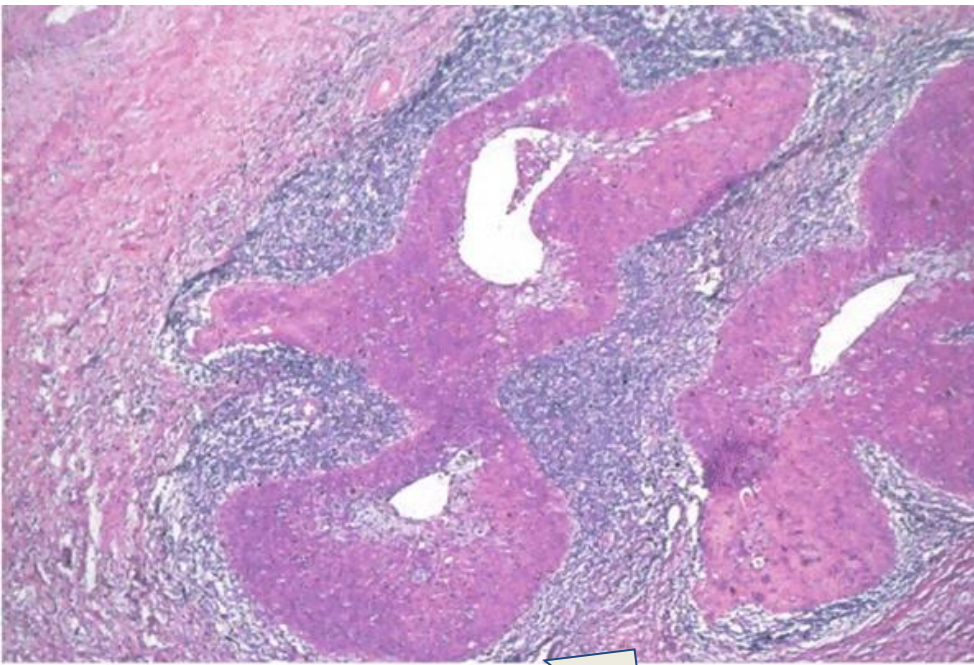












References

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