Tubal precursors: A case presentation

Dr Jonathan Crook

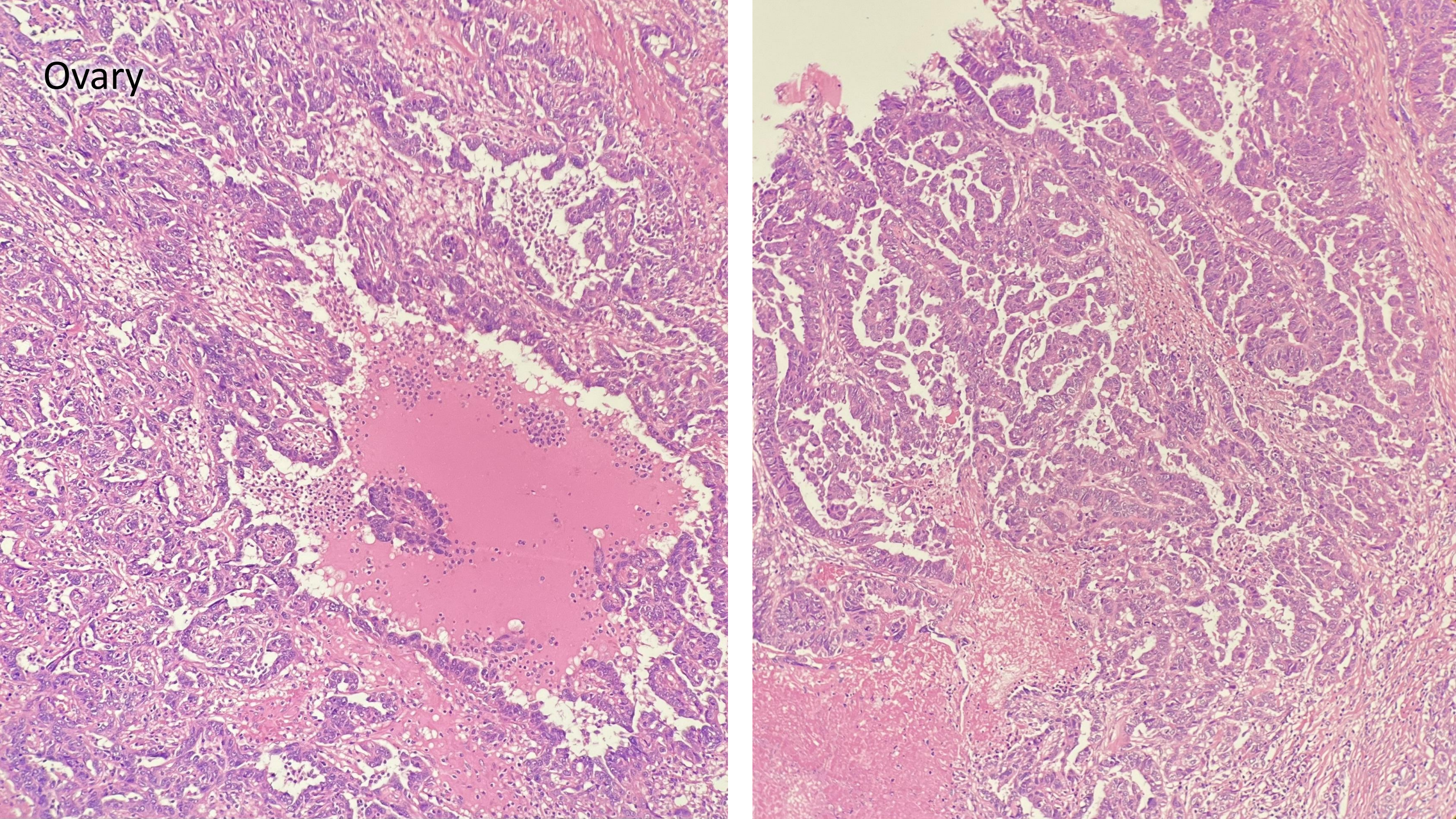
