

## Slide section 4

# Female Genital Tract and Breast Diseases

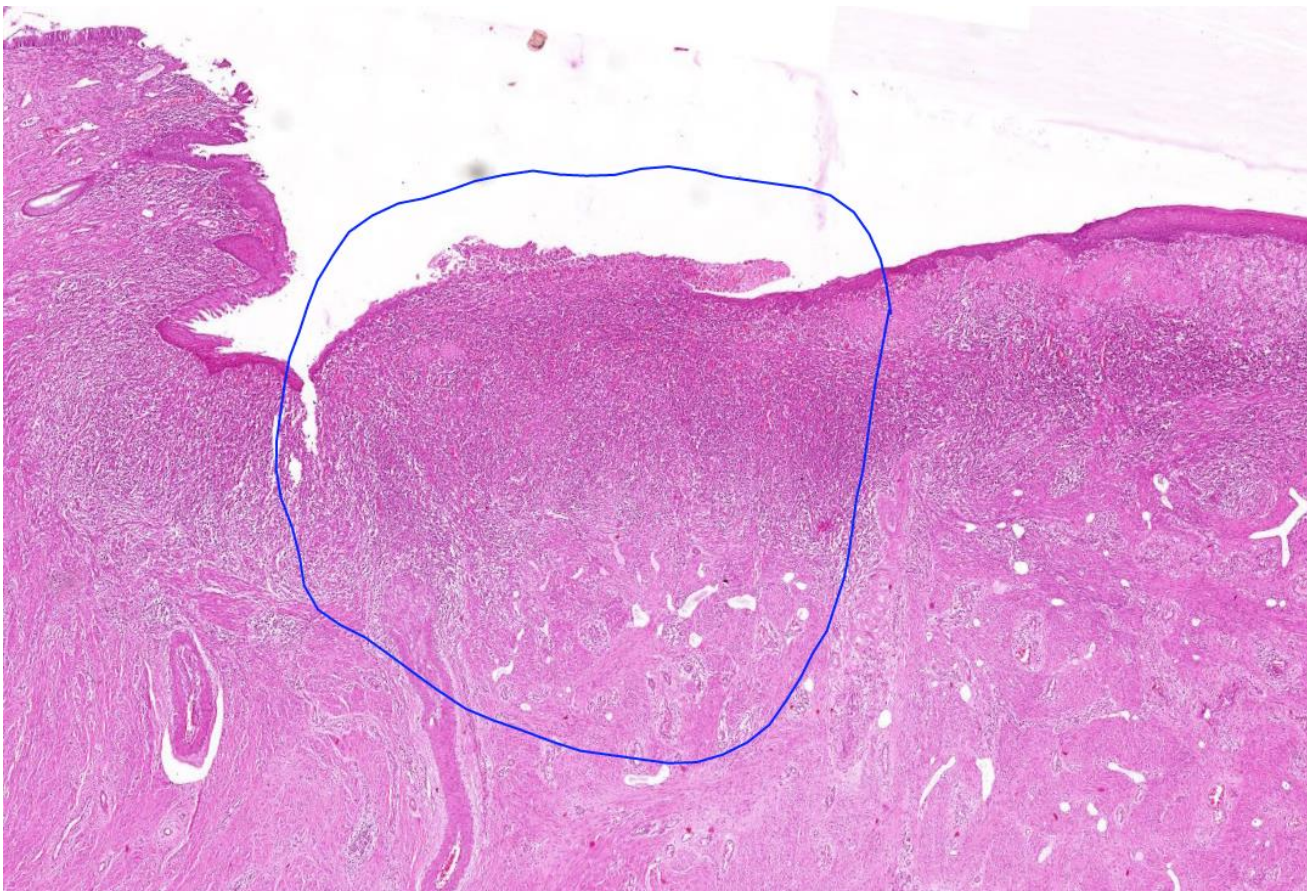
**All slides stain: H&E**

- ☐ Chronic cervicitis.
- ☐ Non-atypical endometrial hyperplasia.
- ☐ Endometrioid adenocarcinoma.
- ☐ Non-proliferative and proliferative diseases of the breast without epithelial atypia.
- ☐ Breast: Invasive ductal carcinoma of no special type + ductal carcinoma in situ (DCIS), comedo variant

