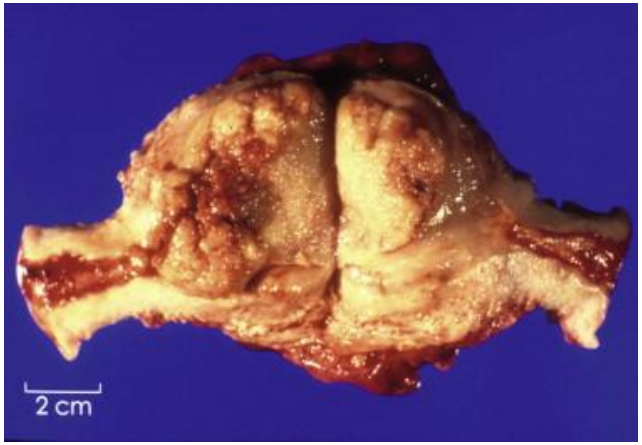
Endometrioid Endometrial Carcinoma

- Selected Morphologic Subtypes and Applicable Differentials



Clement &Young , Atlas GYN Surg Path, 3rd Ed.

Dr. Saul Offman

Maritime Pathology Web Conference

November 18, 2014

Capital Health

DALHOUSIE UNIVERSITY
Inspiring Minds

Disclosure

- I have no financial relationships to disclose

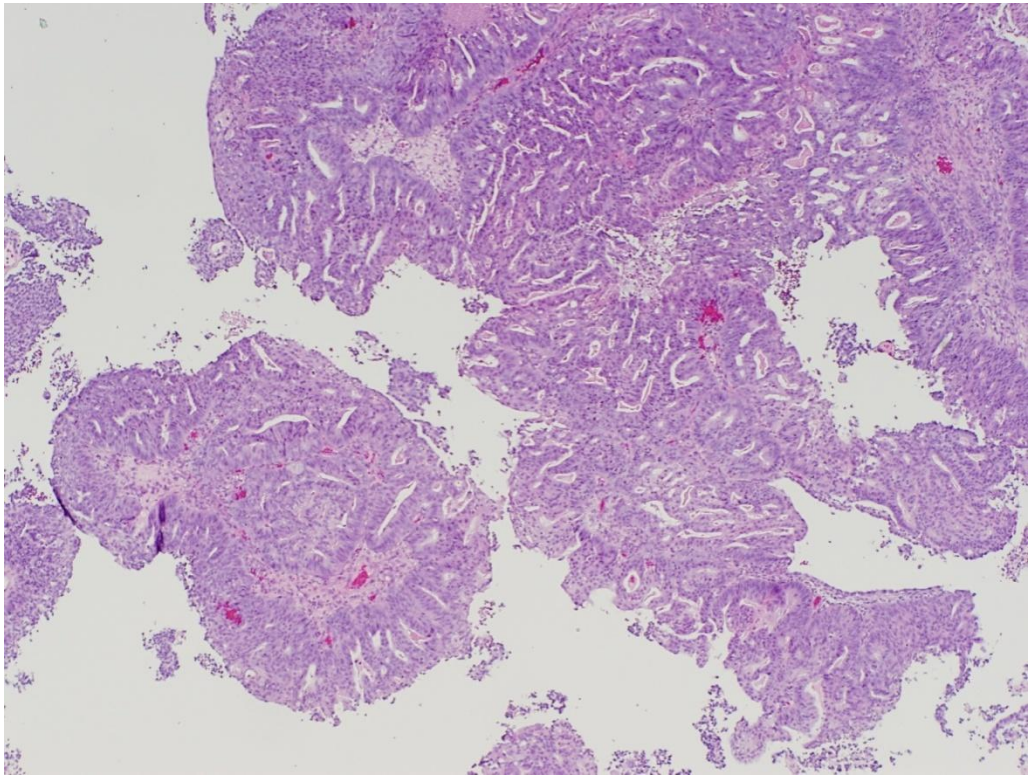
- and -

- I will not discuss off label use and/or investigational use in my presentation

EEC, Usual type

- 80 % of endometrial carcinomas
- Postmenopausal women
- Extrauterine presentation uncommon
- RF: unopposed estrogen
- Usually low grade, associated hyperplasia

EEC, Usual type



- Tubular glands
- Gland confluence
  - cribriform
- Labrynthine pattern
- Columnar cells
  - Stratification, mits
- Squamous diff.
  - B9, malignant

EEC Subtypes

- Typical
- Secretory
- With papillae
  - Villoglandular
  - Small nonvillous papillae
- Microglandular
- Sertoliform
- CHEC
- With metaplastic changes
  - Squamous, clear cell change, surface metaplastic changes, ciliated, oxphilic, spindled cells

* Mucinous Ca

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Outline

- EEC with clear cell alterations
  - CCC
- EEC with papillary patterns
  - USC (including endometrioid-like USC)
- EEC, high grade
  - *Dedifferentiated EC*, MMMT
- EEC with mucinous component (*microglandular*)
  - Microglandular hyperplasia

EEC with Clear cells

- Secretory carcinoma
- Glycogenated squamous cells
- Clear cell change (NOS)
  - Glycogen, lipid, mucin, hydropic change

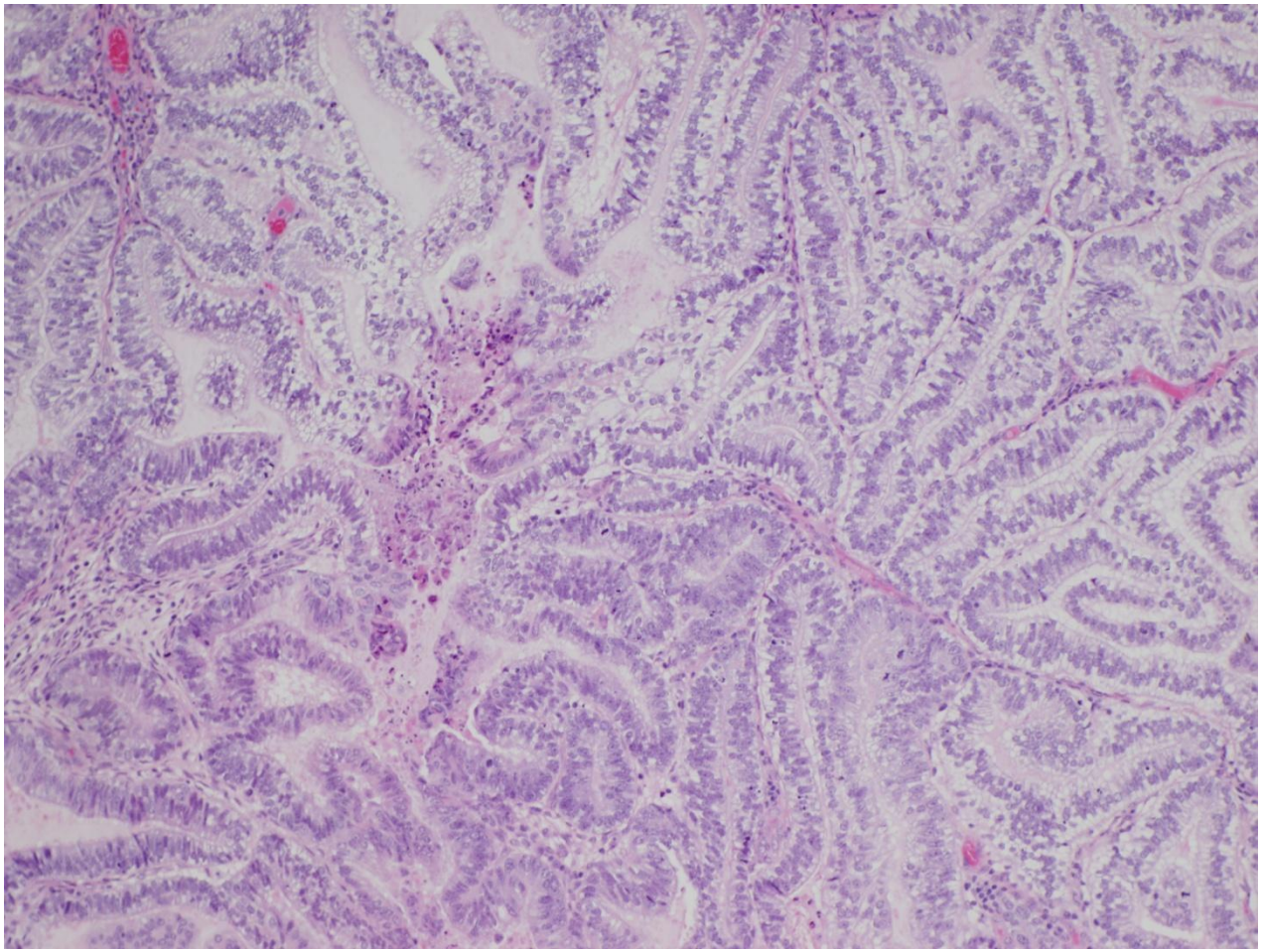
- DDx:
  - Clear cell carcinoma

*many other uterine tumors with clear cells

Secretory carcinoma

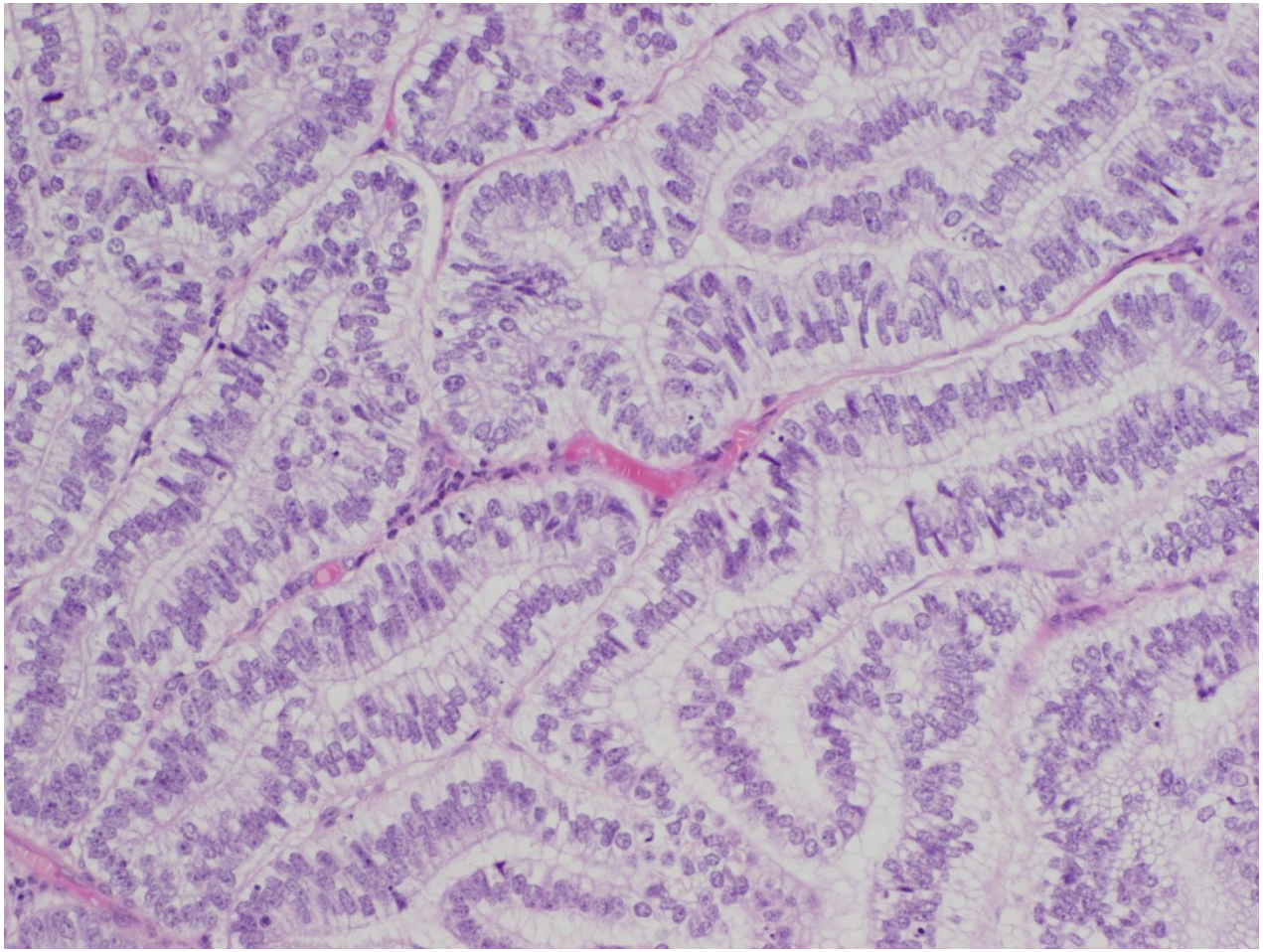
- Rare
- Usually grade 1
- Sub/supranuclear glycogen vacuoles
- Low cytologic grade
- ? Progestational stimulus
- Behave ~ usual type EEC