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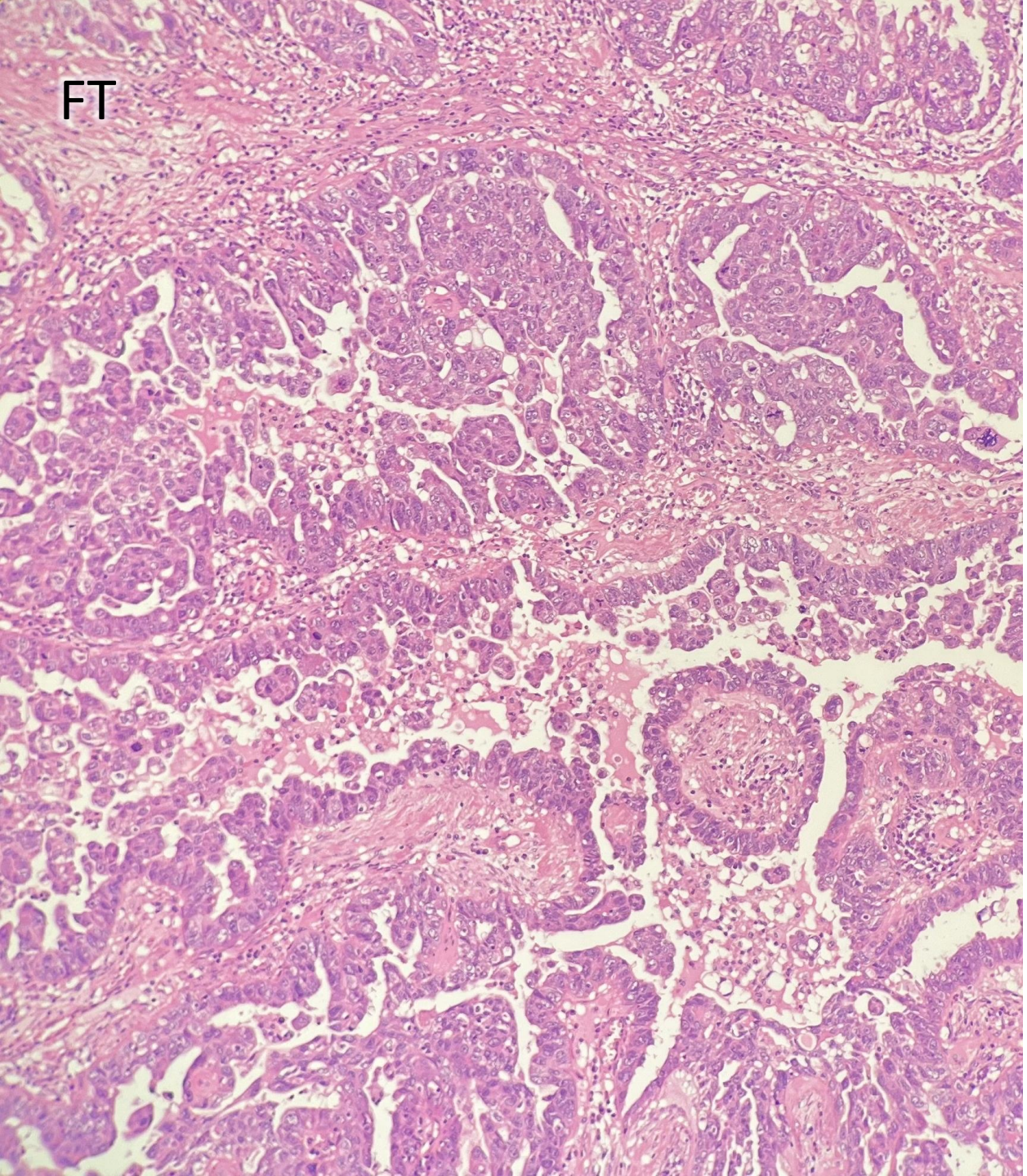
Speaker disclosures