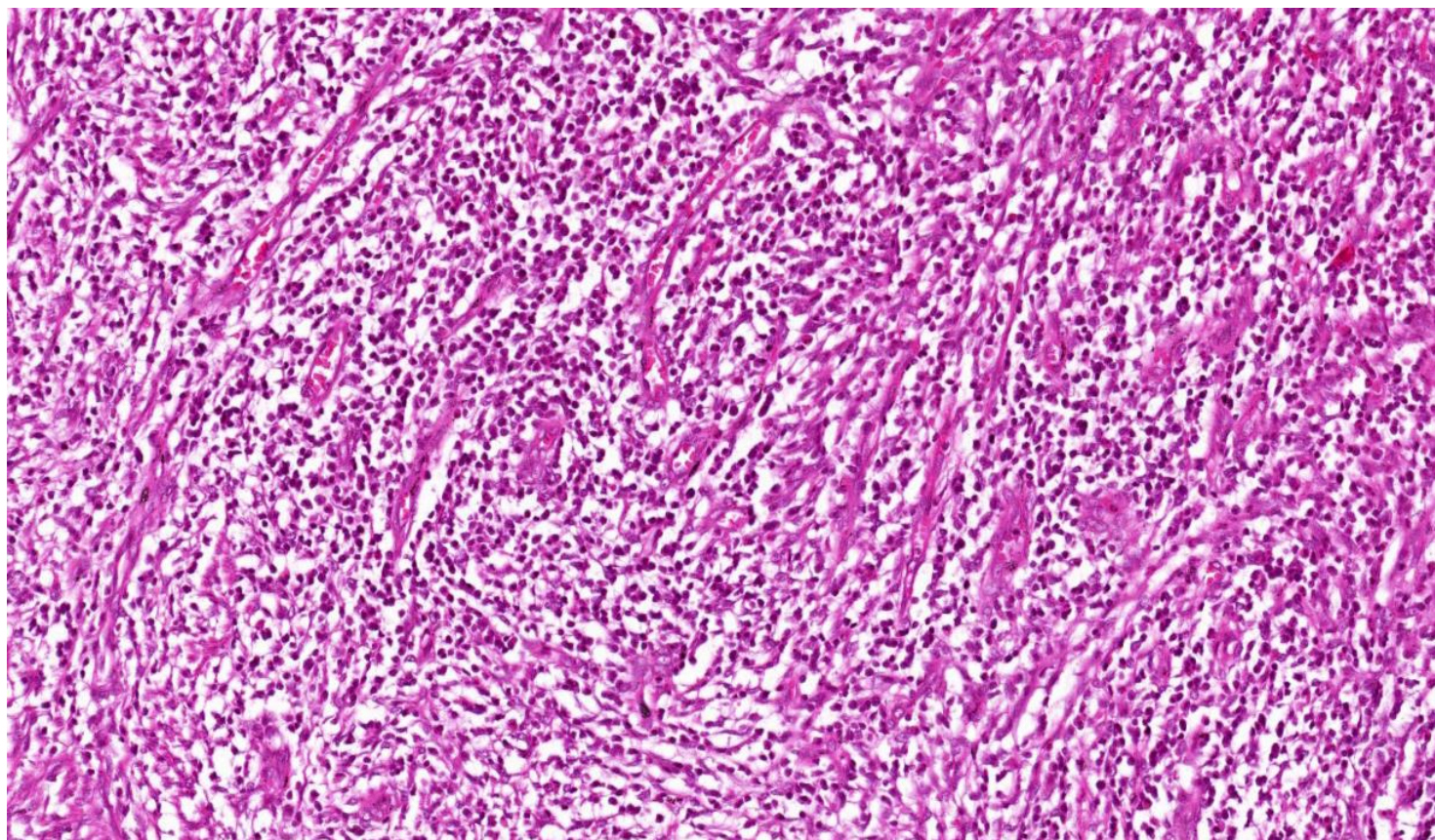
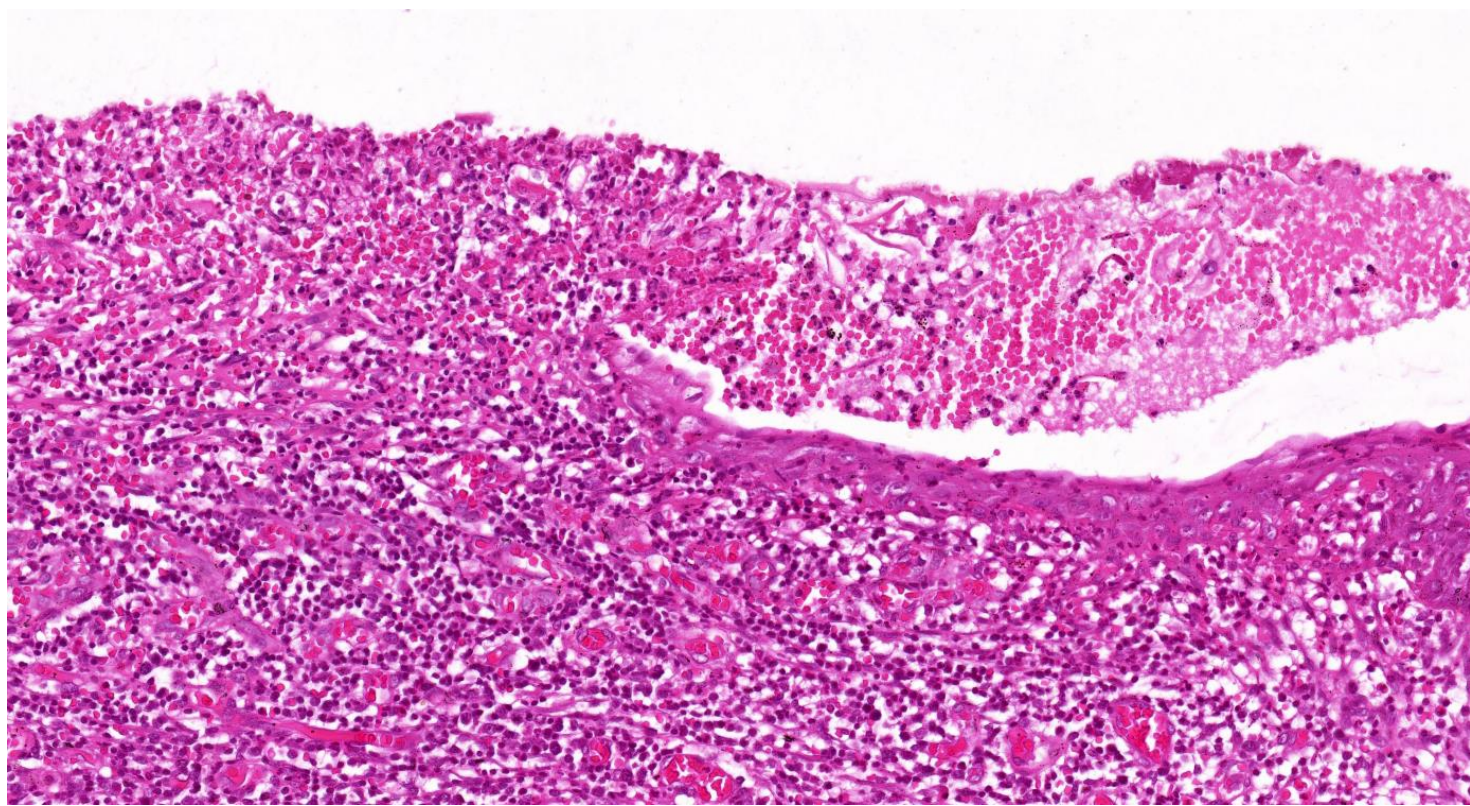
**Organ: Uterine cervix** connective tissue and smooth muscles wall, lined by single-layered mucous-secreting cells (endocervix), respectively, stratified squamous epithelium (exocervix)

**Lesion: Chronic cervicitis:** the inflammation of the cervix (exocervix). Microscopically:

- ☐ There is a loss of the epithelial (stratified squamous type) lining = erosion / ulceration and a massive inflammatory infiltrate (a mixture of polymorphs, lymphocytes, plasma cells and histiocytes).
- ☐ The superficial part of the erosion present necrotic material and beneath the inflammatory cell accumulation, the granulation tissue proliferates.
- ☐ At the ulcer bed one can find: numerous hyperemic new-formed capillaries with endothelial cell swelling, inflammatory cells, perivascular cuffs and interstitial edema.