Secretory carcinoma



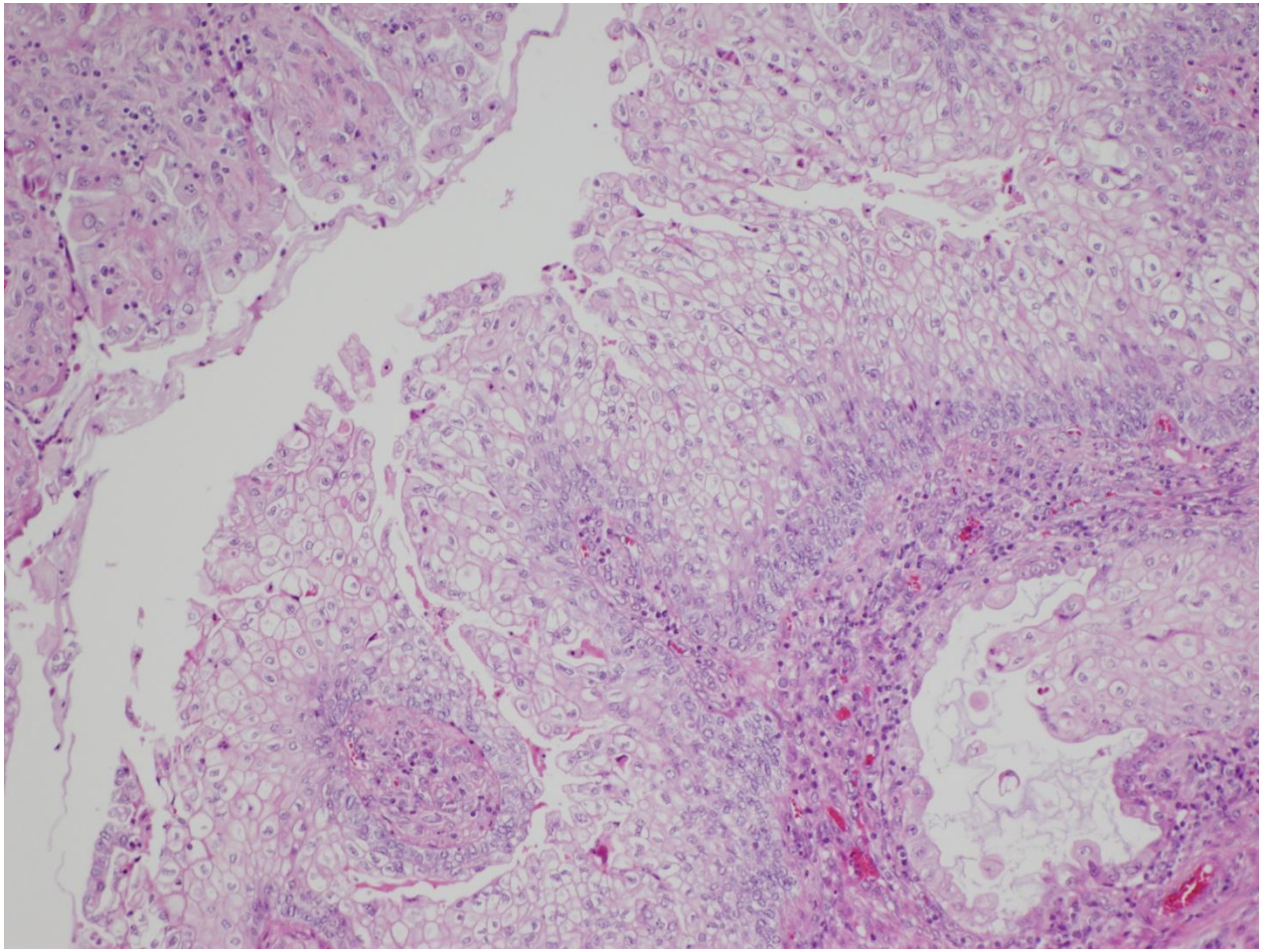
Carcinomatous architecture

Secretory carcinoma

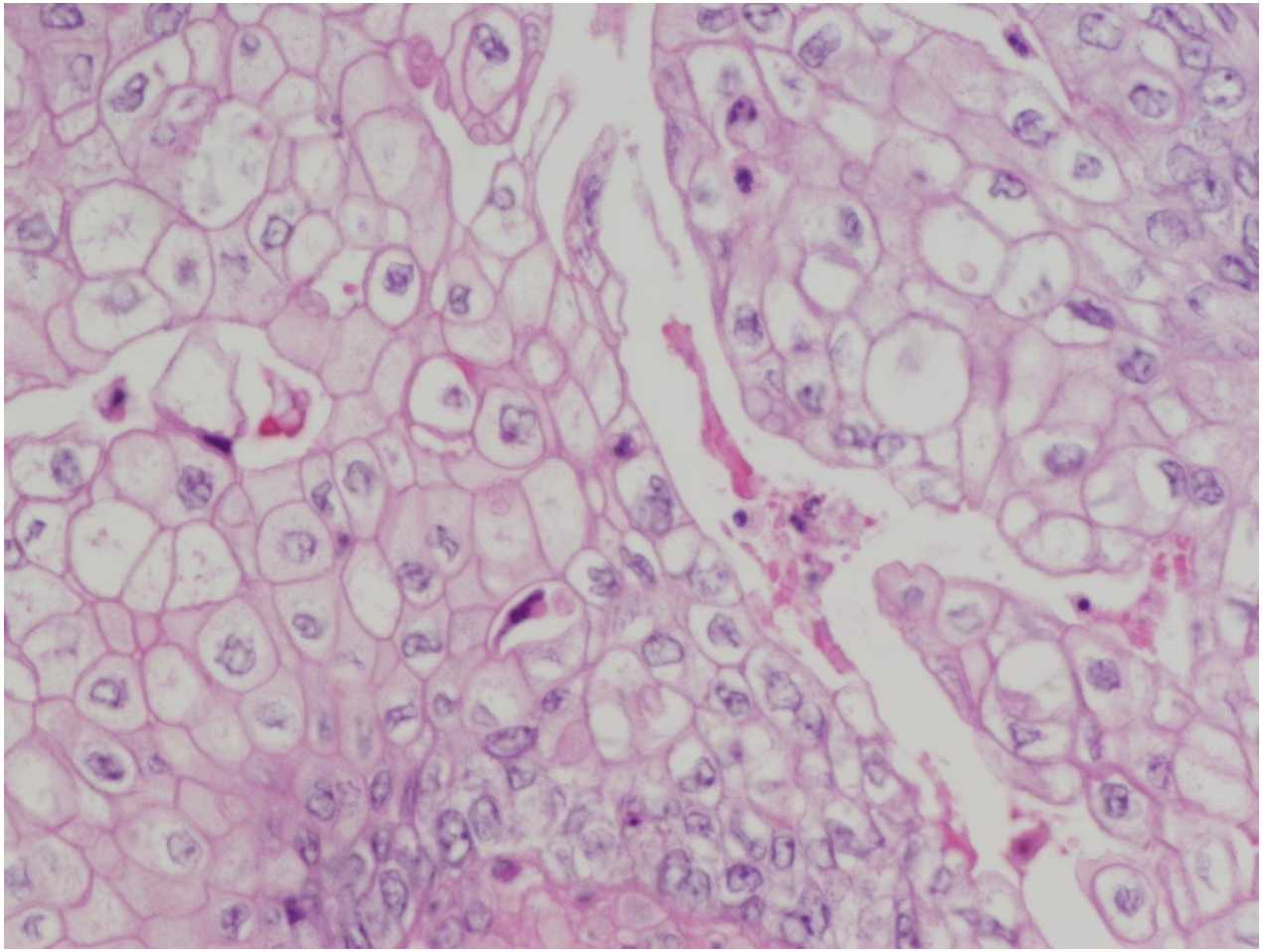


Infra/supranuclear vacuoles, low grade

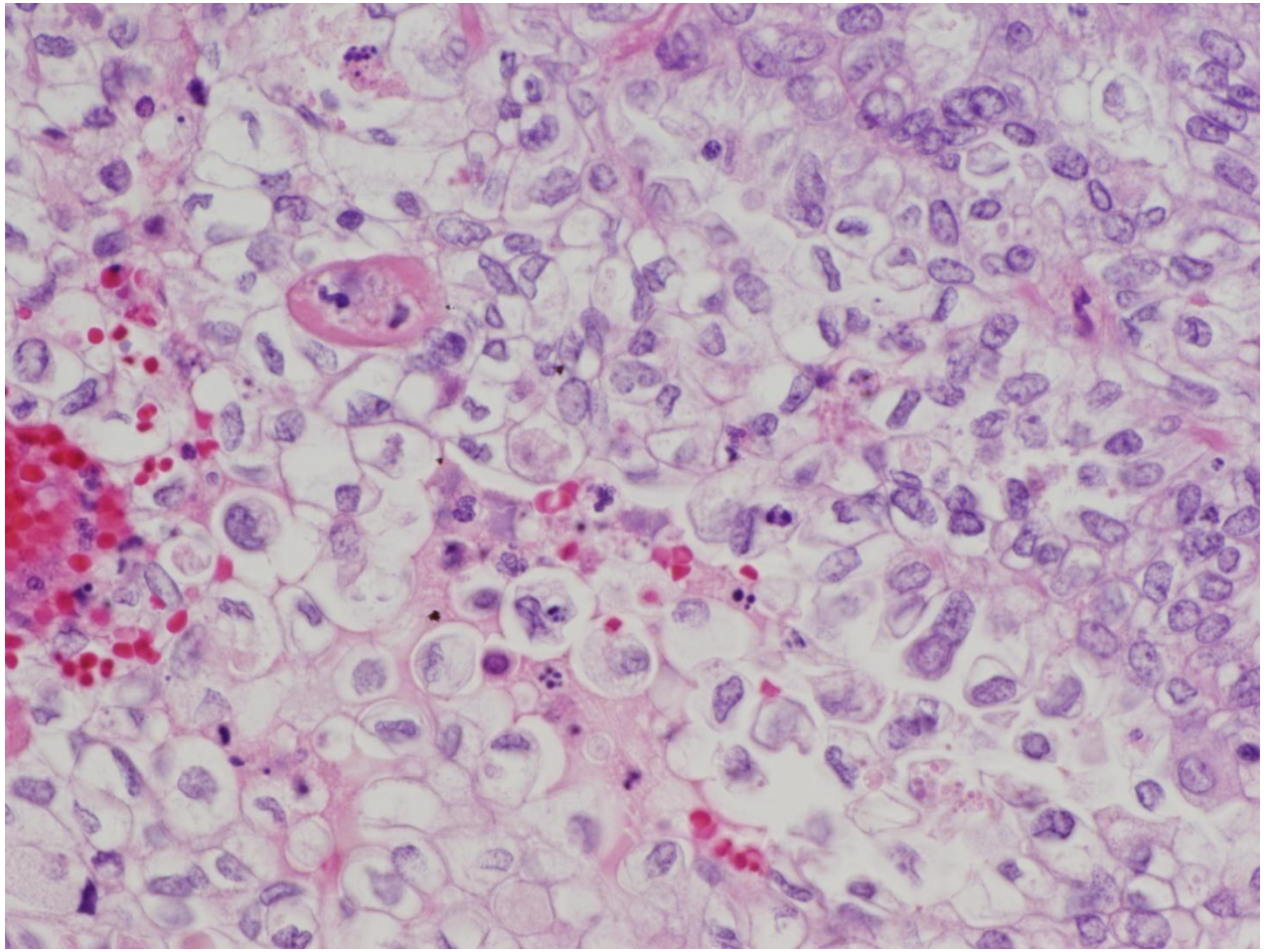
Glycogenated squamous cells



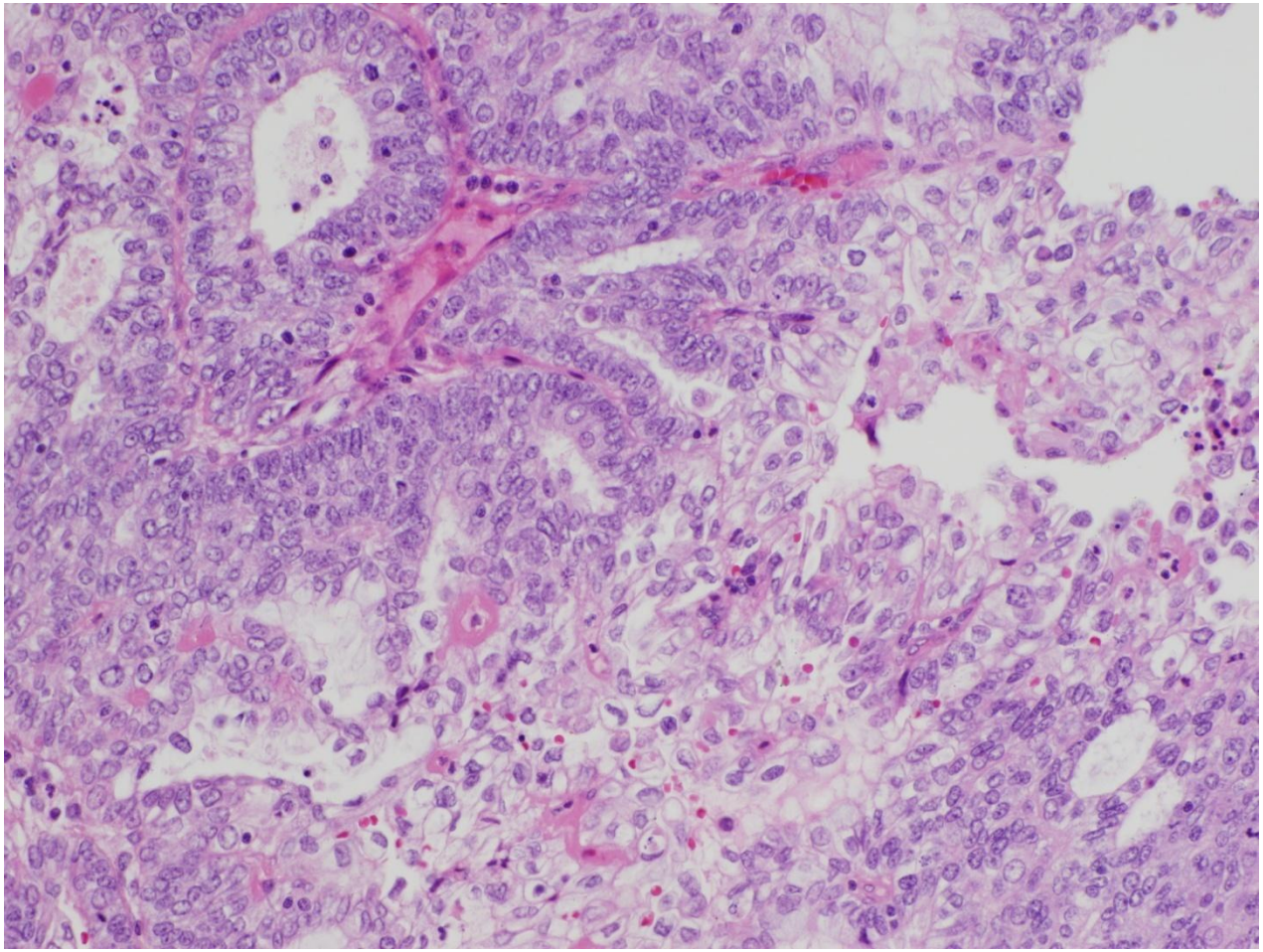
Glycogenated squamous cells



Clear cell change (NOS)

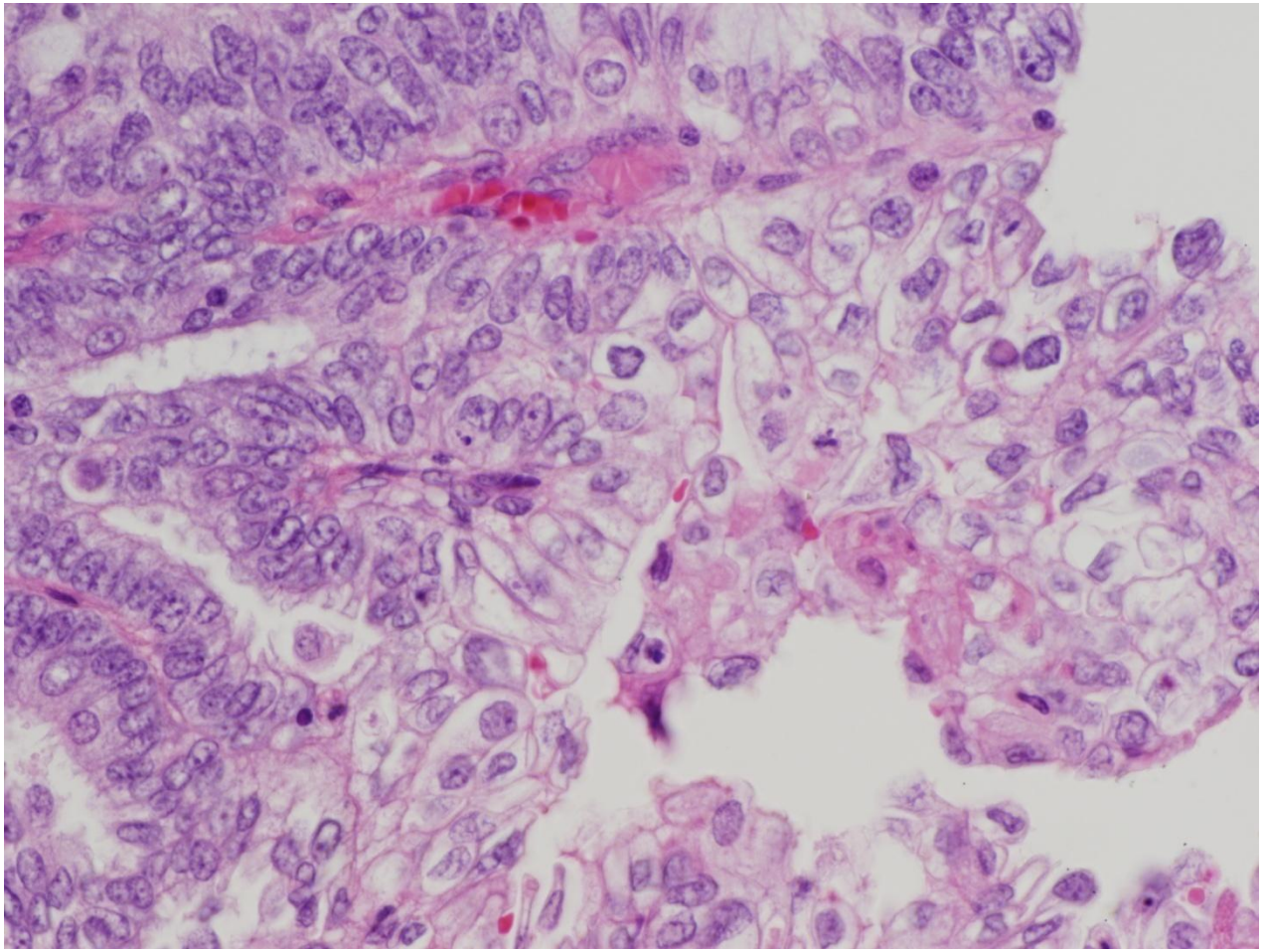


Clear cell change (NOS)