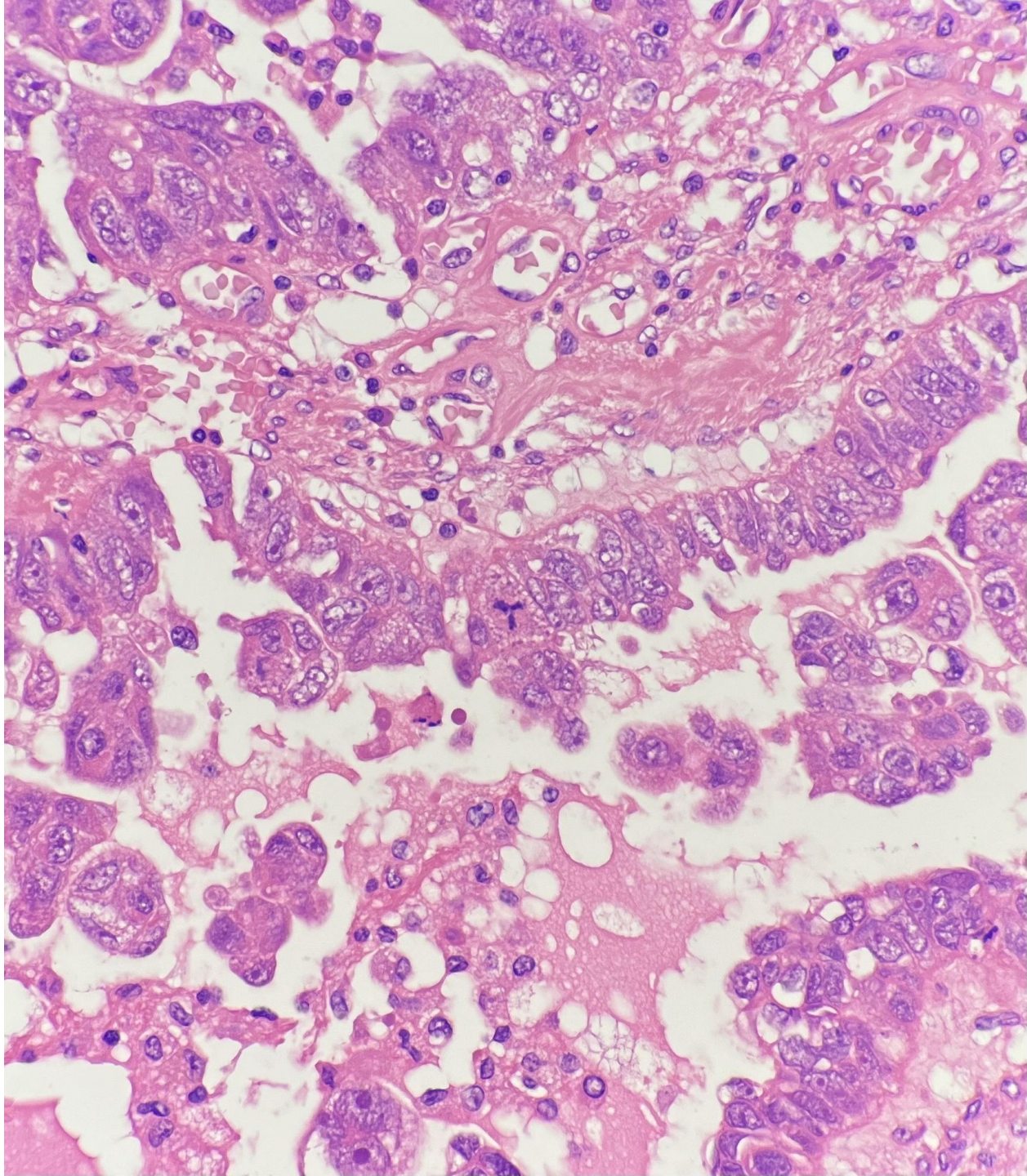
- ❑ I have no financial conflicts of interest to disclose