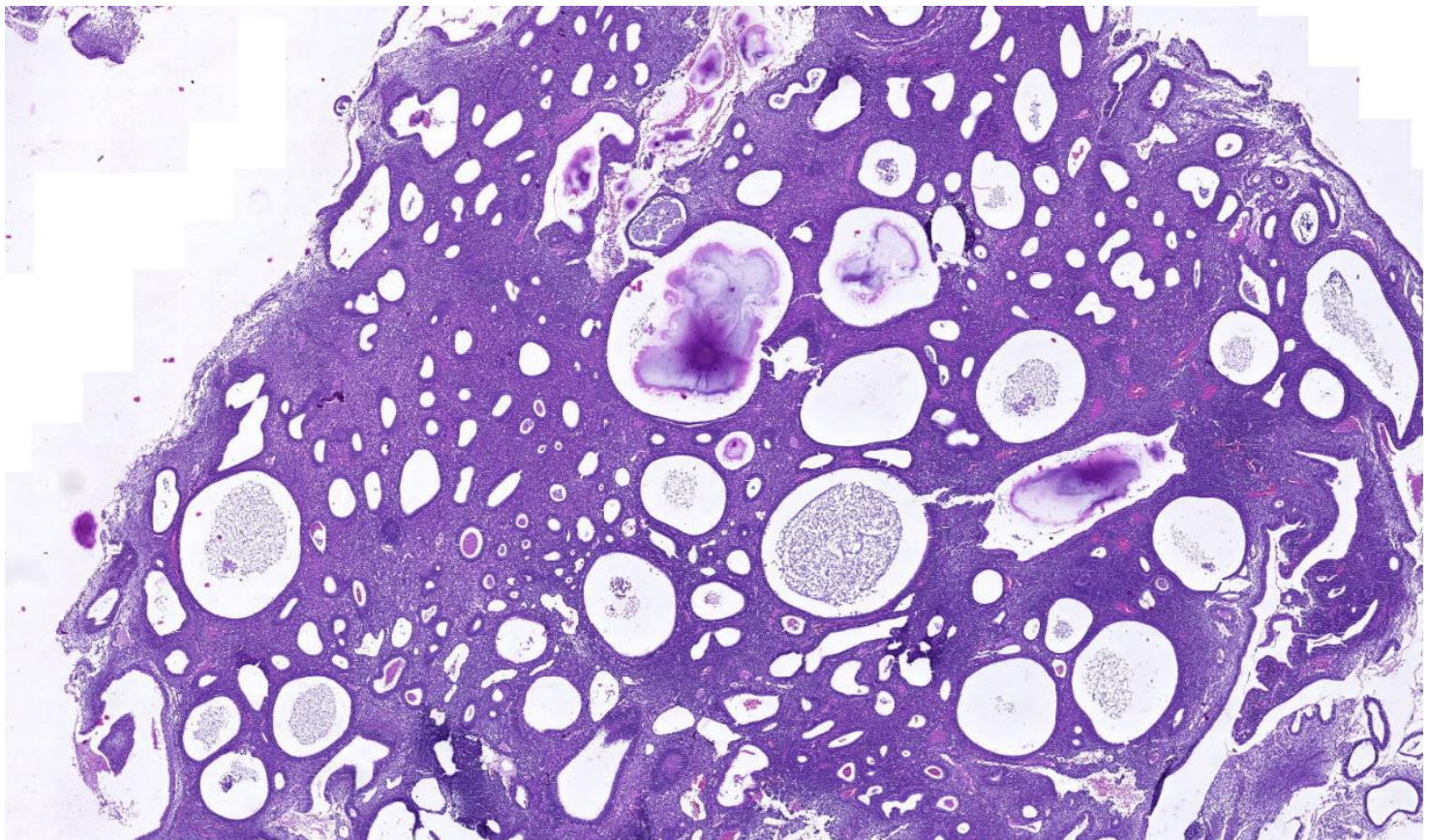
Organ: **Endometrium**

Cellular chorion / stroma

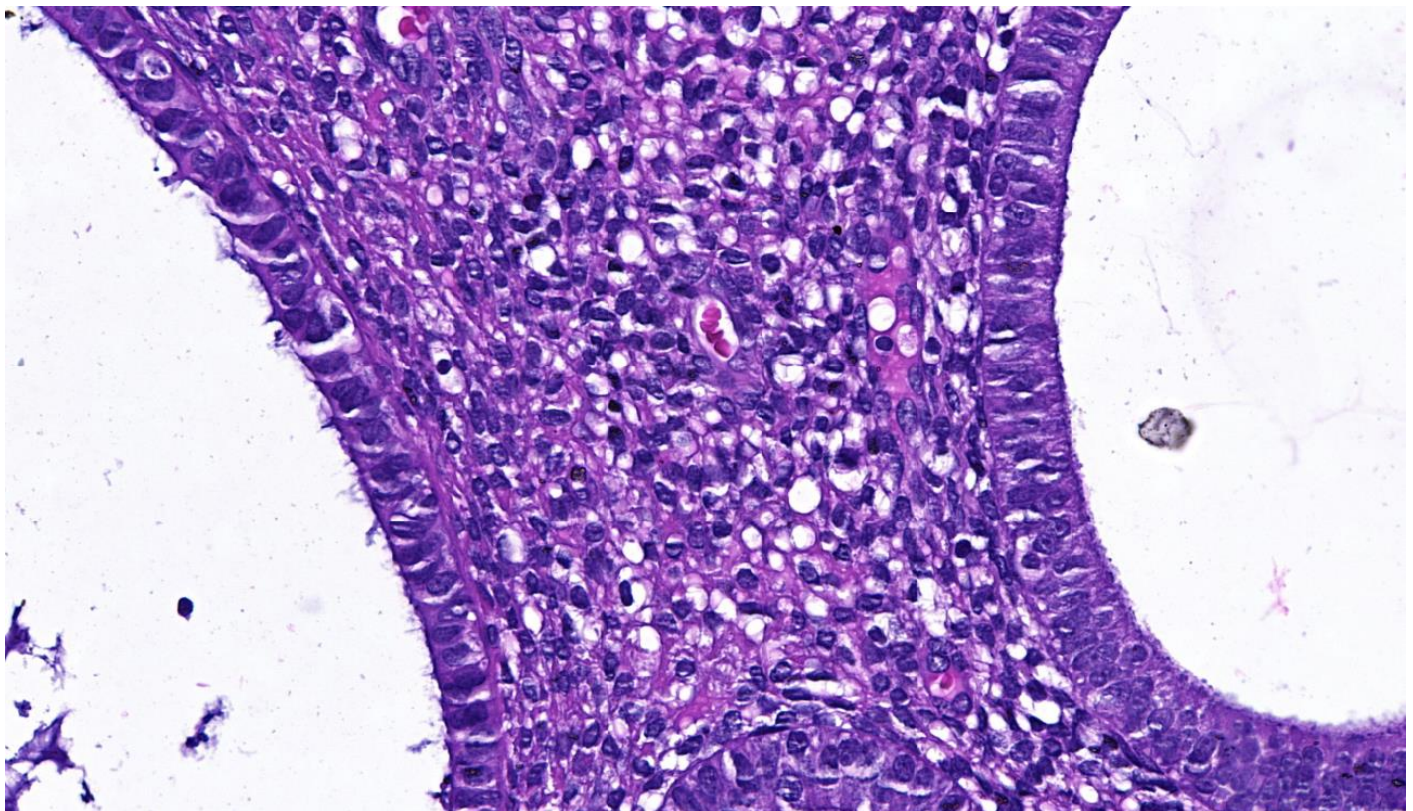
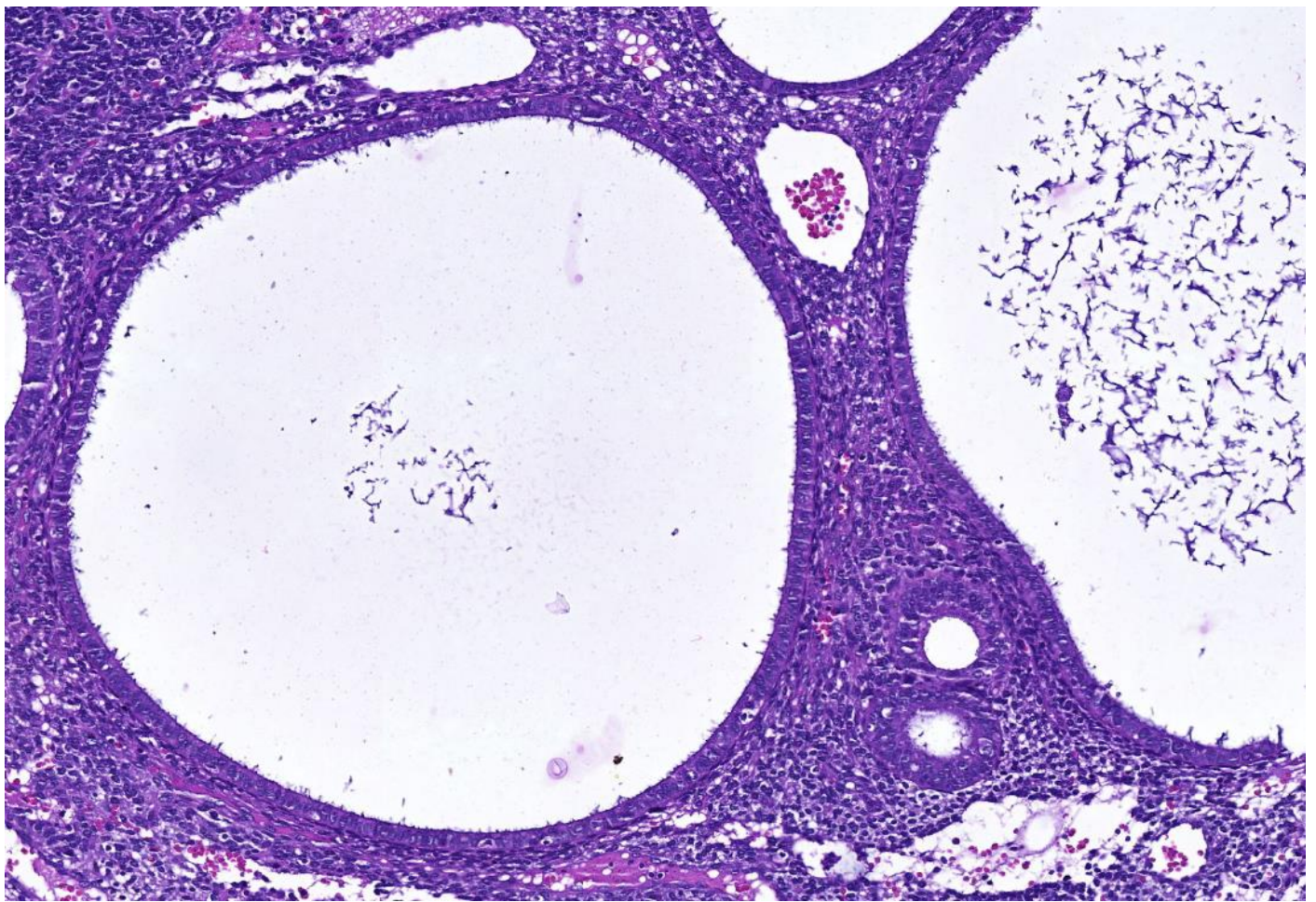
Glands with morphology and epithelial lining related with the type & amount of female hormones

Lesion: **Non-atypical endometrial hyperplasia** (formerly known as simple / cystic endometrial hyperplasia). **Microscopy** - curettage specimen (small fragments of endometrium: glands + stromal cells intermingled with fresh blood) presents:

- glandular crowding some with cystic dilatation.
- an increase in the gland-to-stroma ratio ( $>$  normally 1:3), but the stroma is still abundant and composed of spindle cells with scant cytoplasm. Interstitial edema and red blood cell suffusions are present.
- irregular aspect of the glands:
  - some are straight, small tubular structures lined by a tall, tightly packed, basophilic cells, with normal perpendicular orientation to the basement membrane (no cytological atypia);
  - other glands are obstructed at their necks by epithelial growth and adjacent stromal pressure. The resulting intraluminal pressure produces varying degree of cystic dilatation of the glands with flattened epithelium.