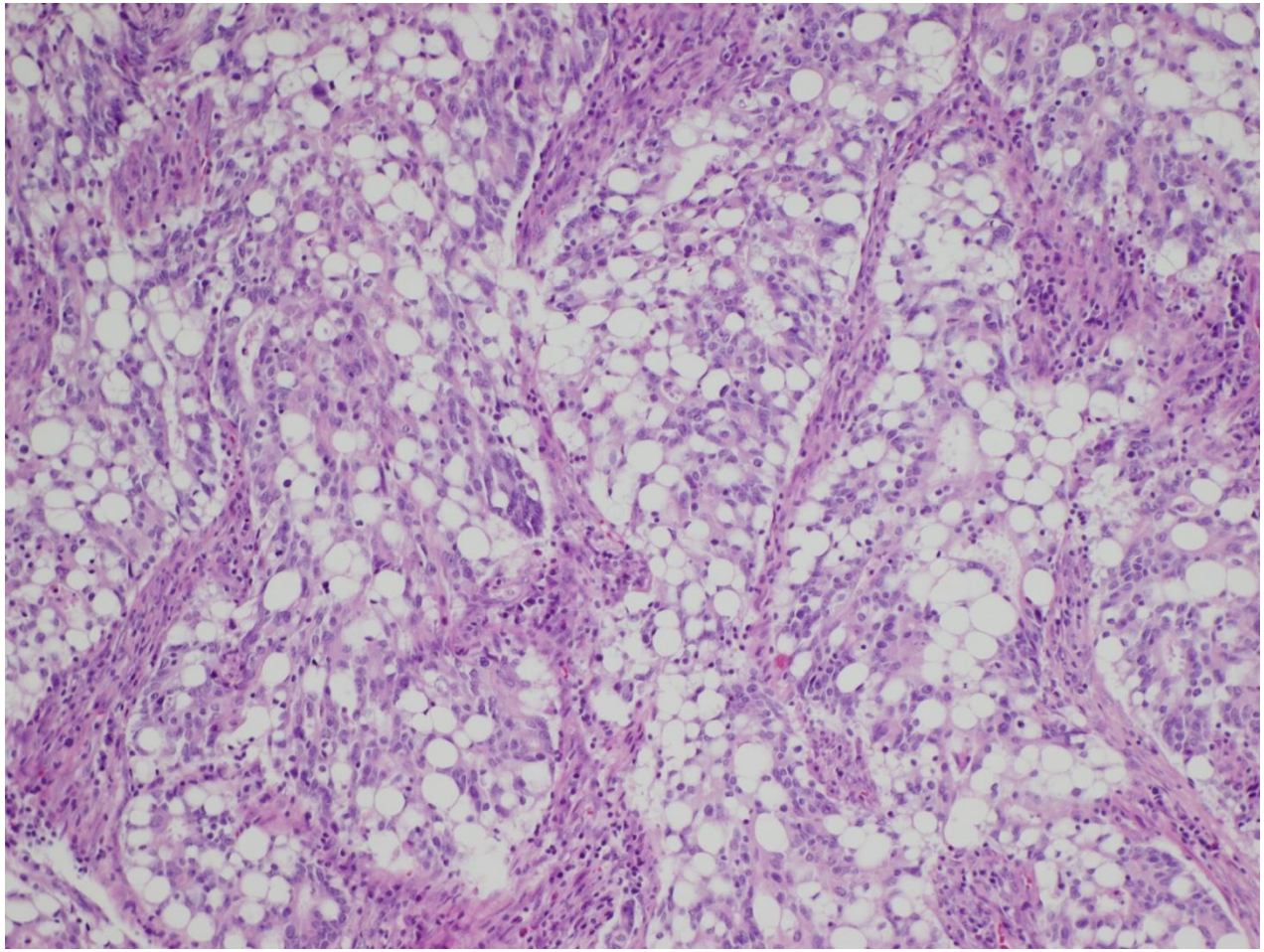
Merging with ‘non-clear zones’

Clear cell change (NOS)

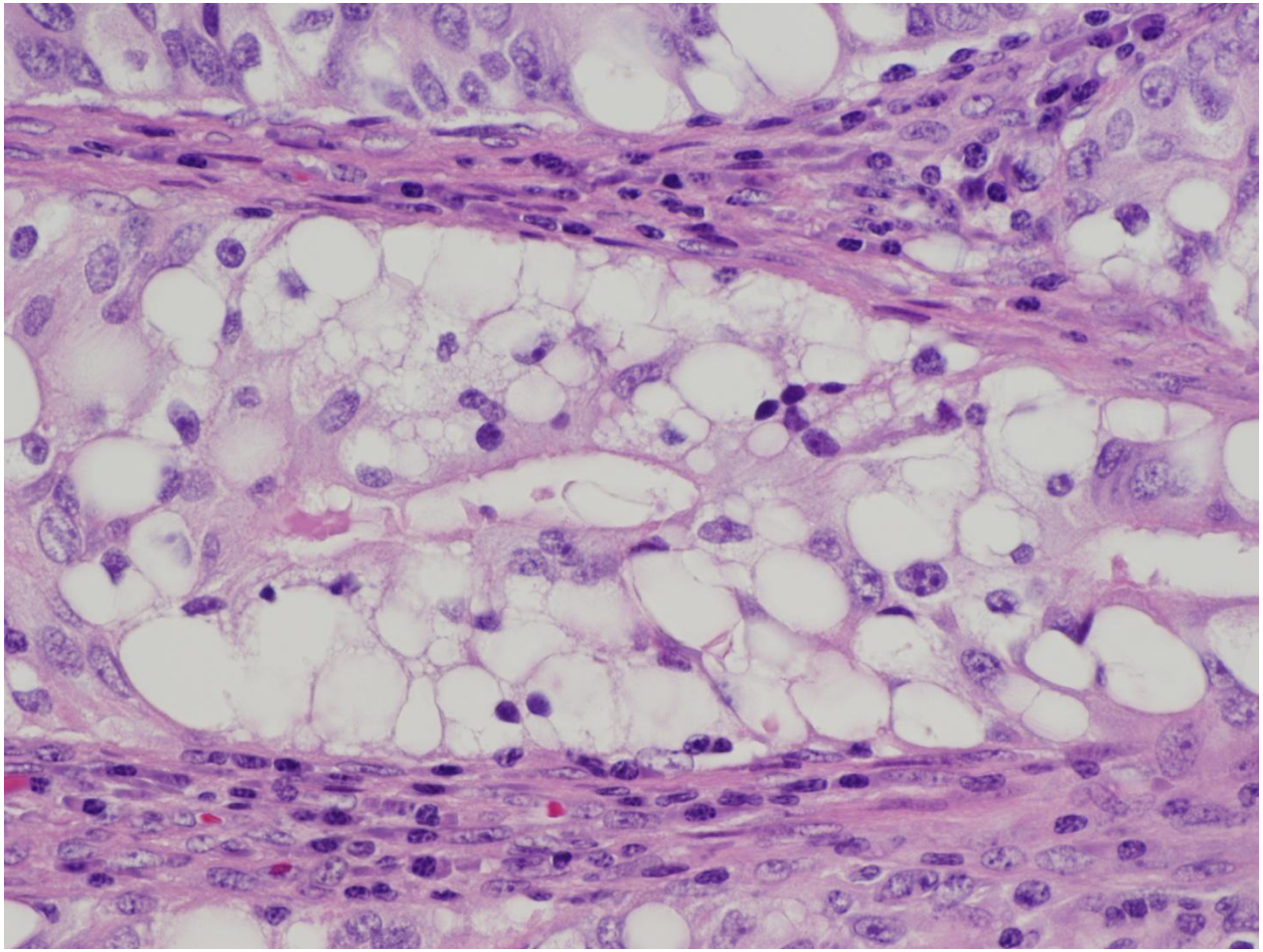


Merging, subset of cells retaining columnar shape

Clear cell change (NOS)

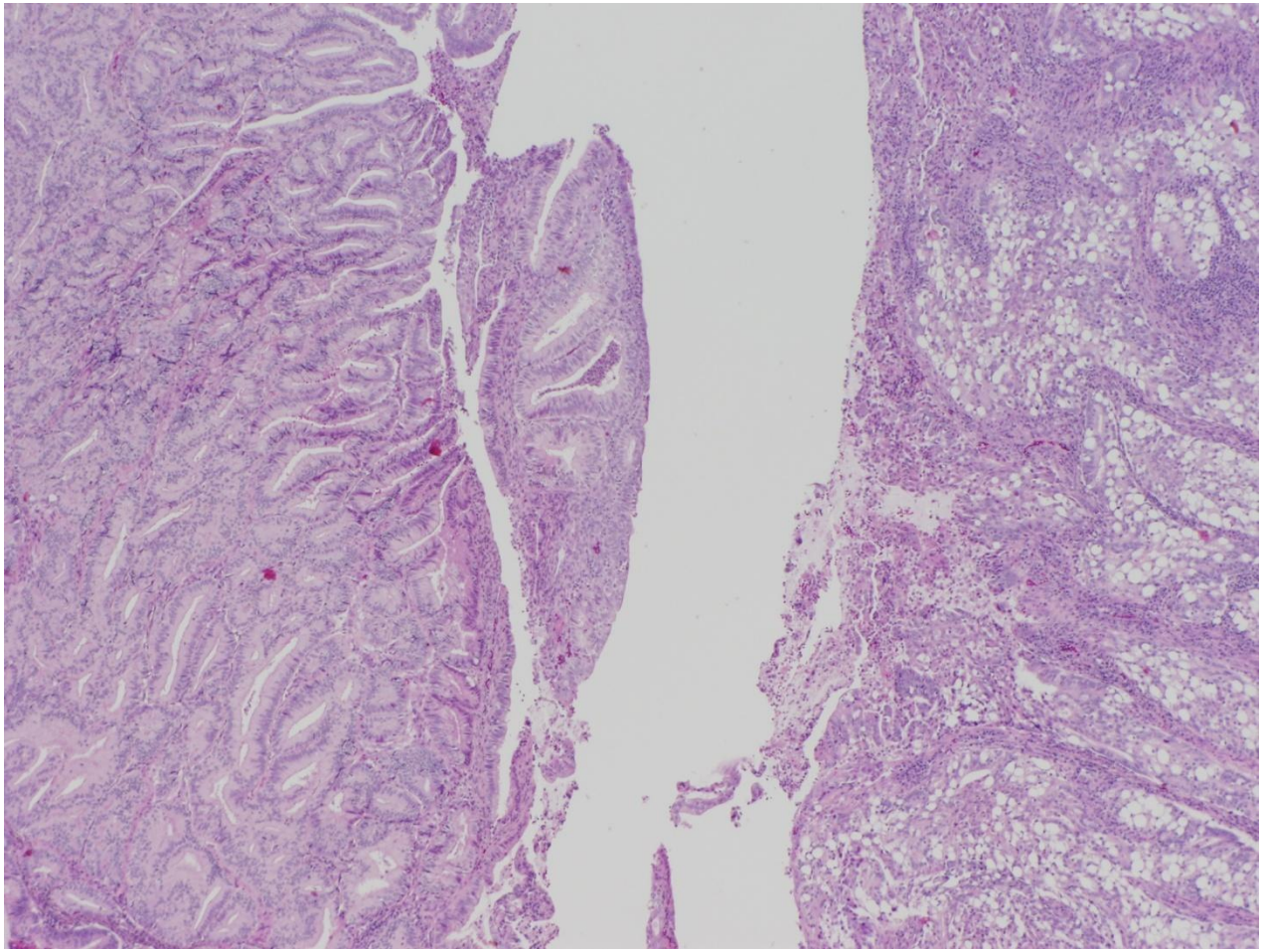


Clear cell change (NOS)



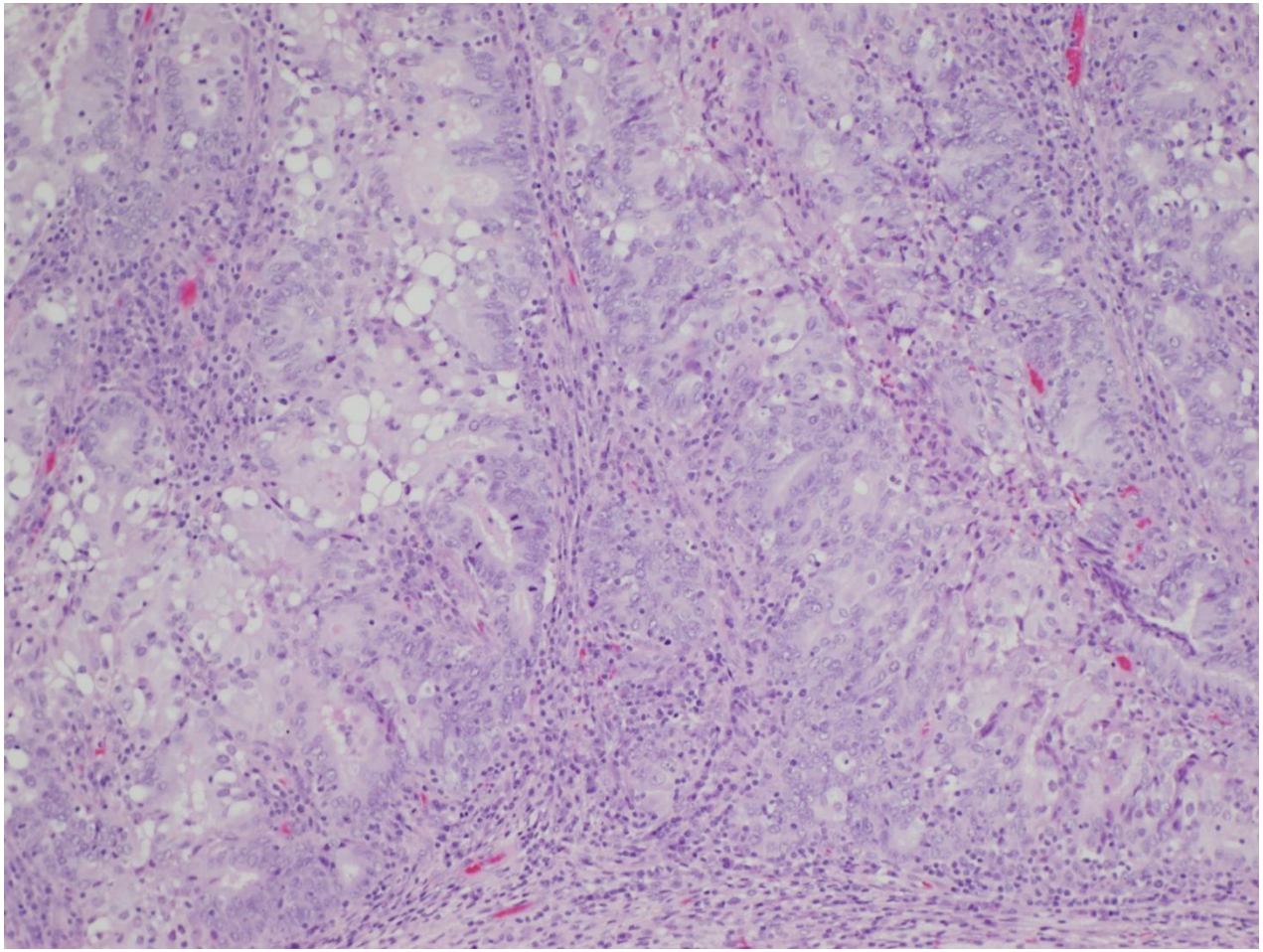
Marked vacuolar alteration

Clear cell change (NOS)



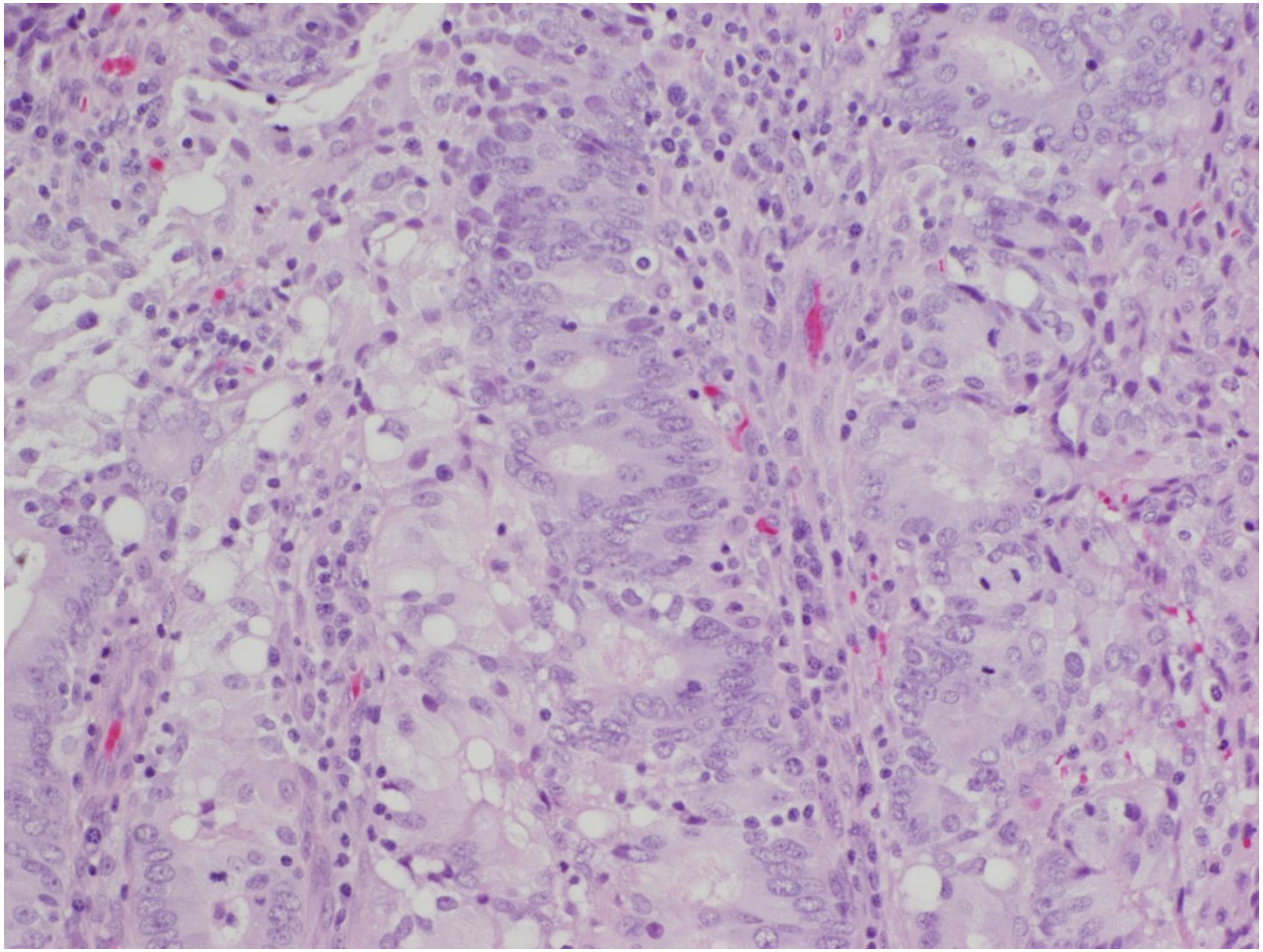
Mixture of conventional EEC

Clear cell change (NOS)