Case 1

- 60F
- Right sided ovarian mass
- Primary debulking surgery

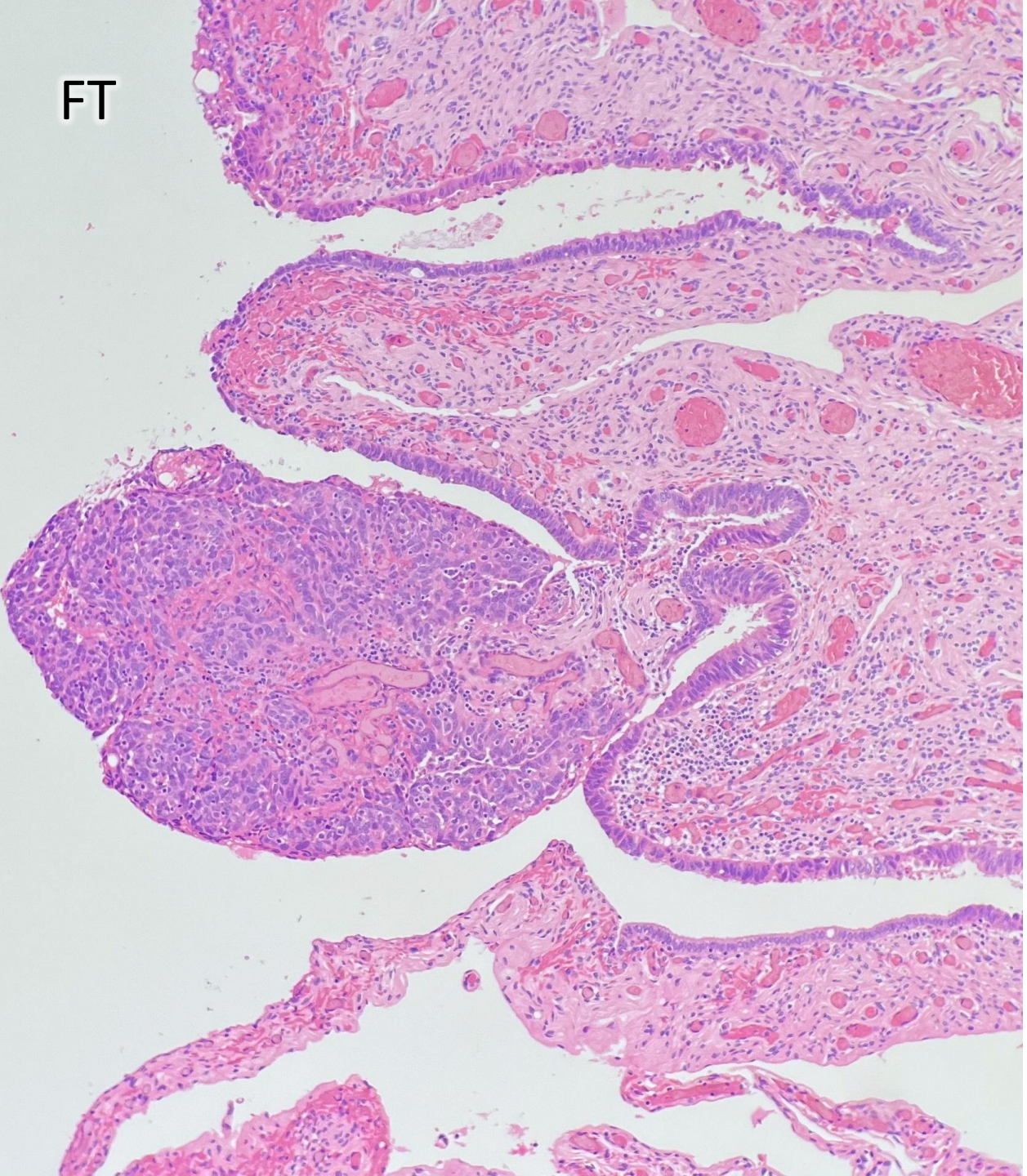

Ovary

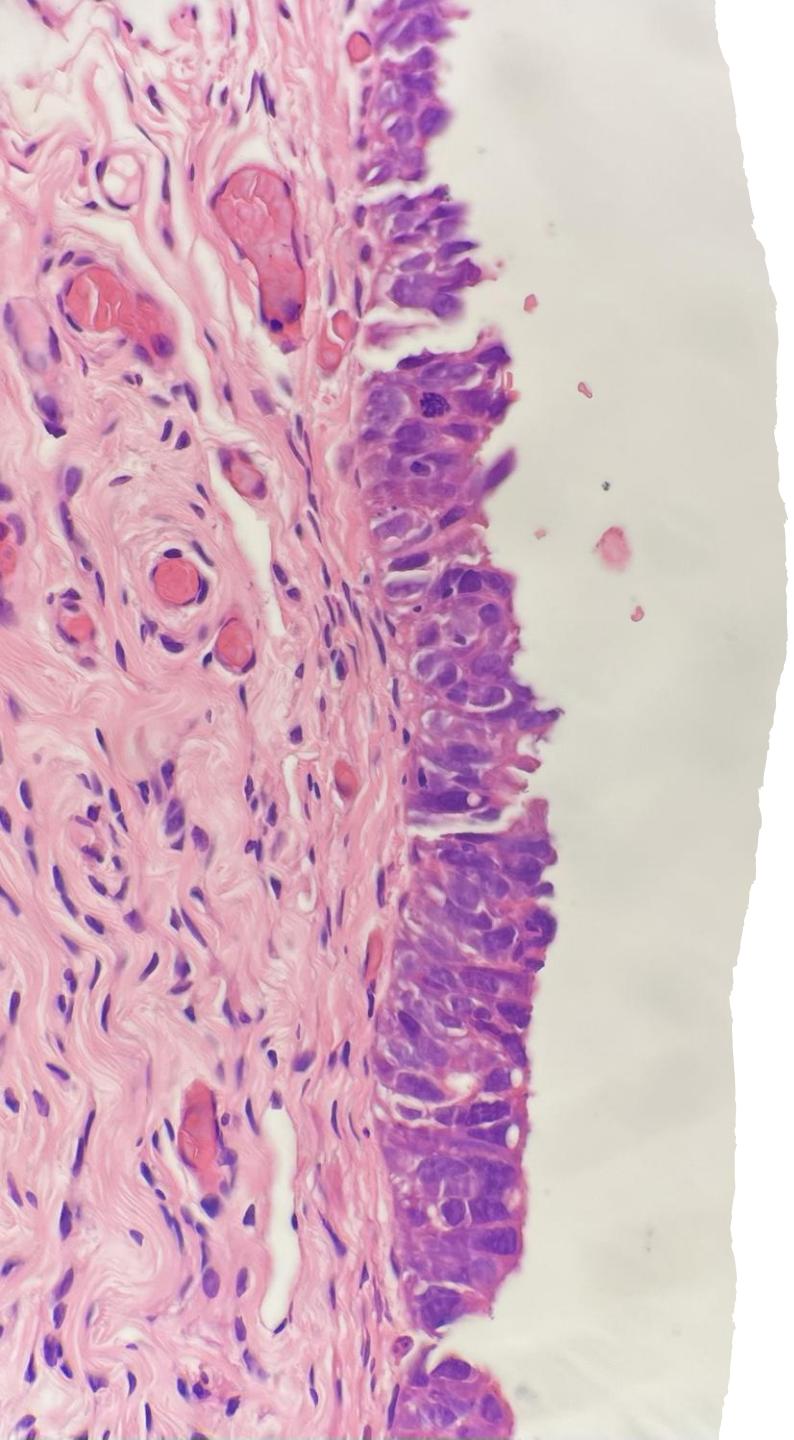

FT



High grade serous carcinoma (HGSC)

- Most common ovarian carcinoma subtype
- Tumour of serous lineage
- High grade histological features
- TP53 mutation
- Aggressive behaviour
- Origin?