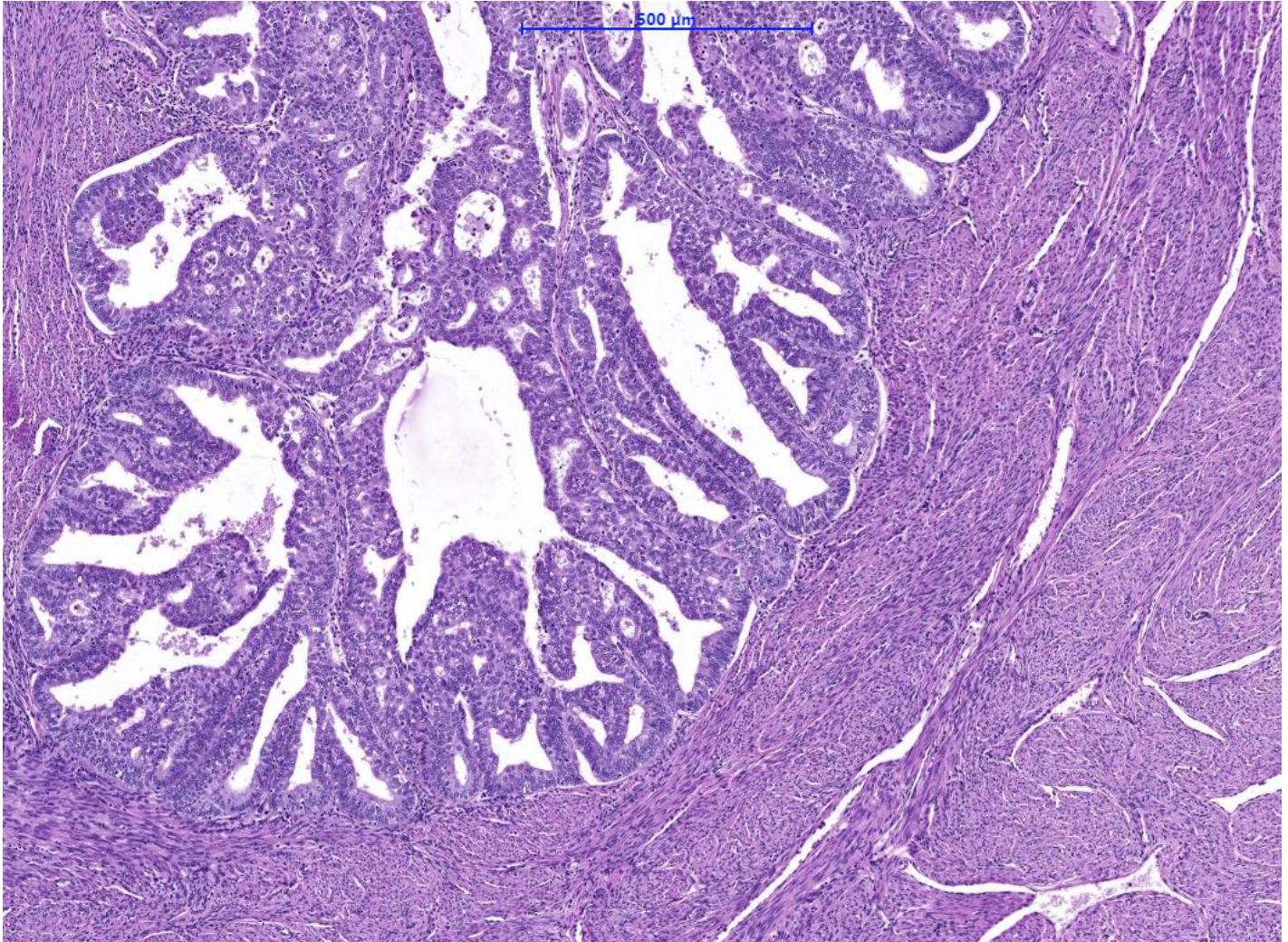
Organ: **Uterine body** Endometrium + myometrium (plexiform smooth muscle) – hysterectomy specimen