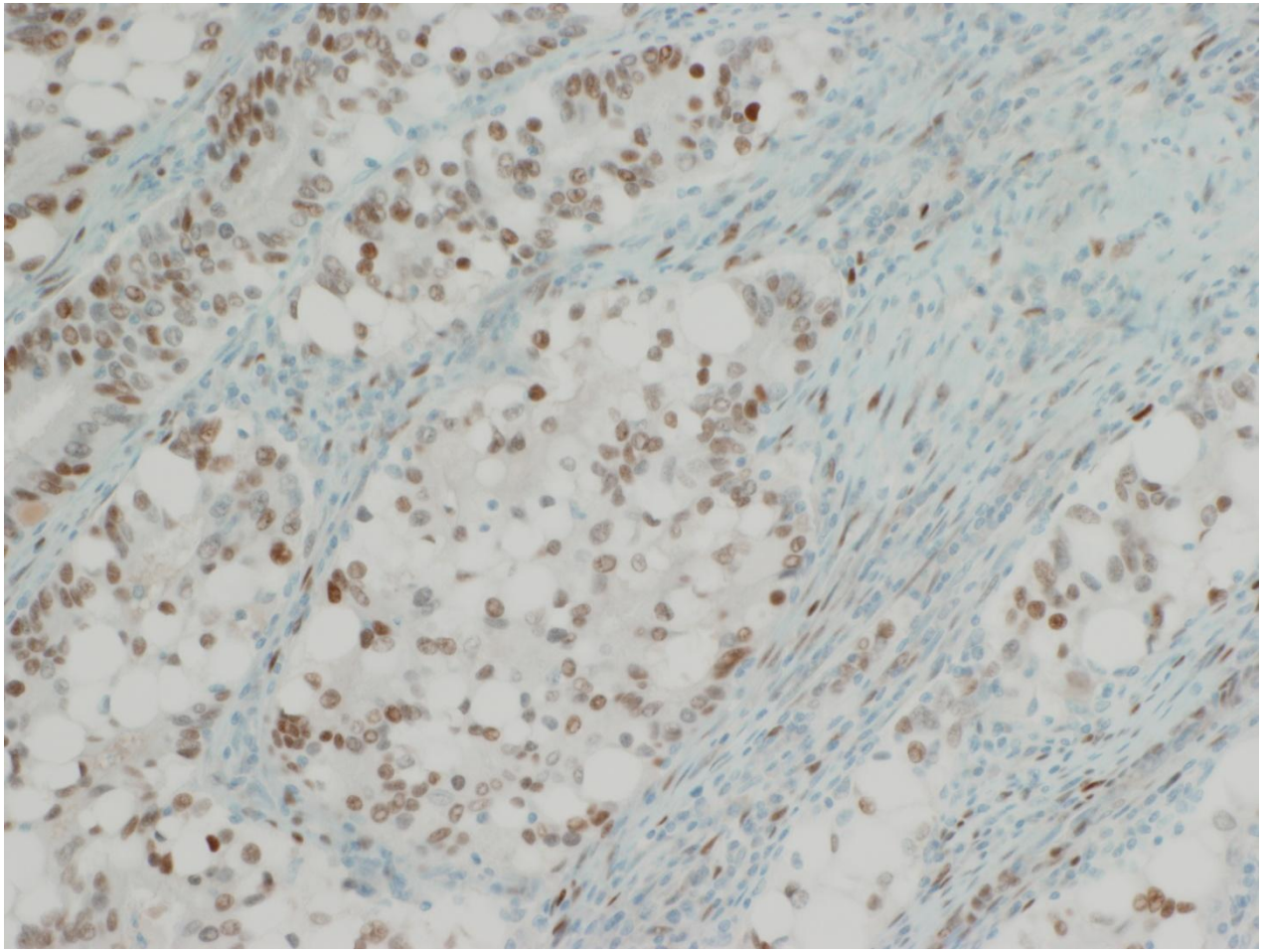
Merging

Clear cell change (NOS)



Merging

Clear cell change (NOS)

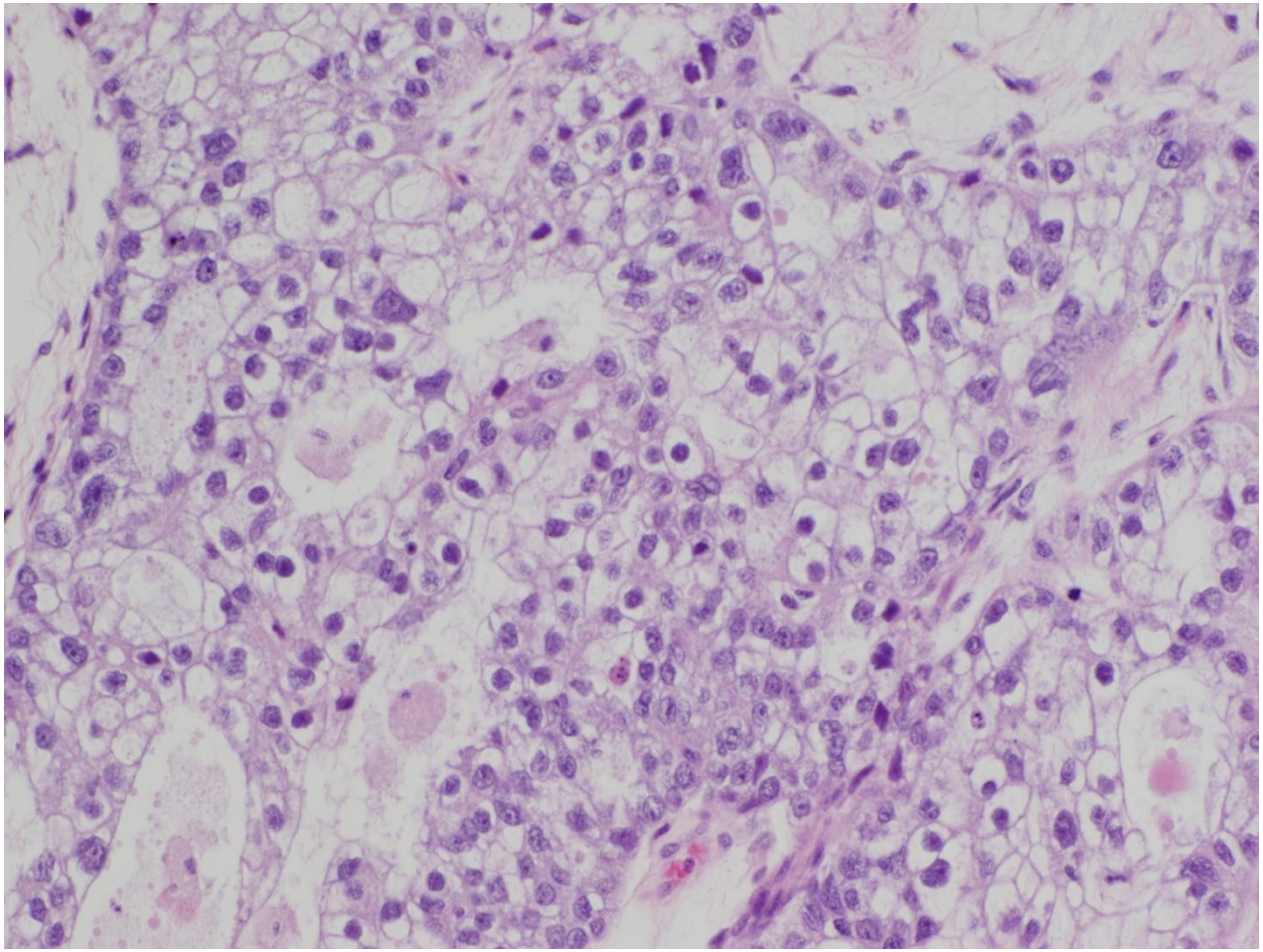


ER

Clear cell carcinoma

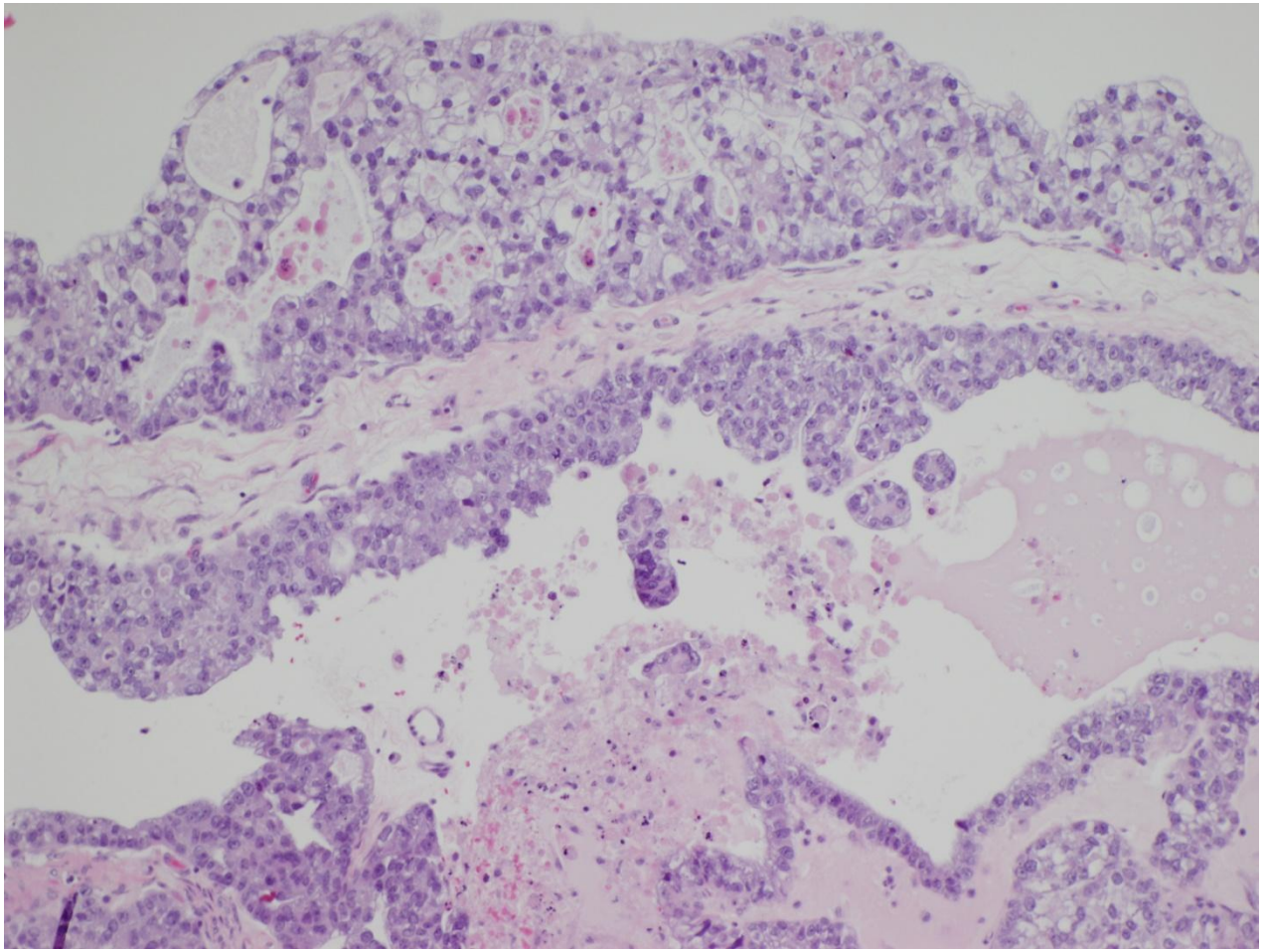
- < 5% of endometrial carcinoma
- All considered FIGO grade 3
- Tubulocystic, papillary, solid growth
- Polyhedral shape, clear to oxphilic cytoplasm
- Variable atypia (to bizarre), hobnail forms
- Myxohyaline stroma, hyaline bodies
- Non-DES associated
- Worse 5 yr survival vs. EEC*