FT

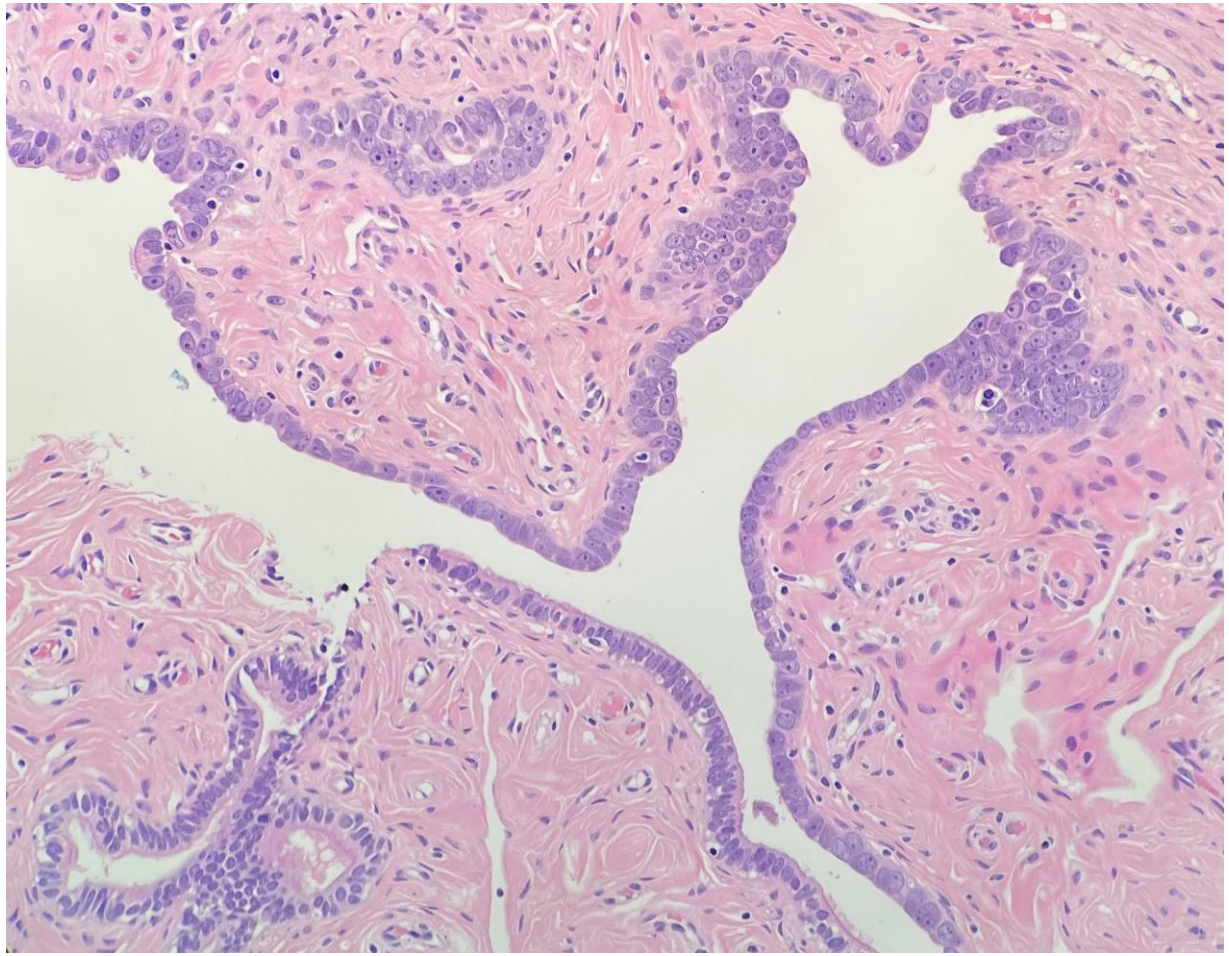


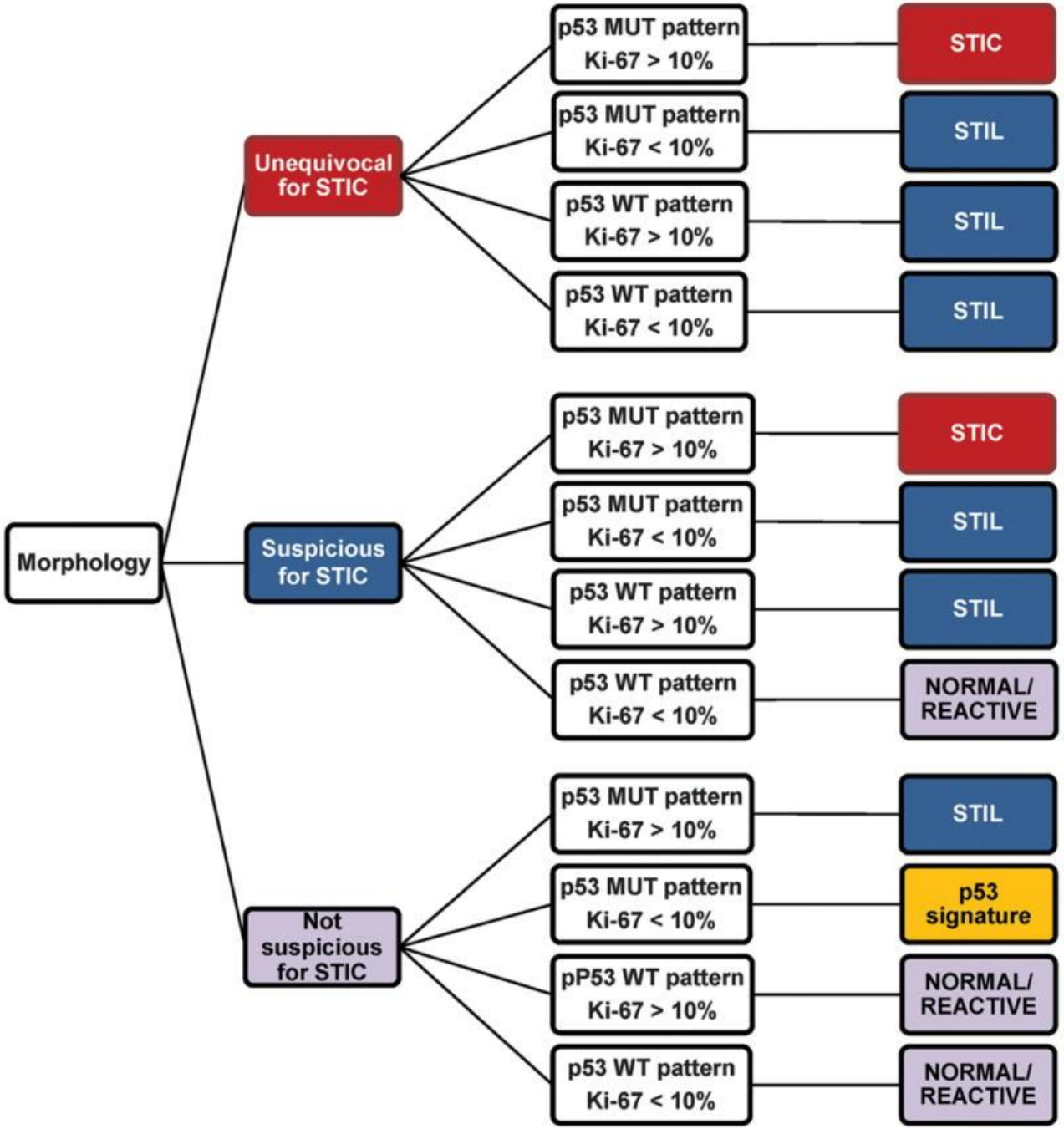
Serous tubal intraepithelial carcinoma (STIC)