Lesion: **Endometrioid adenocarcinoma**

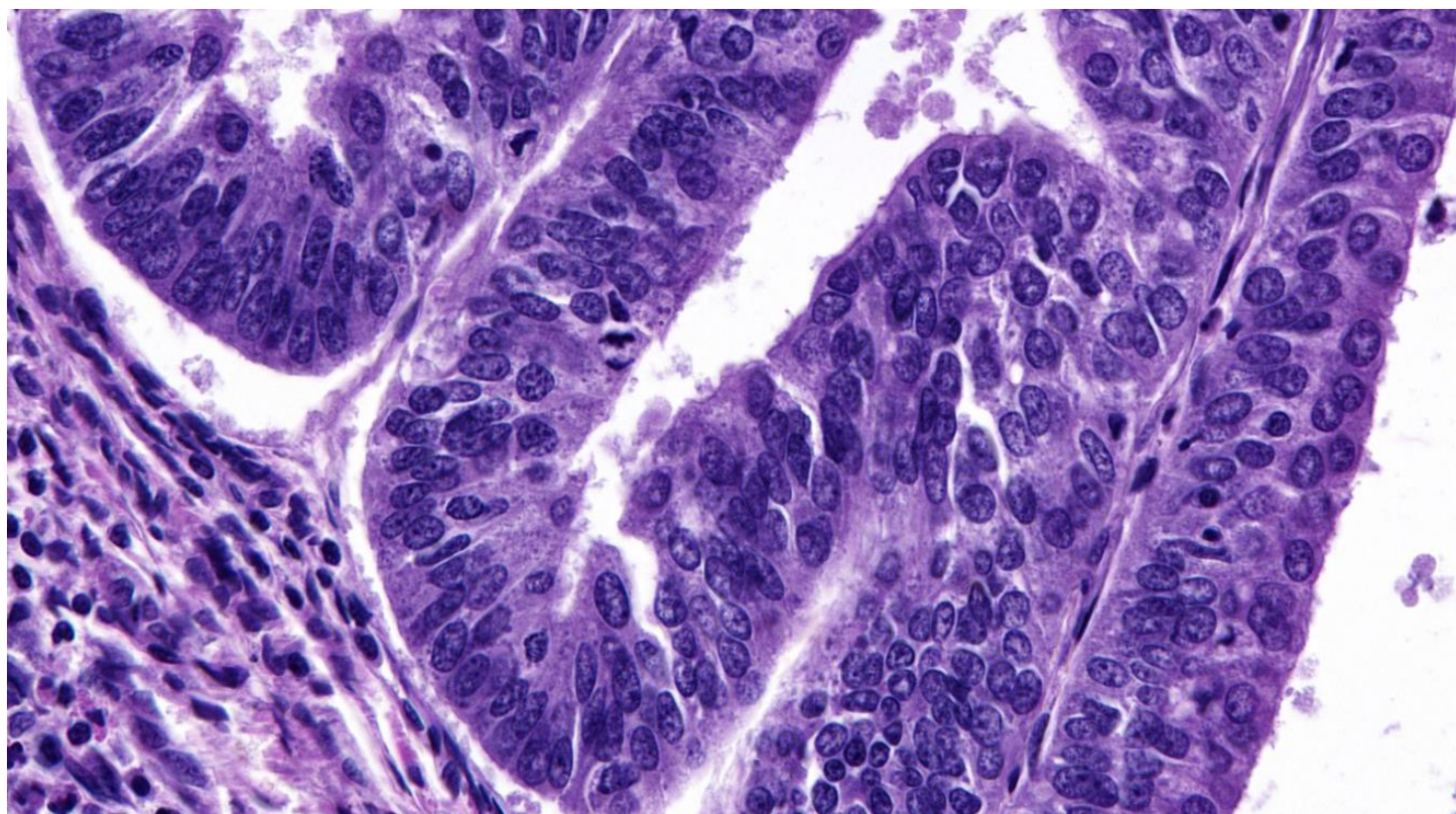
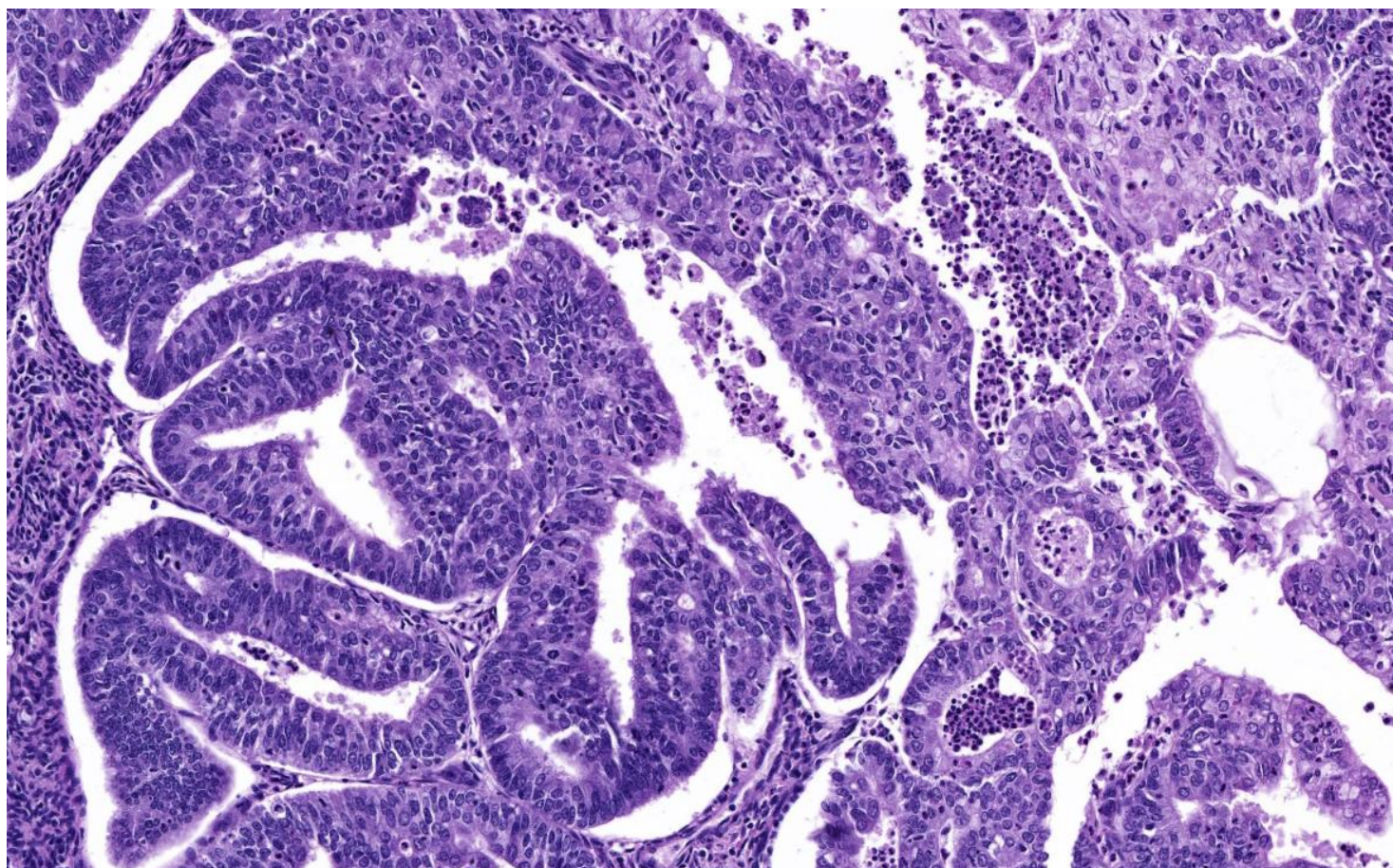
It arises in postmenopausal women and it is linked to prolonged estrogenic stimulation of the endometrium.

**Microscopically:** The well-differentiated form is composed entirely of crowded malignant glands (disposed “back-to-back”) with inconspicuous stroma. The malignant glands invade myometrium.

Intensive basophilic malignant glands with papillary projections and buds, lined by one or more irregular rows of carcinomatous cells: pleomorphism, nucleus hyperchromasia / vesicular nucleus with prominent nucleolus, atypical mitoses.