Clear cell carcinoma



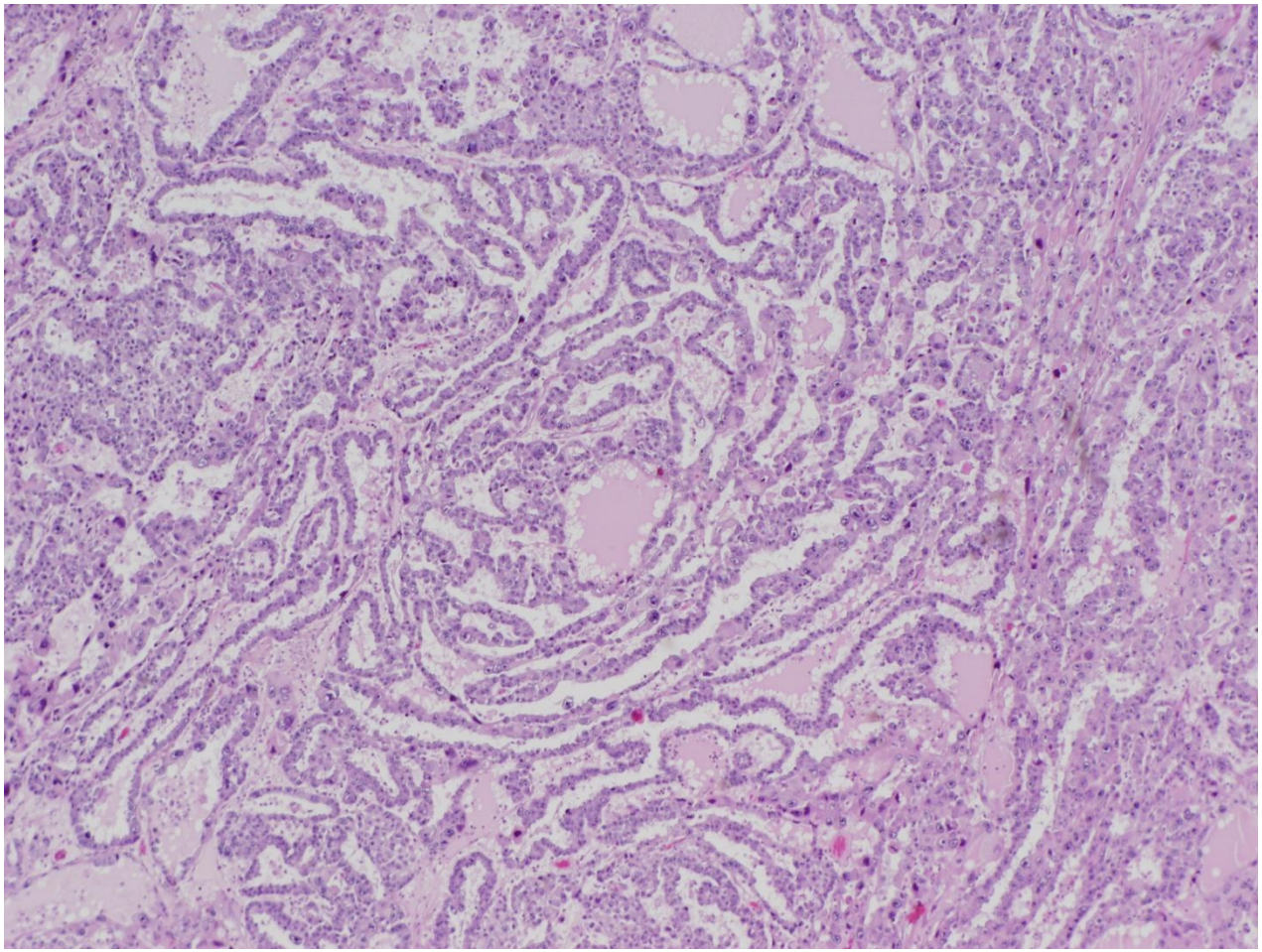
Polyhedral, variable cytologic atypia

Clear cell carcinoma



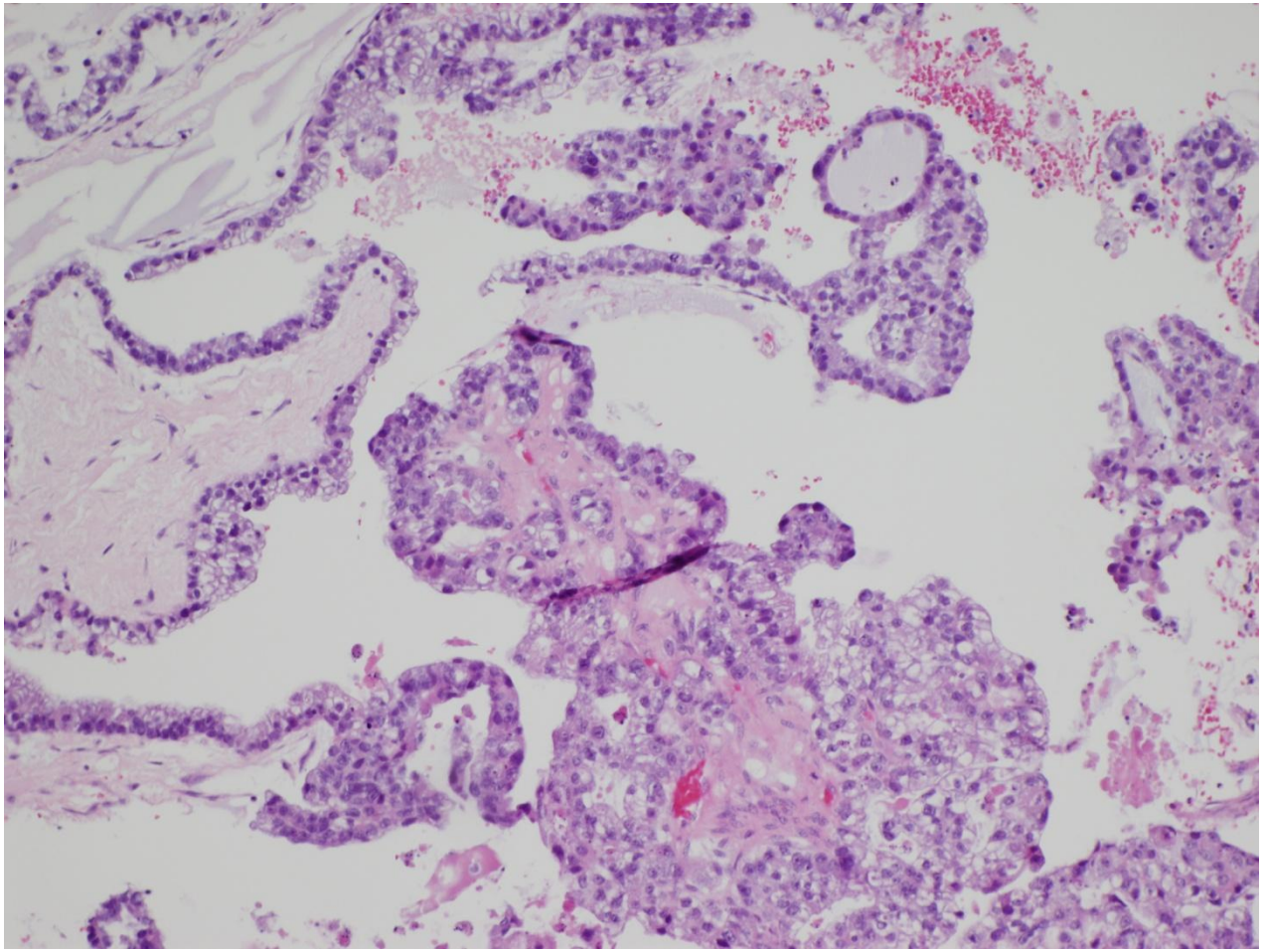
Clear and oxphilic zones

Clear cell carcinoma



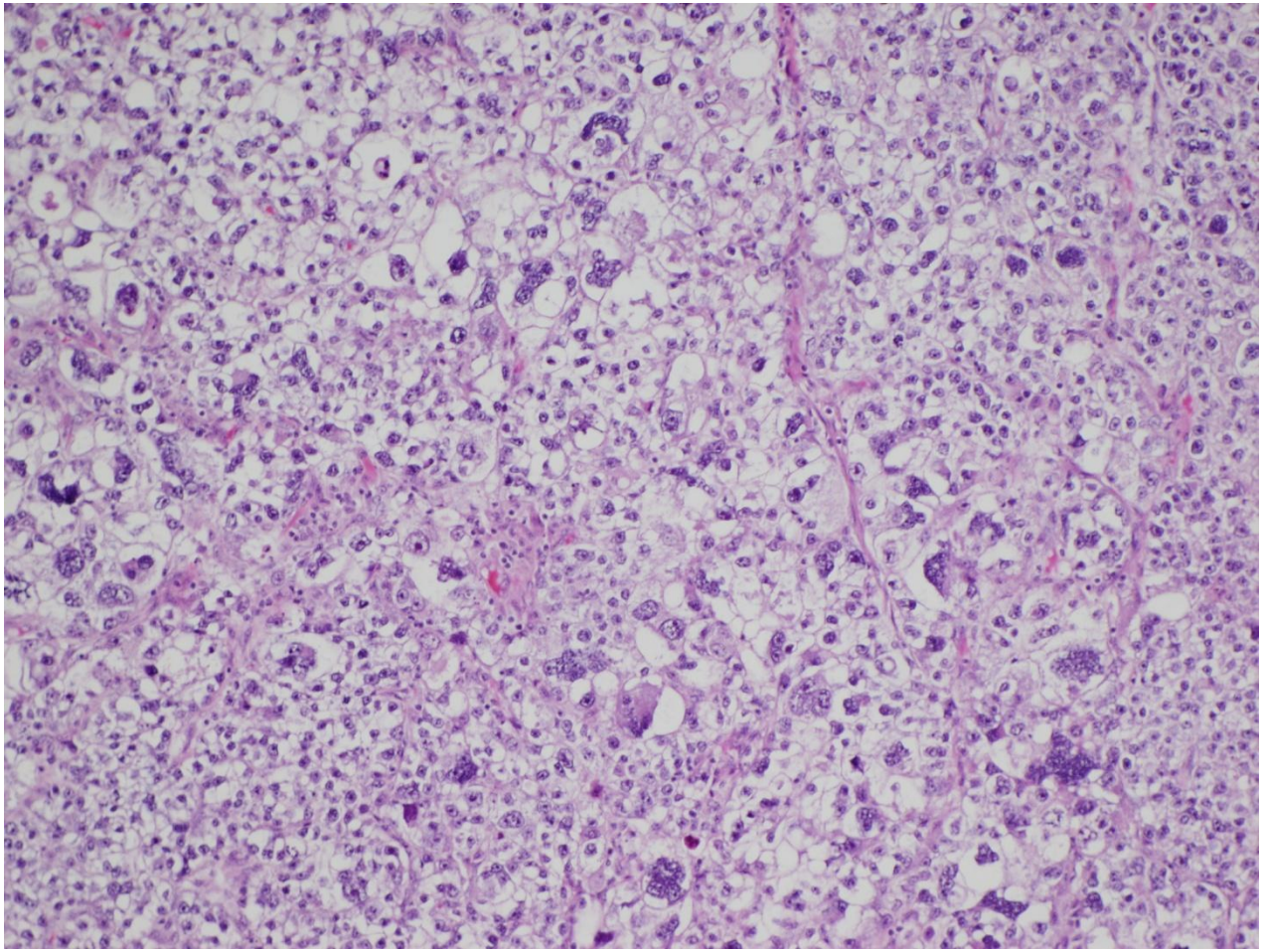
Oxyphilic, tubulocystic

Clear cell carcinoma



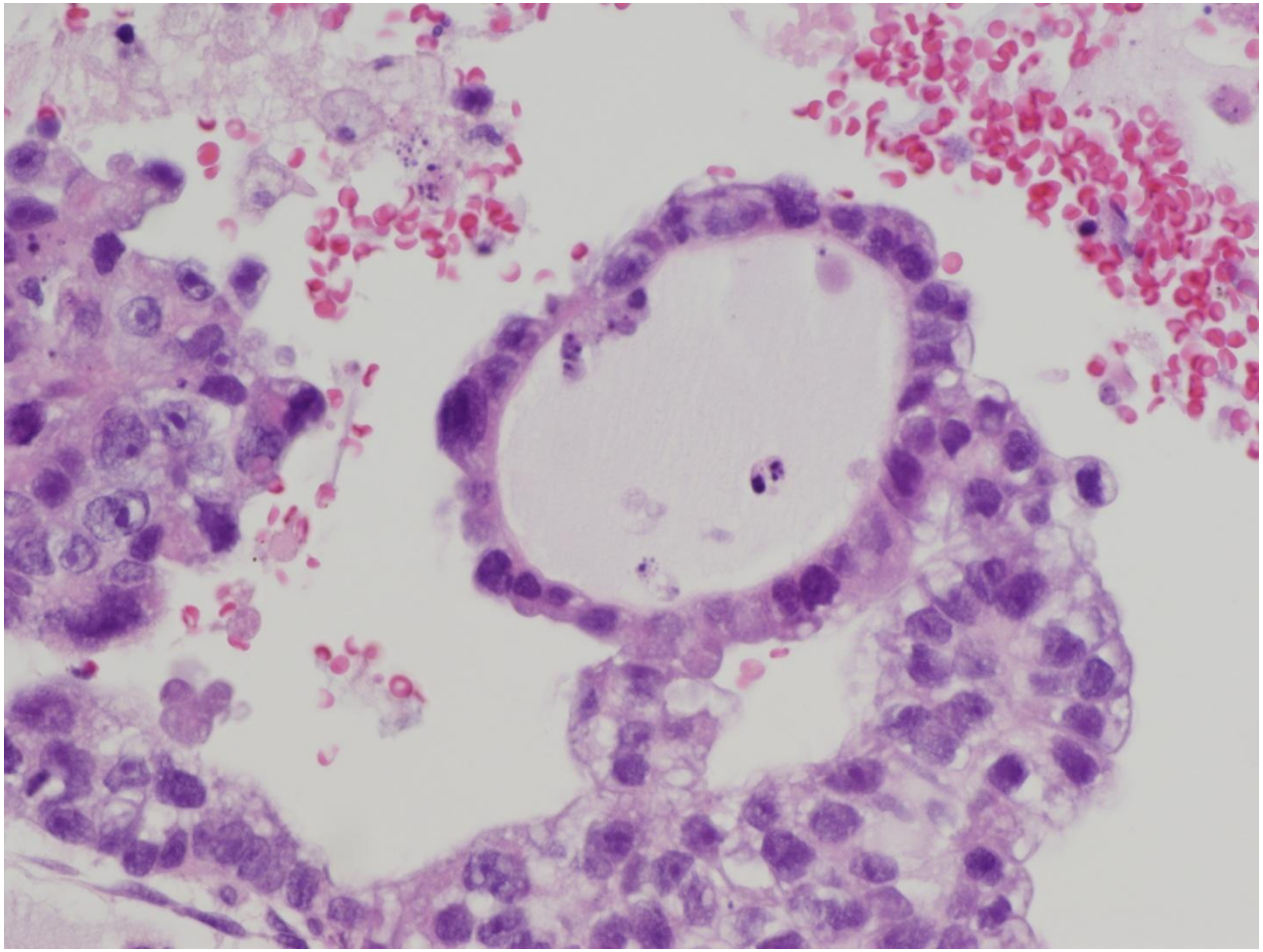
Papillary (simple), hyaline stroma

Clear cell carcinoma



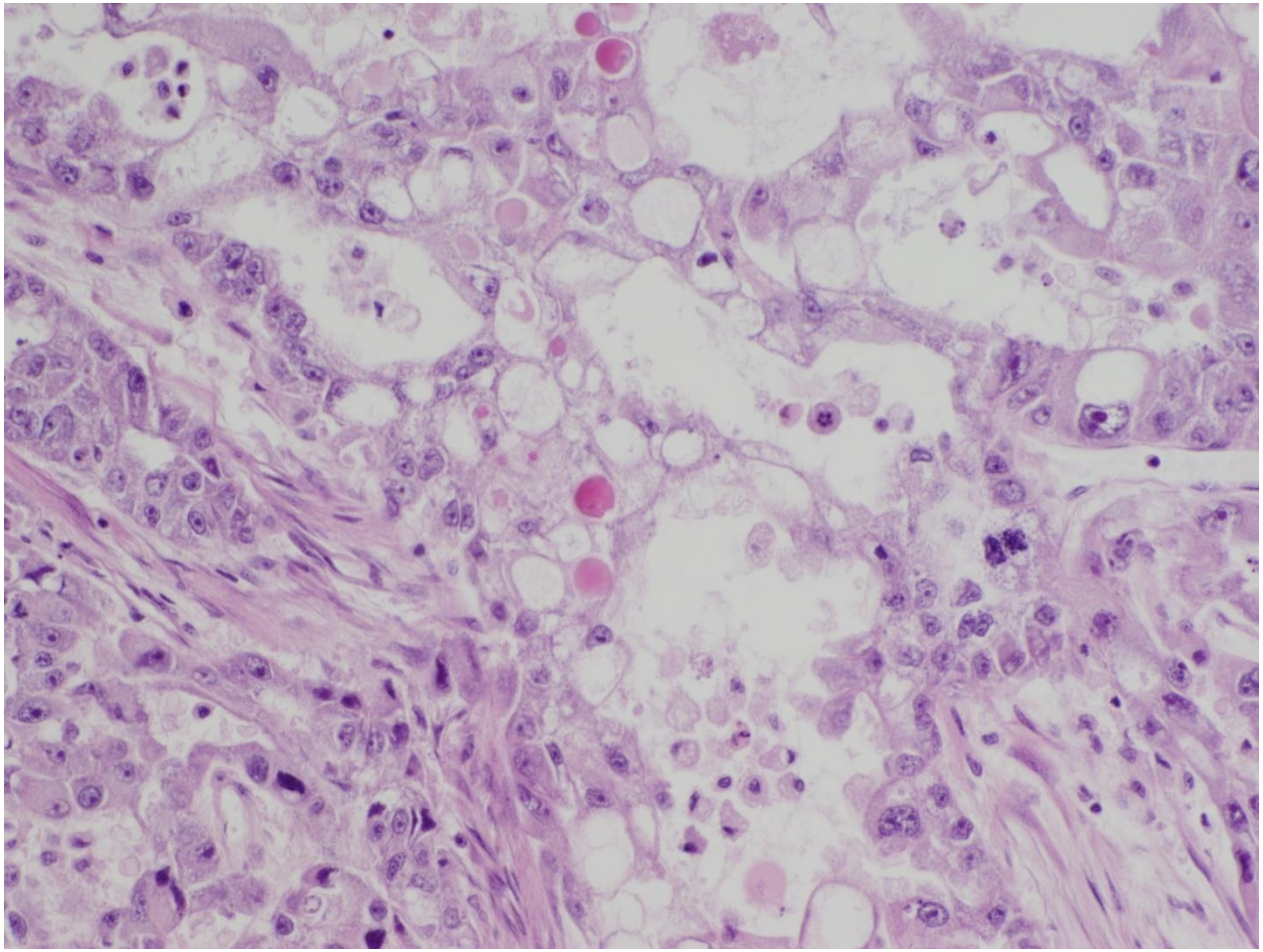
Solid, marked atypia

Clear cell carcinoma



‘Empty cores’

Clear cell carcinoma



Hyaline bodies, microcysts

CC change vs. Mixed EEC/CCC

Clear cell change

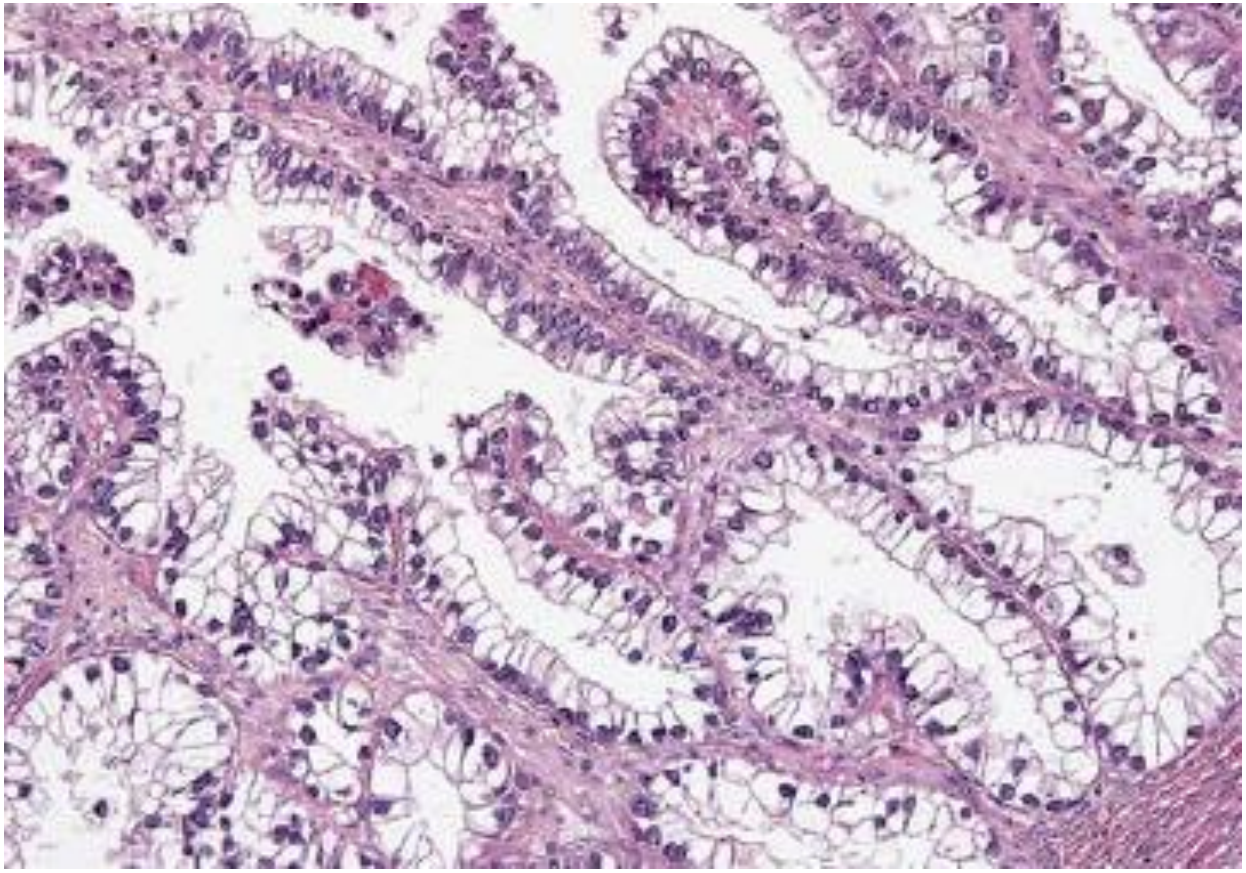
- Merging
- Cribriforming

- Columnar cells
- Low grade atypia
- Squamous differentiation

Mixed EEC / CCC

- Discrete
- Tubulocystic, papillary, solid
  - Simple papillae
- Polyhedral, hobnail forms
- Spectrum of low to high
- Myxohyaline stroma, hyaline bodies
- IHC: ER-, more p16/p53

What is this ?



Offman & Longacre, 2012

Endometrioid-like CCC

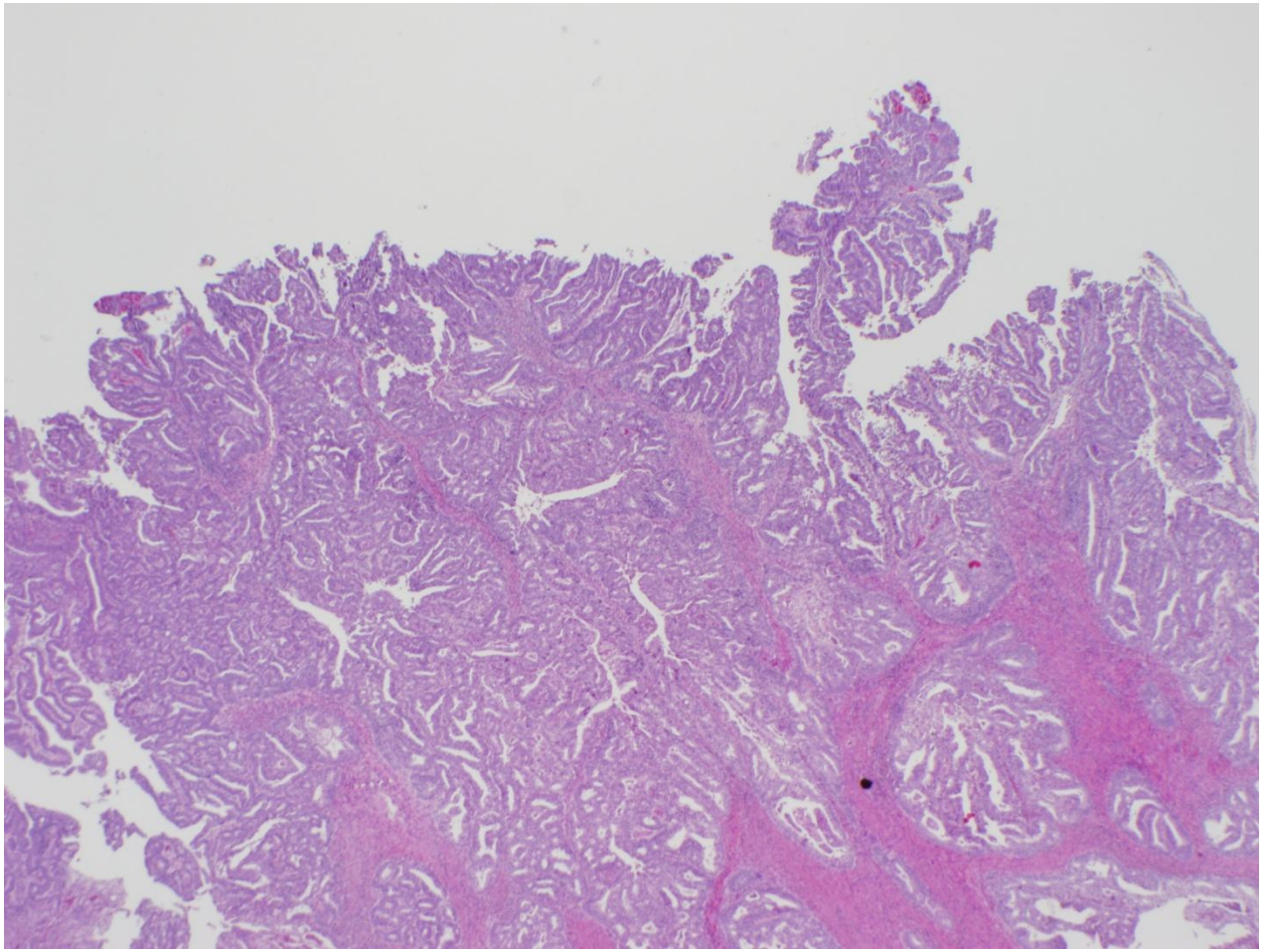
EEC with Papillae

- Villoglandular EEC
- EEC with Small Nonvillous papillae
- DDx:
  - Uterine serous carcinoma
    * Endometrioid-like (tubular) serous carcinoma

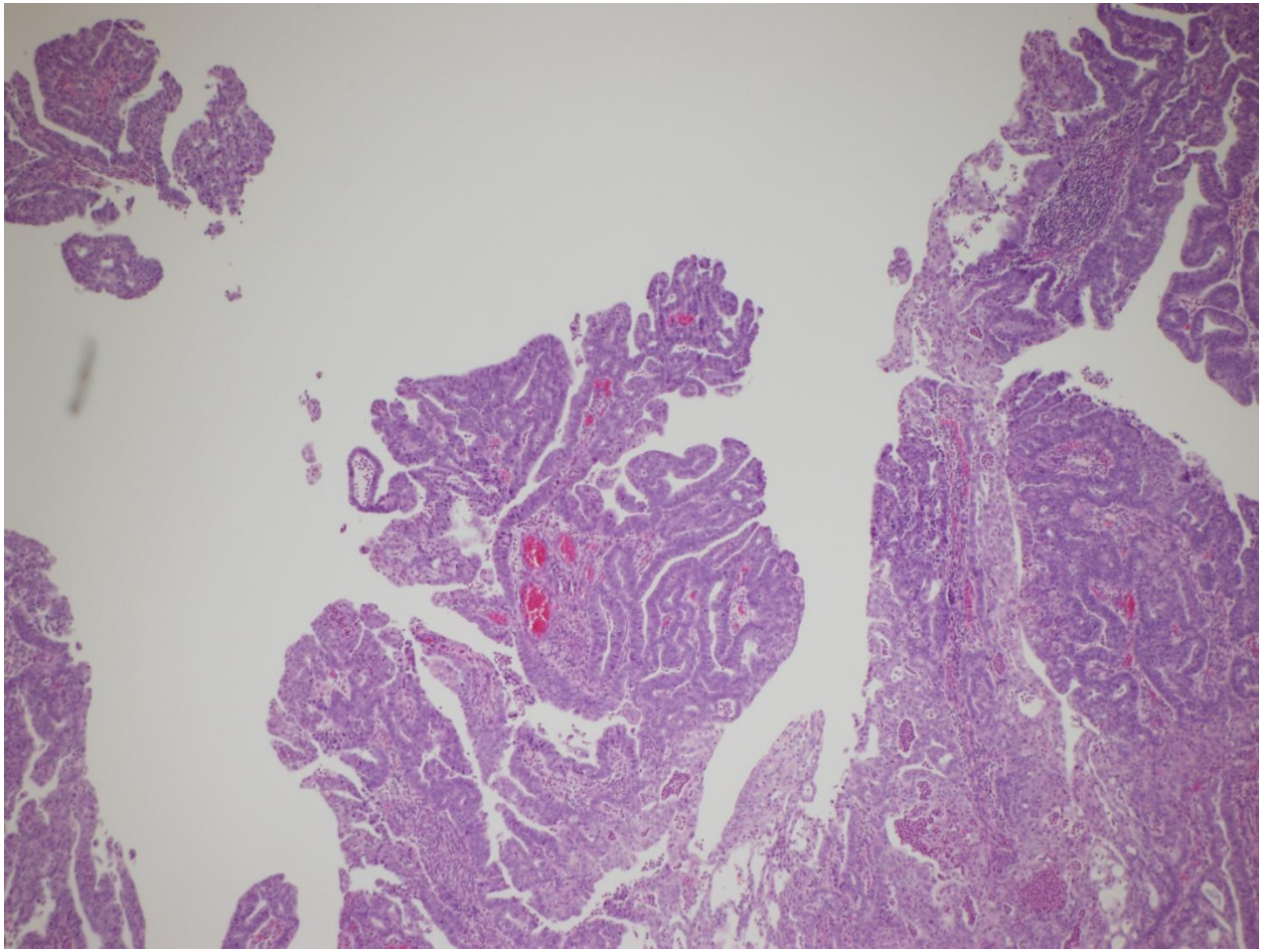
Villoglandular EEC

- Most common papillary pattern in EEC
- Often mixed with conventional EEC patterns
- Long, slender, villous papillae
- Thin fibrovascular cores
- VG patterns located superficial > myoinvasive
- Typical EEC cytology, grade 1-2
- Behaves as per conventional EEC*