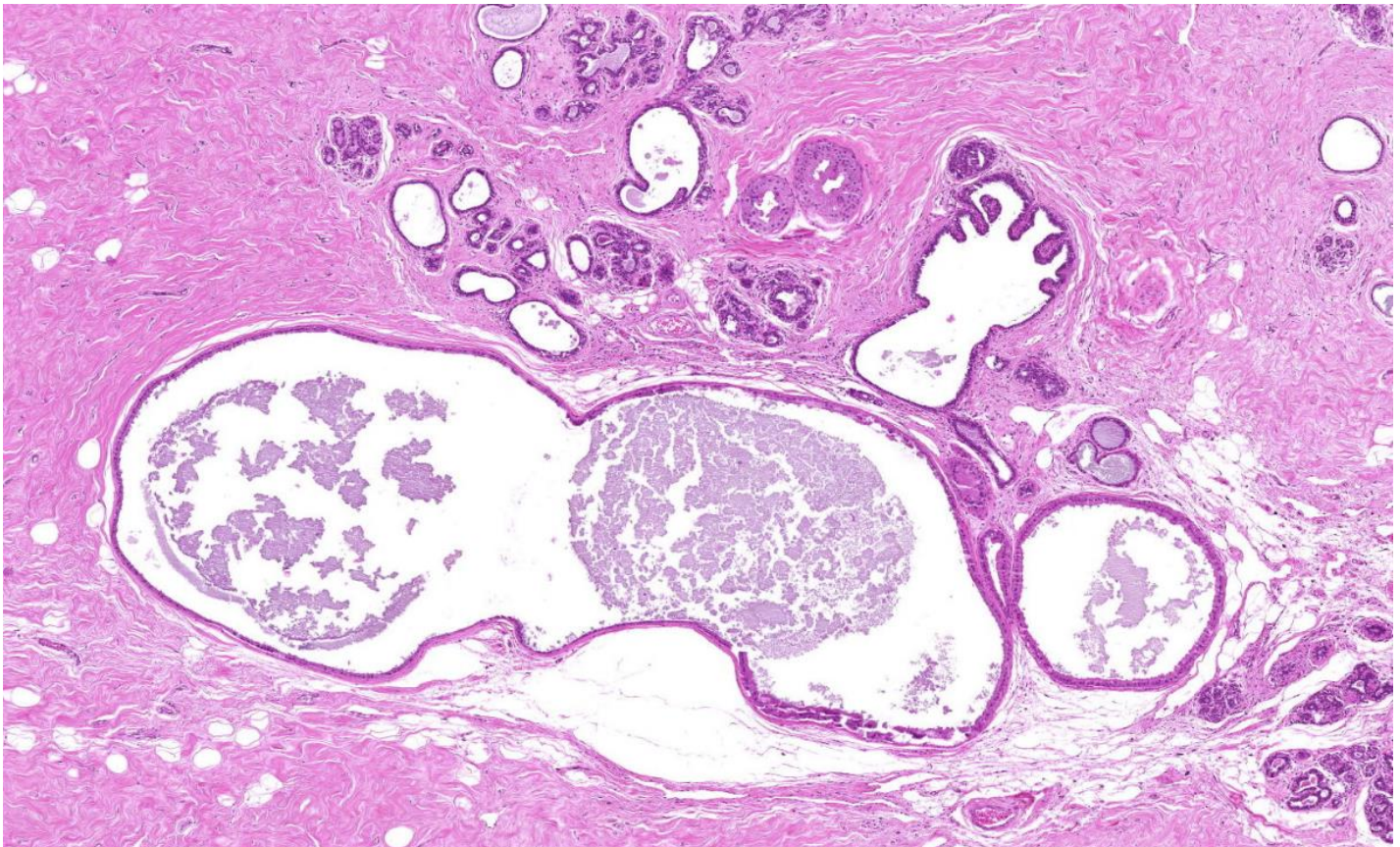




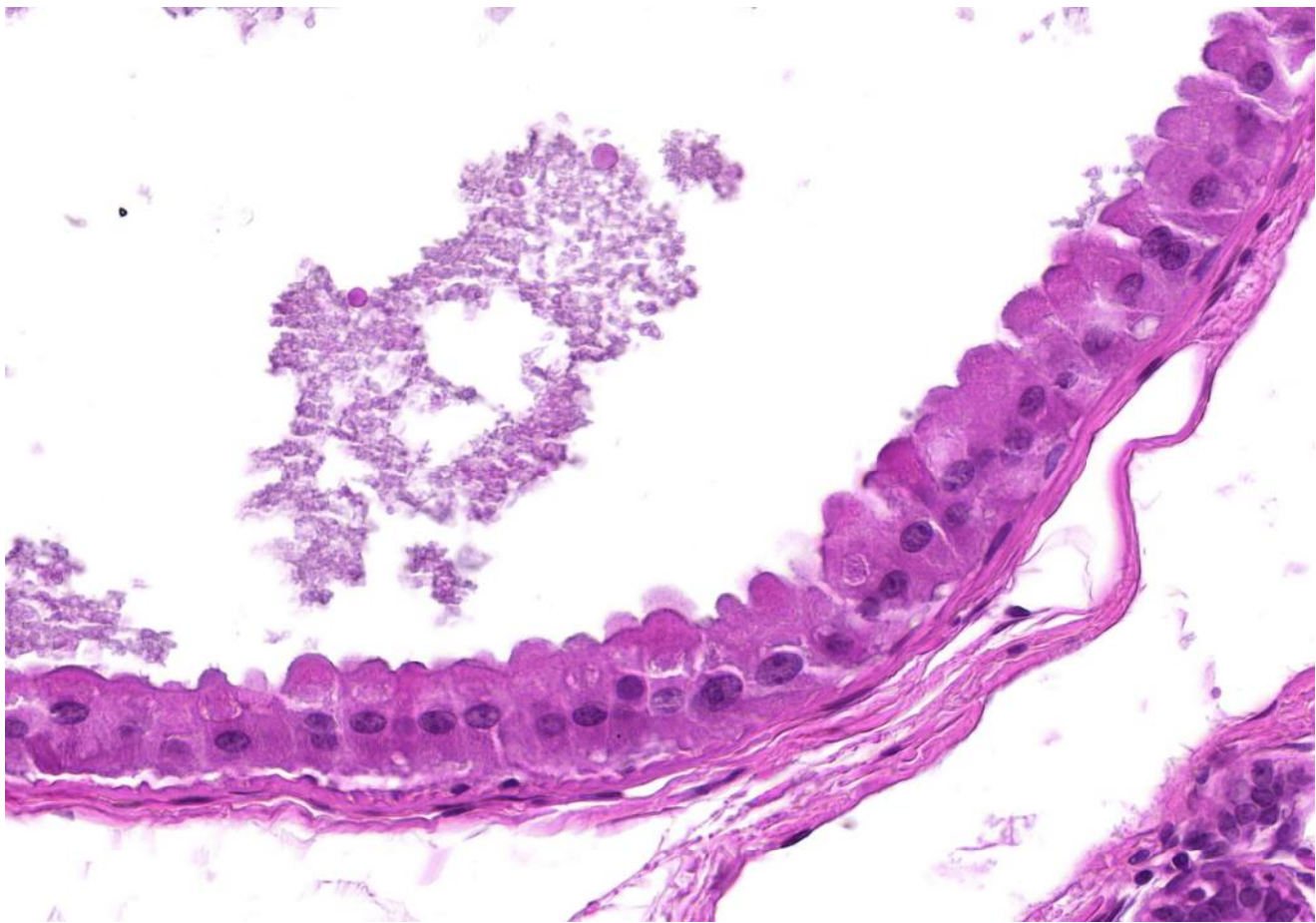
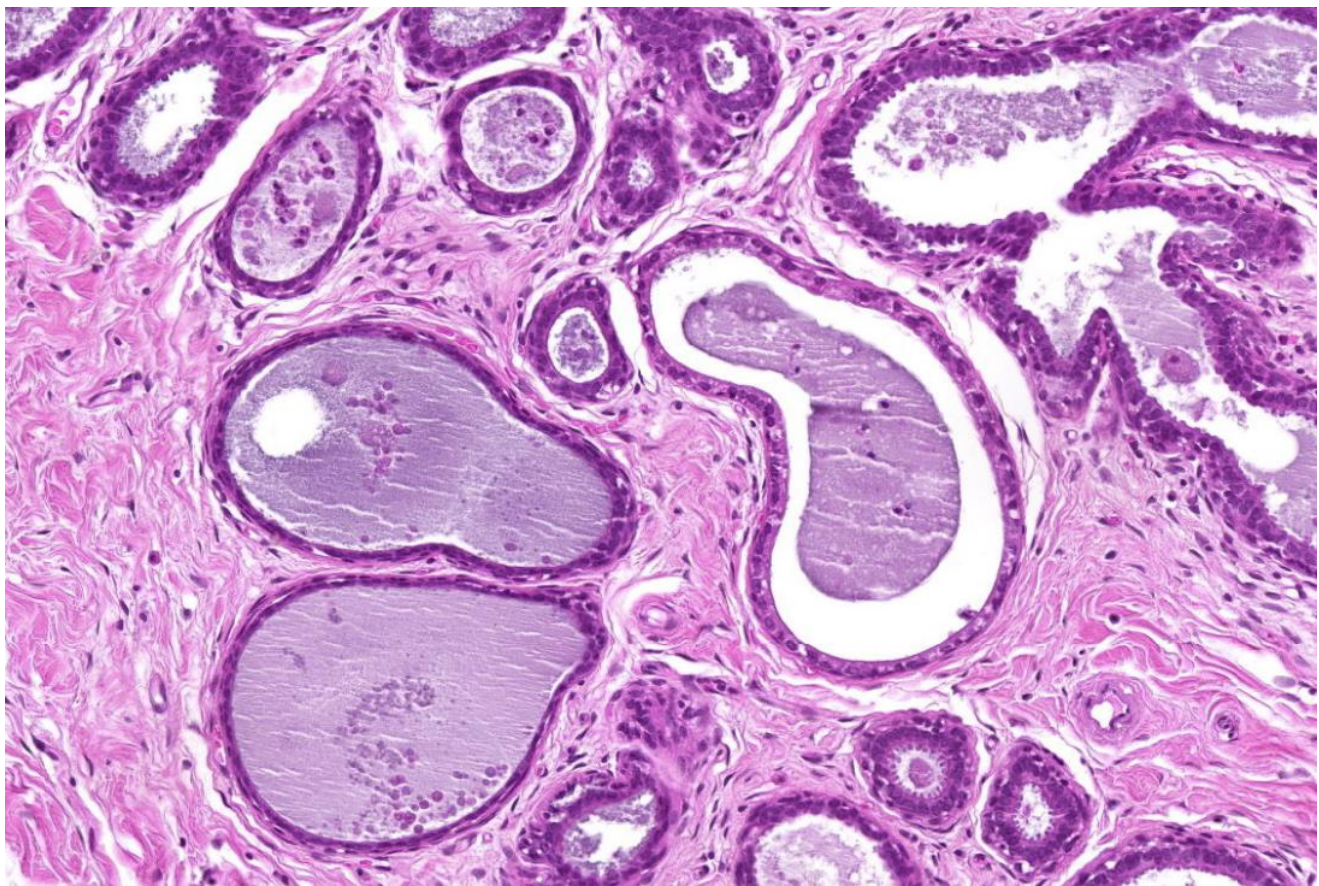
Organ: **Breast** lobules of acini and ducts lined by double layered epithelium: luminal cuboidal secretory cells, basal flattened myoepithelial cells separated by loose & dense connective tissue and fat.