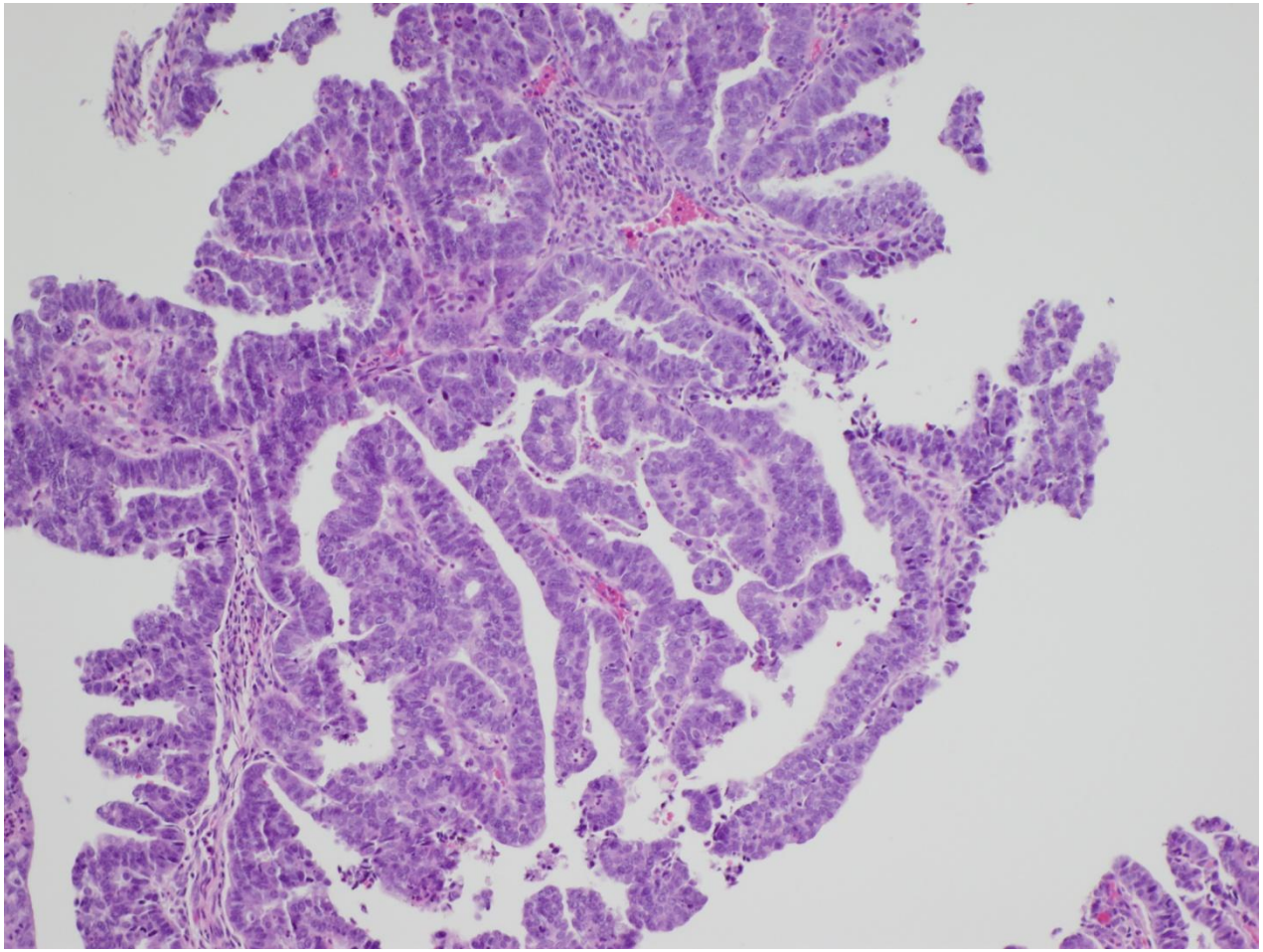
Villoglandular EEC



Villoglandular EEC

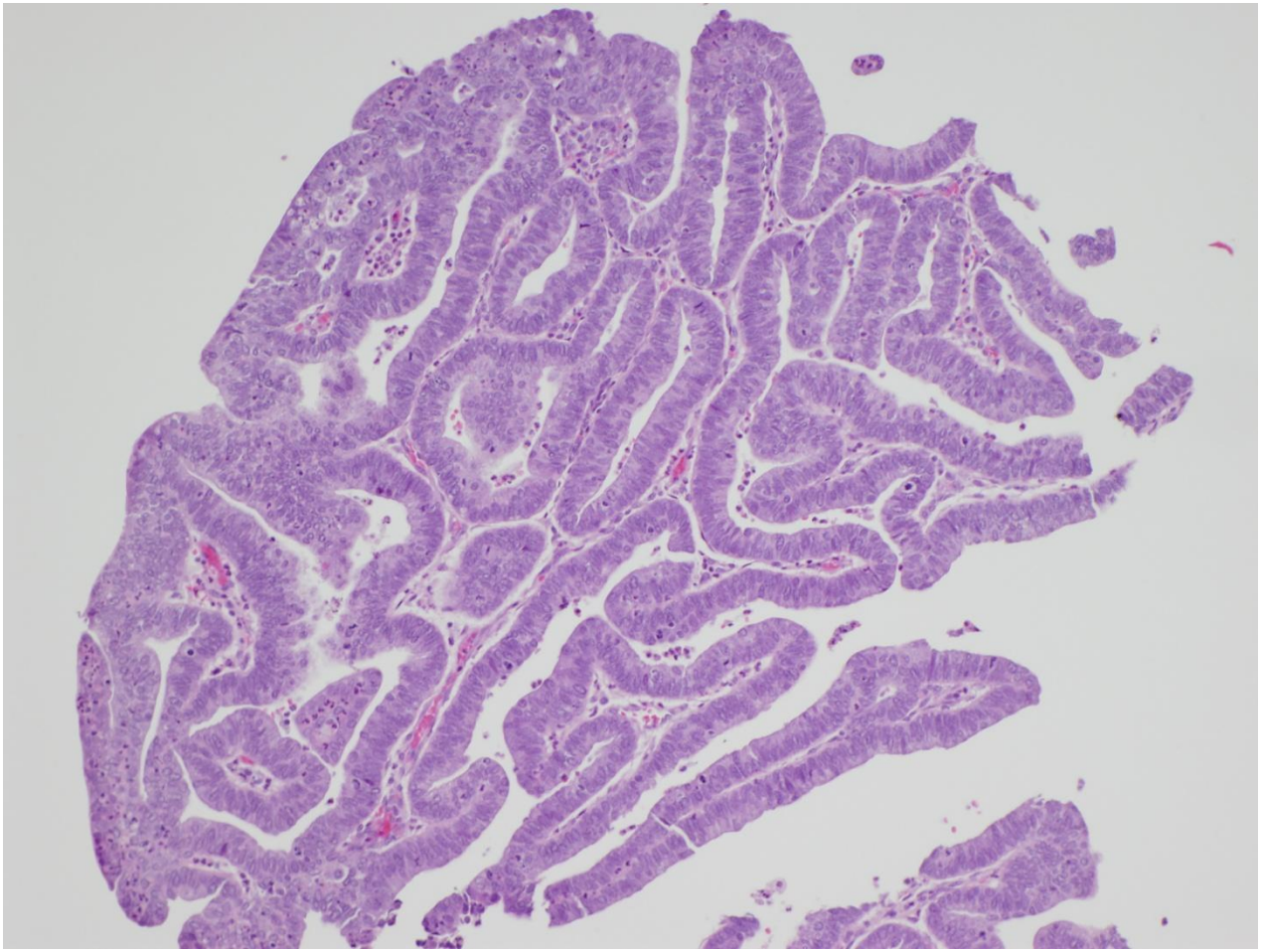


Villoglandular EEC

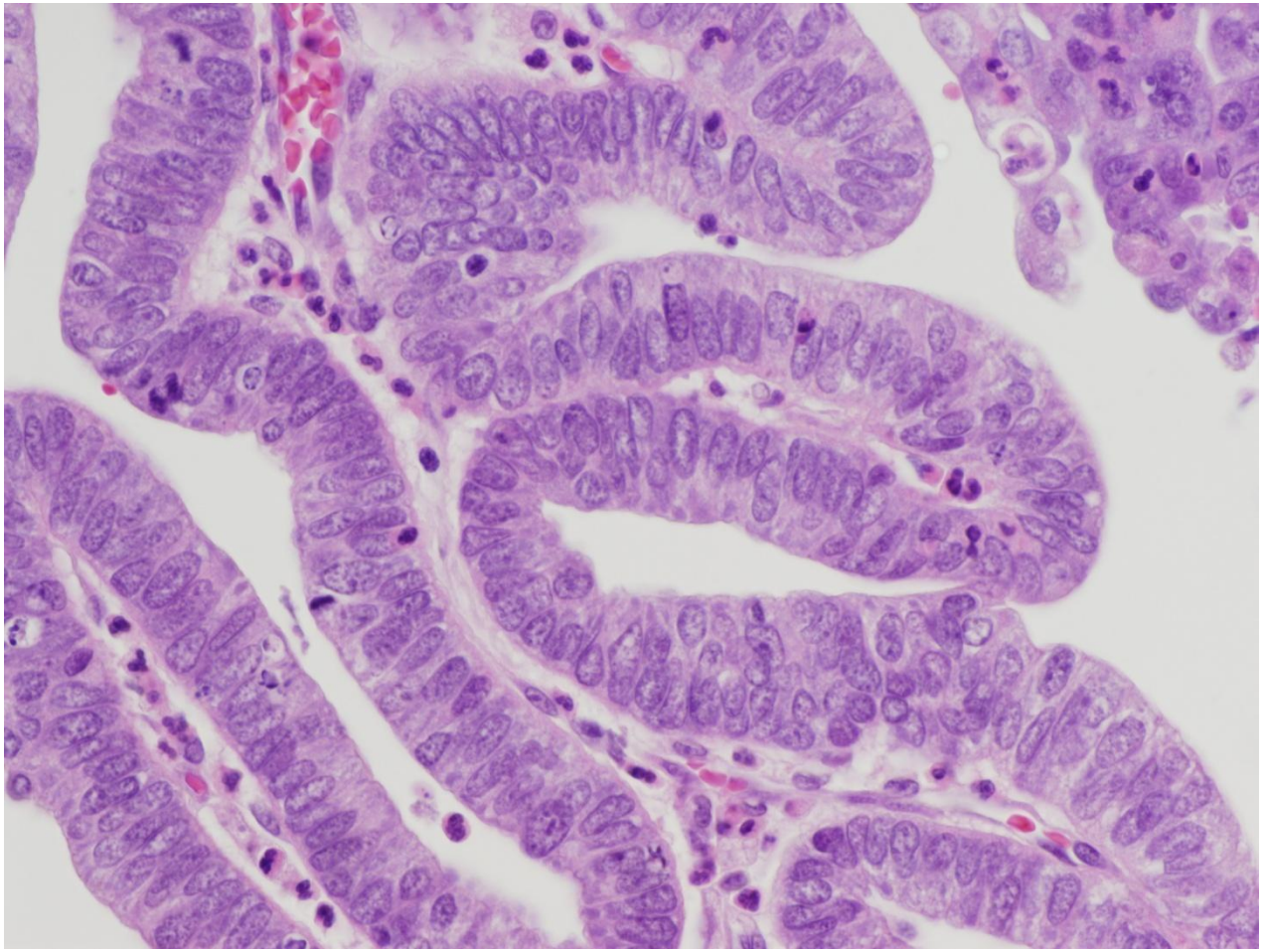


Long slender papillae, thin f-v cores

Villoglandular EEC

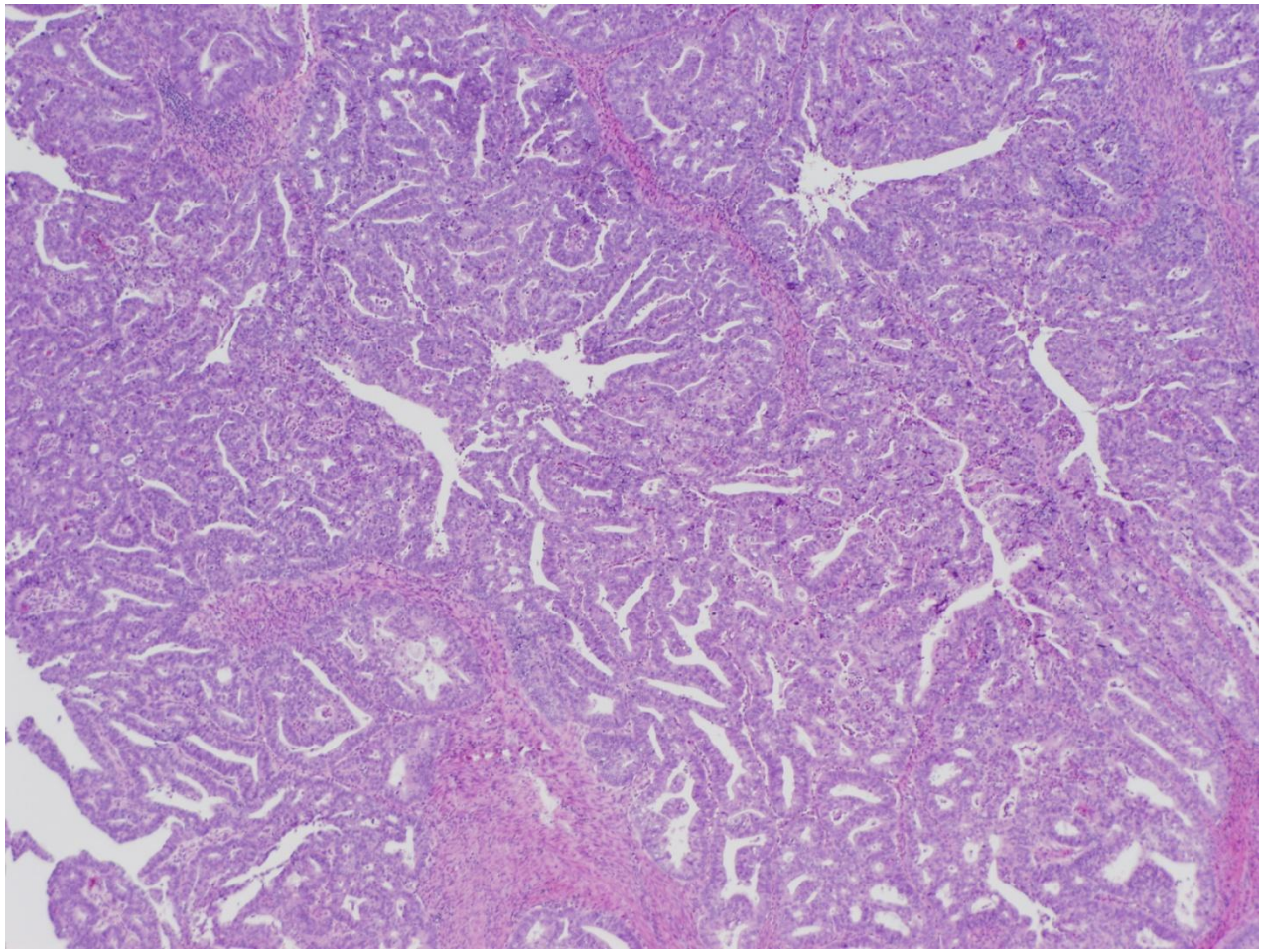


Villoglandular EEC



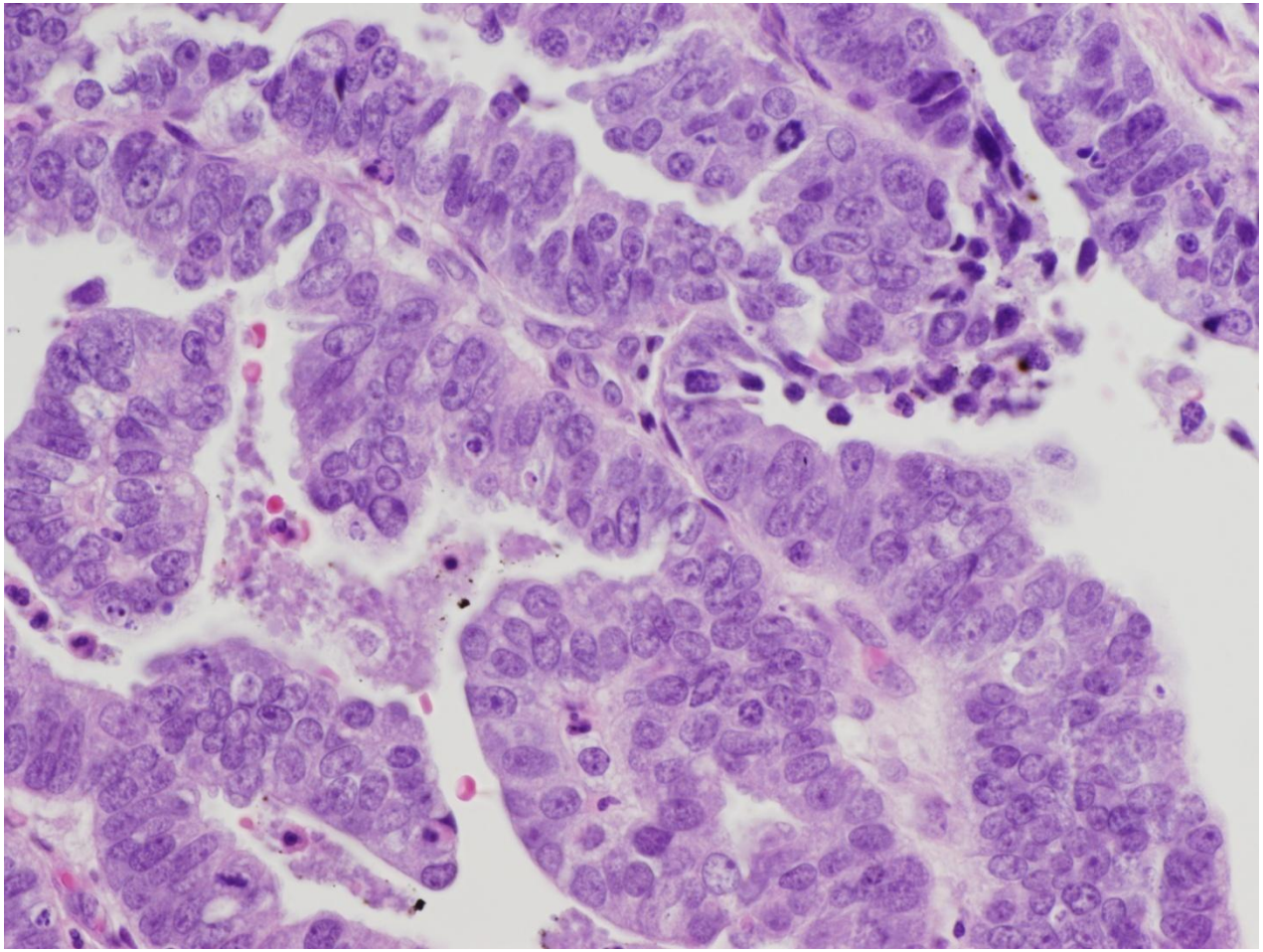
Typical EEC cytology

Villoglandular EEC



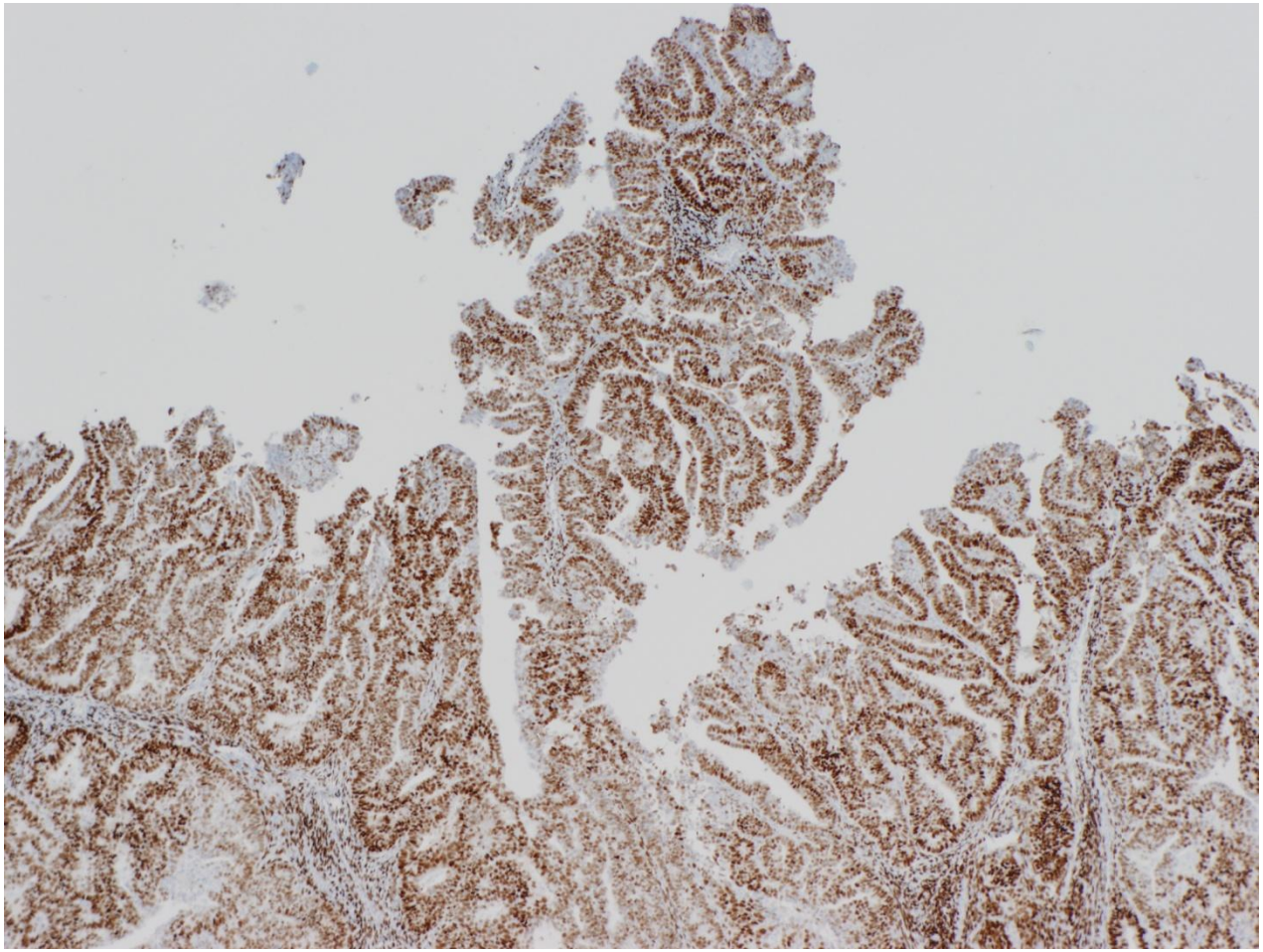
Slit-like spaces mimicking USC

Villoglandular EEC



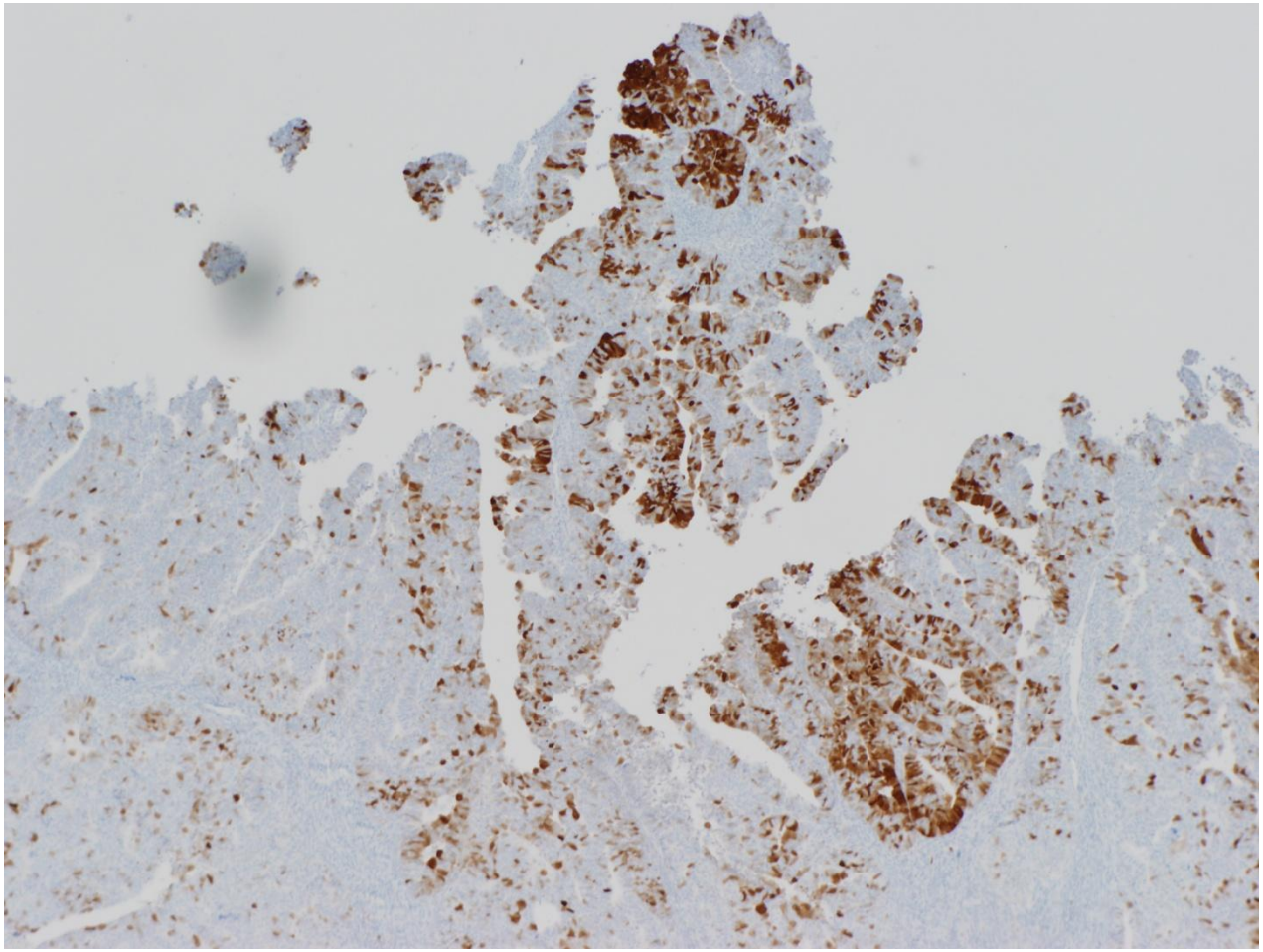
Grade 2 nuclei mimicking USC

Villoglandular EEC



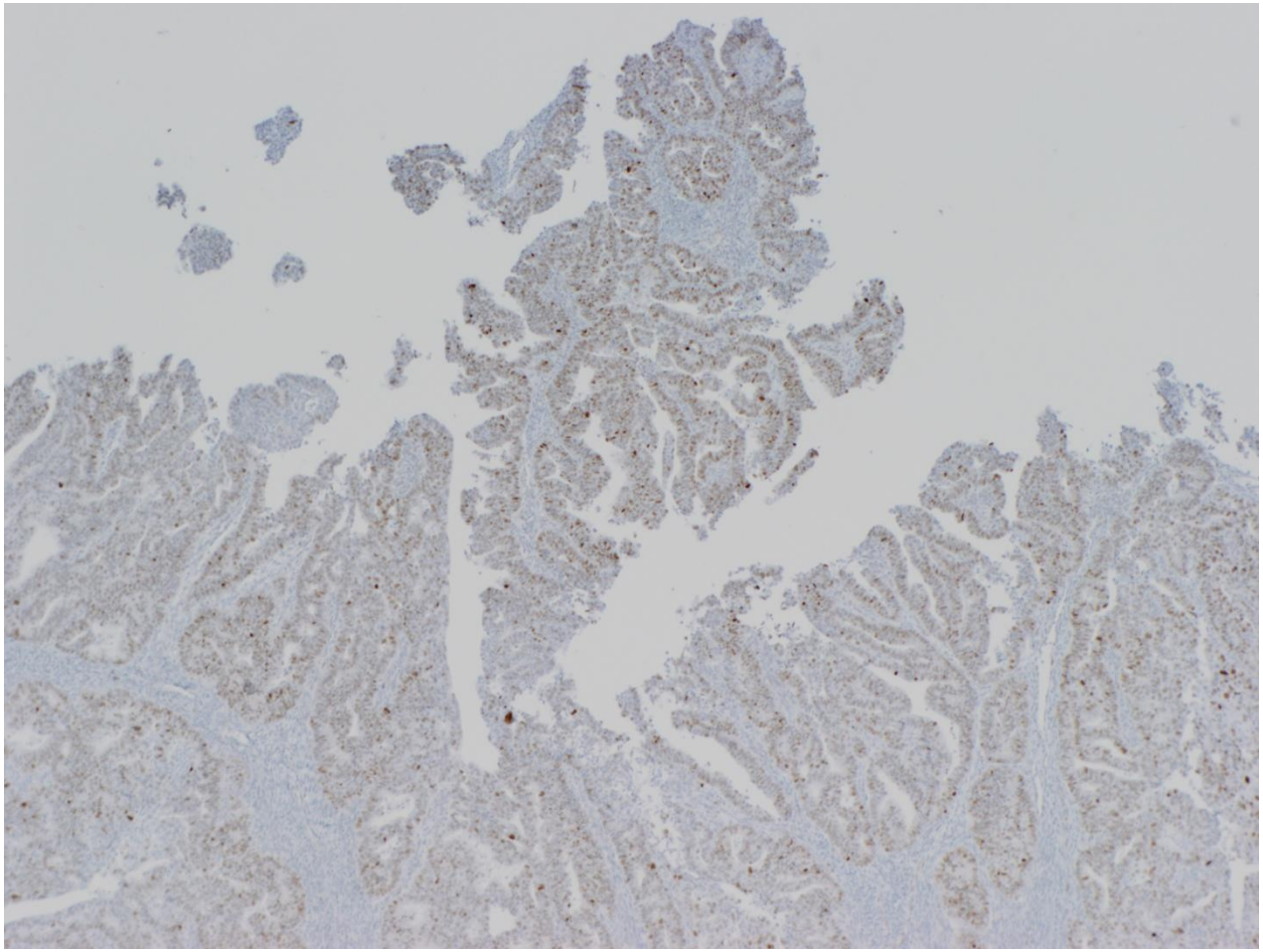
ER

Villoglandular EEC



p16