Lesion: **Nonproliferative breast change or fibrocystic change + proliferative breast disease without atypia** consisting of:

- cyst formation and fibrosis. In smaller cysts, the epithelium is cuboidal to columnar, in larger cysts, it may be flattened (simple cysts). Frequently, cysts are lined by large polygonal cells having an abundant eosinophilic cytoplasm, with round, small, deeply chromatic nuclei, so-called apocrine metaplasia (metaplastic cysts). Stroma is highly fibrotic, dense and hyalinized, without its normal, myxomatous appearance.
- usual epithelial hyperplasia “epitheliosis” proliferation of the duct lining epithelium (beyond the normal double layer) presenting more than 4 cell layers, often bridging across duct lumina. Nuclei may be so oriented as to present a streaming pattern. Secondary spaces are slit-like, irregular and typically peripheral in location. There is no cellular / nuclear atypia.
- sclerosing adenosis consists of small ducts, canaliculi and gland buds proliferation within a fibrous stroma. The lobular arrangement is maintained, some well-defined glands can be identified, but many of them are so closely aggregated that glands are backed up to each other (“adenosis”). The fibrotic stroma overgrowth (“sclerosing”) distorts and compresses the glands to create the appearance of solid cords of cells lying within dense stroma. In cases that are difficult to distinguish from invasive carcinoma, immunohistochemistry can highlight the preservation of myoepithelial cells around distorted ducts.









Organ: **Breast**

Lesion: **Invasive ductal carcinoma of the breast (NST) + ductal carcinoma *in situ* (DCIS)**

It may occur at any age, with a peak incidence at or after menopause. On the same histopathological section are present:

1. **Carcinoma in situ (noninvasive carcinoma)**, ductal carcinoma in situ (DCIS) type meaning that the malignant clonal proliferation of epithelial cells is limited to ducts and lobules by the basement membrane, so myoepithelial cells are preserved in the involved ducts / lobules. The histological variant is *comedo DCIS* (intraductal necrosis is present and commonly calcified, architectural growth of malignant cells: solid mainly) composed of very large, pleomorphic cells, which have abundant eosinophilic cytoplasm and irregular nuclei, commonly with prominent nucleoli (nuclear high-grade). Comedo DCIS of high nuclear grade is associated with the following aspect:

2. **Invasive (infiltrating) ductal carcinoma of no special type (NST)** named also **scirrhous carcinoma** – due to its hard consistency, given by dense fibrous tumor stroma. **Histologically**, the tumor consists of malignant duct lining cells disposed in cords, nests, tubules, abortive glands, anastomosing masses and mixture of all these, embedded in a dense collagen stroma. Nuclear pleomorphism is pronounced and mitotic count excessive, which along with poorly formed tubules, impart a high histologic grade (Nottingham score 8, meaning a poorly differentiated tumor G III, by the modified Bloom and Richardson method)