Villoglandular EEC



p53

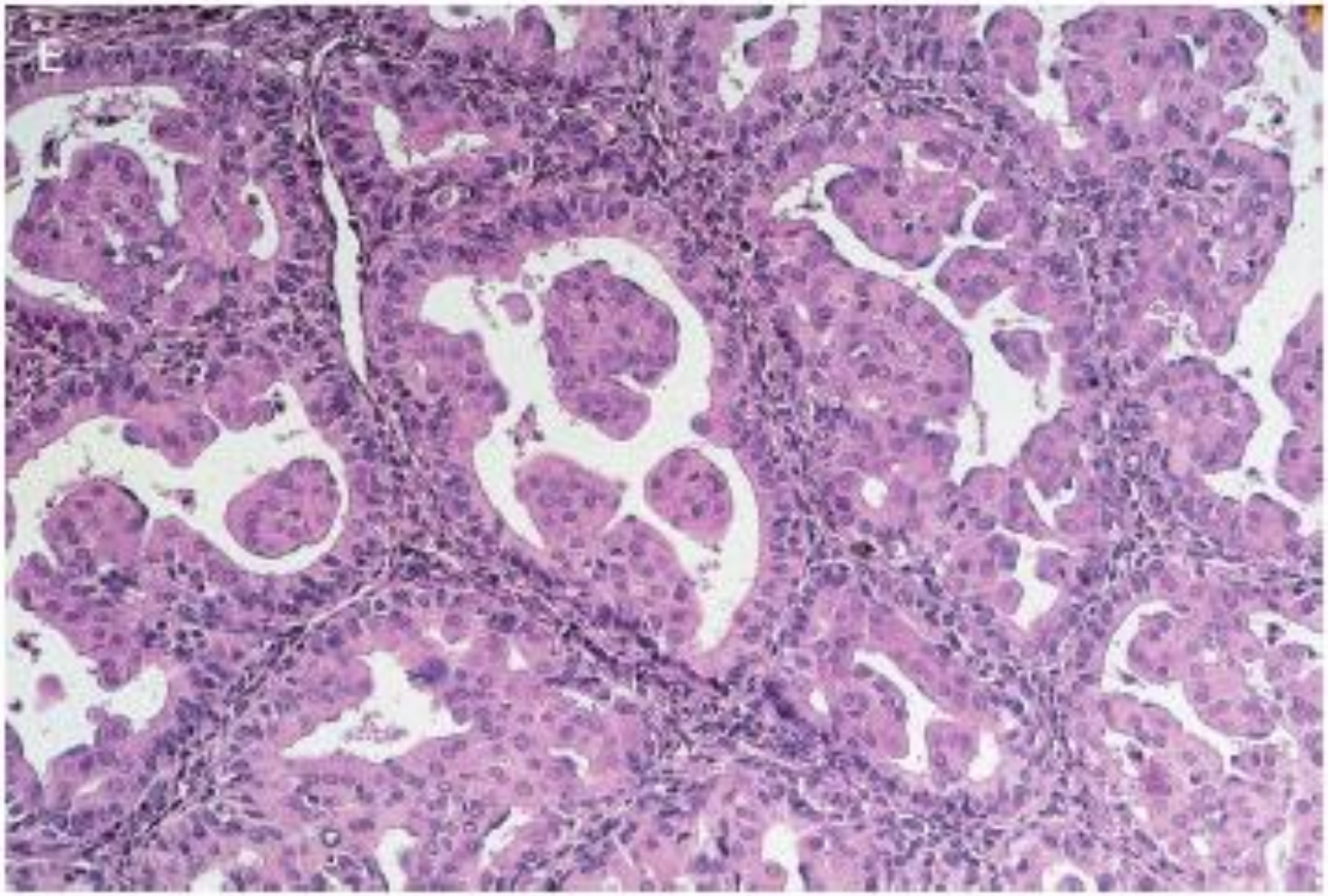
EEC with Small Nonvillous Papillae

(Murray et al., 2000)

- 8% of EEC
- Conventional EEC containing small papillae within glands or on villi of VGEEC
- Buds of rounded cells, ample eosinophilic cytoplasm, low N:C, lack fibrovascular cores
  - complex intraglandular proliferations
- Abortive (or overt) squamous differentiation
- Low grade cytology
- Behaves as per conventional EEC

EEC with SNVP

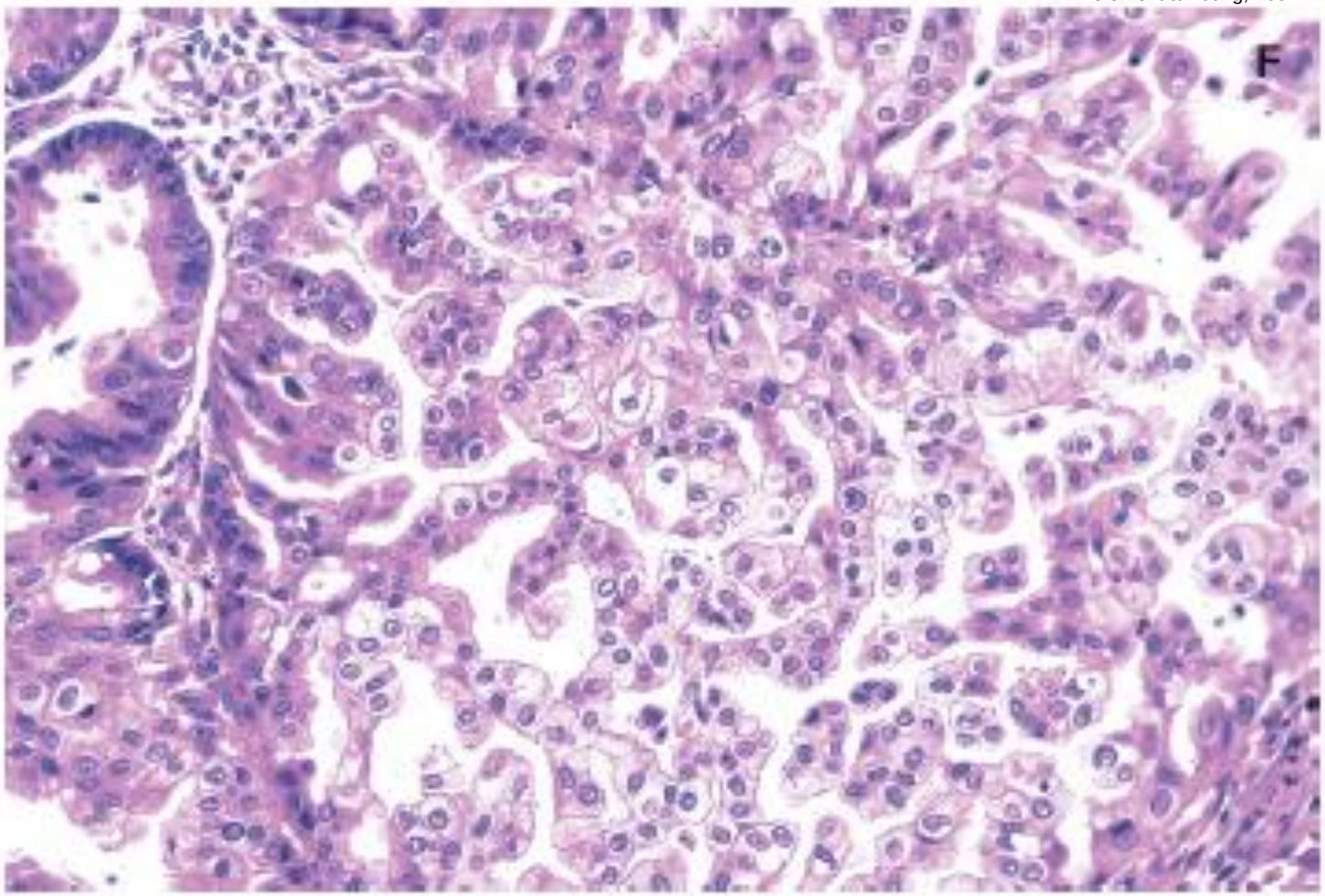
Clement & Young, 2002



Cellular buds, lacking cores, ++ eosinophilic cytoplasm, low grade

EEC with SNVP

Clement & Young, 2002



More complex pattern