- Precursor to high grade serous carcinoma
  - Identical TP53 mutations seen in STICs as in subsequent HGSC
  - Reduced HGSC risk in patients with salpingectomy
  - Models
    - Fallopian tube model: p53 signature -> STIL -> STIC -> HGSC
    - Precursor escape model
  - Progression time: ~6 years
- Most commonly seen in the fimbrial end of the tube
- Incidence:
  - Salpingectomies as part of treatment of HGSC: 11-61%
  - Prophylactic salpingectomies for BRCA carriers: ~7%
  - Salpingectomy for benign conditions: <0.1%

Serous tubal intraepithelial carcinoma (STIC)

- Morphological features:
  - Nuclear pleomorphism
  - High nuclear-to-cytoplasmic ratio
  - Mitotic activity
  - Prominent nucleoli
  - Loss of polarity
  - Stratification
  - Loss of cilia
  - Exfoliation of cells

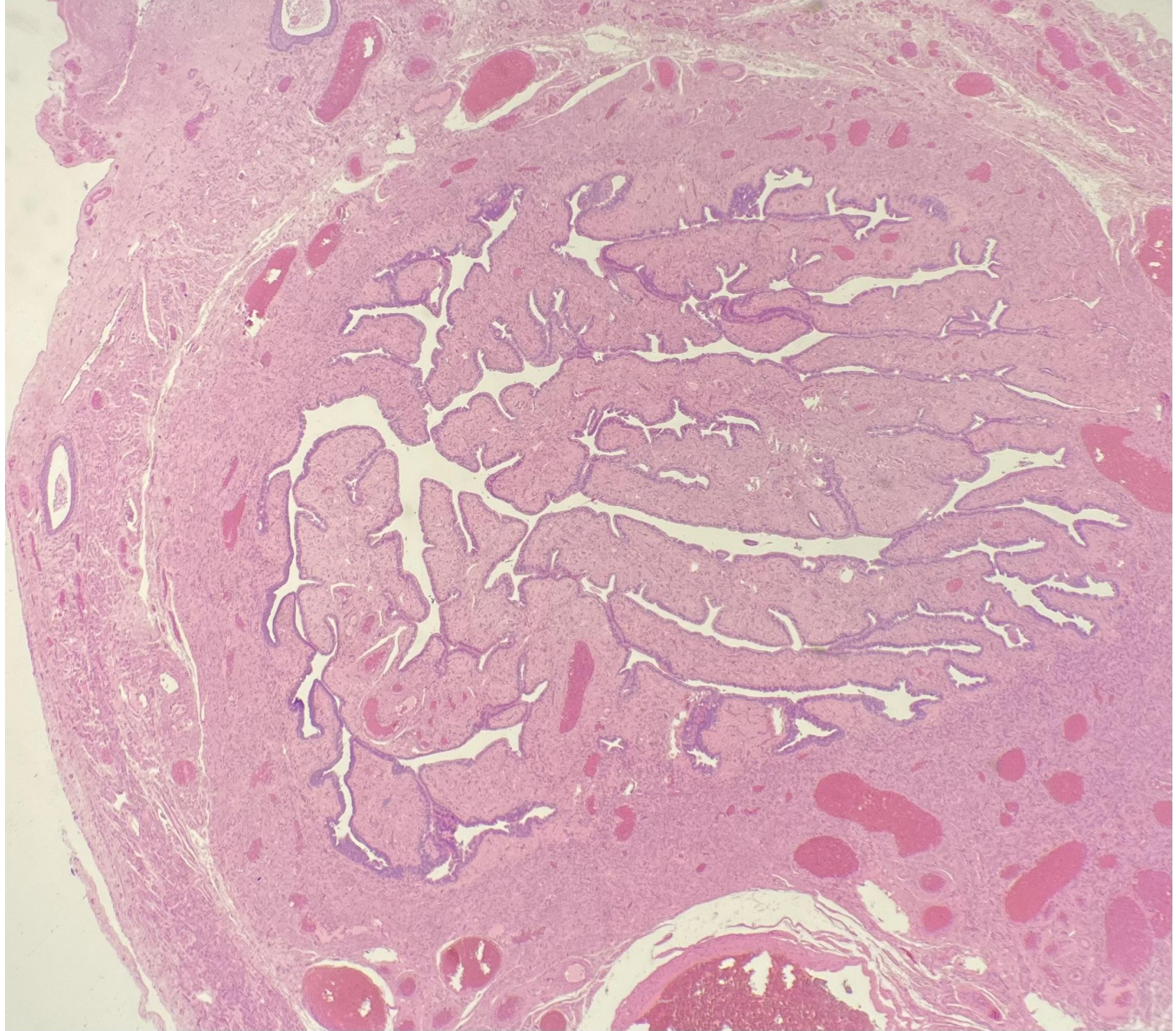


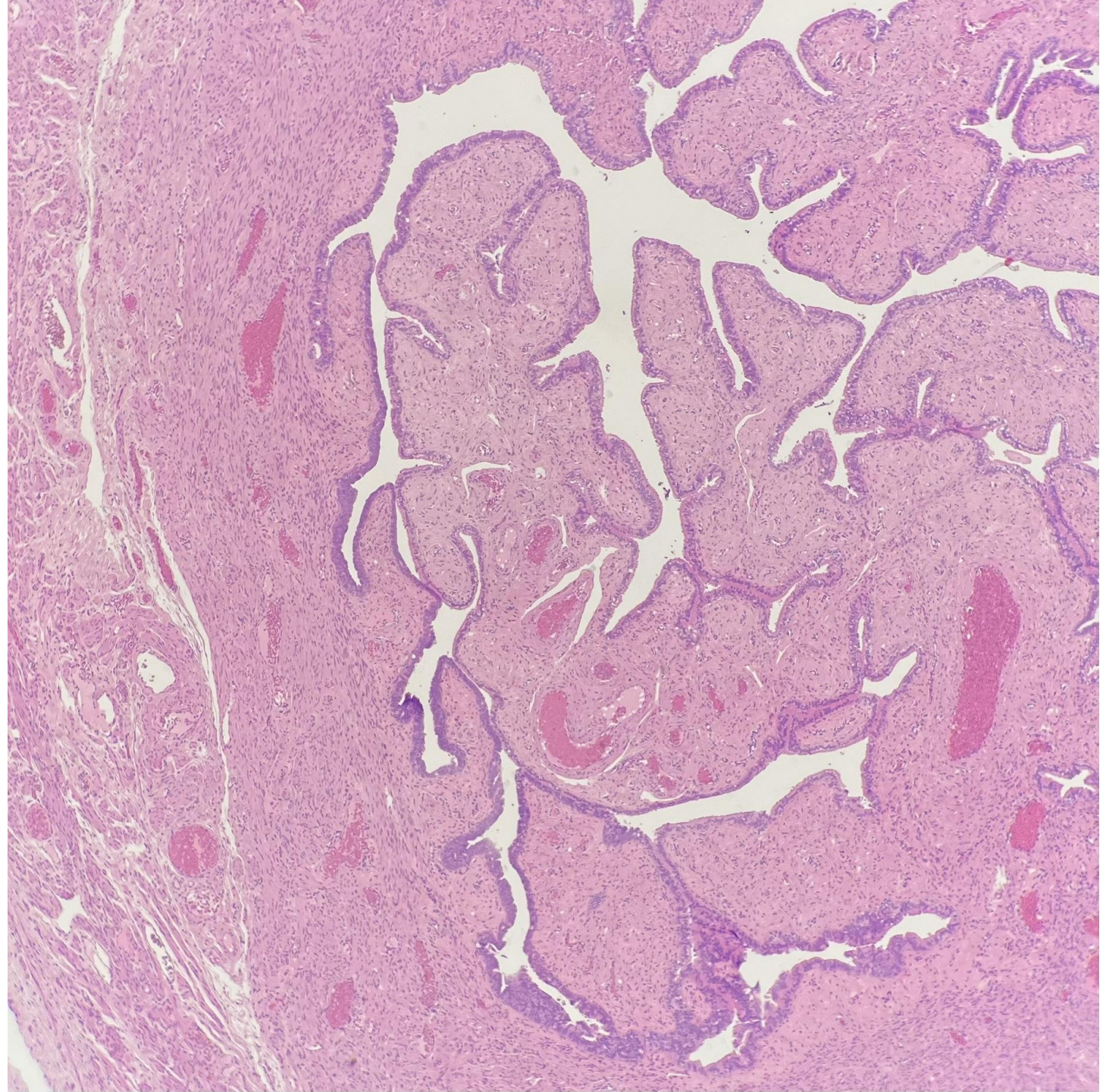


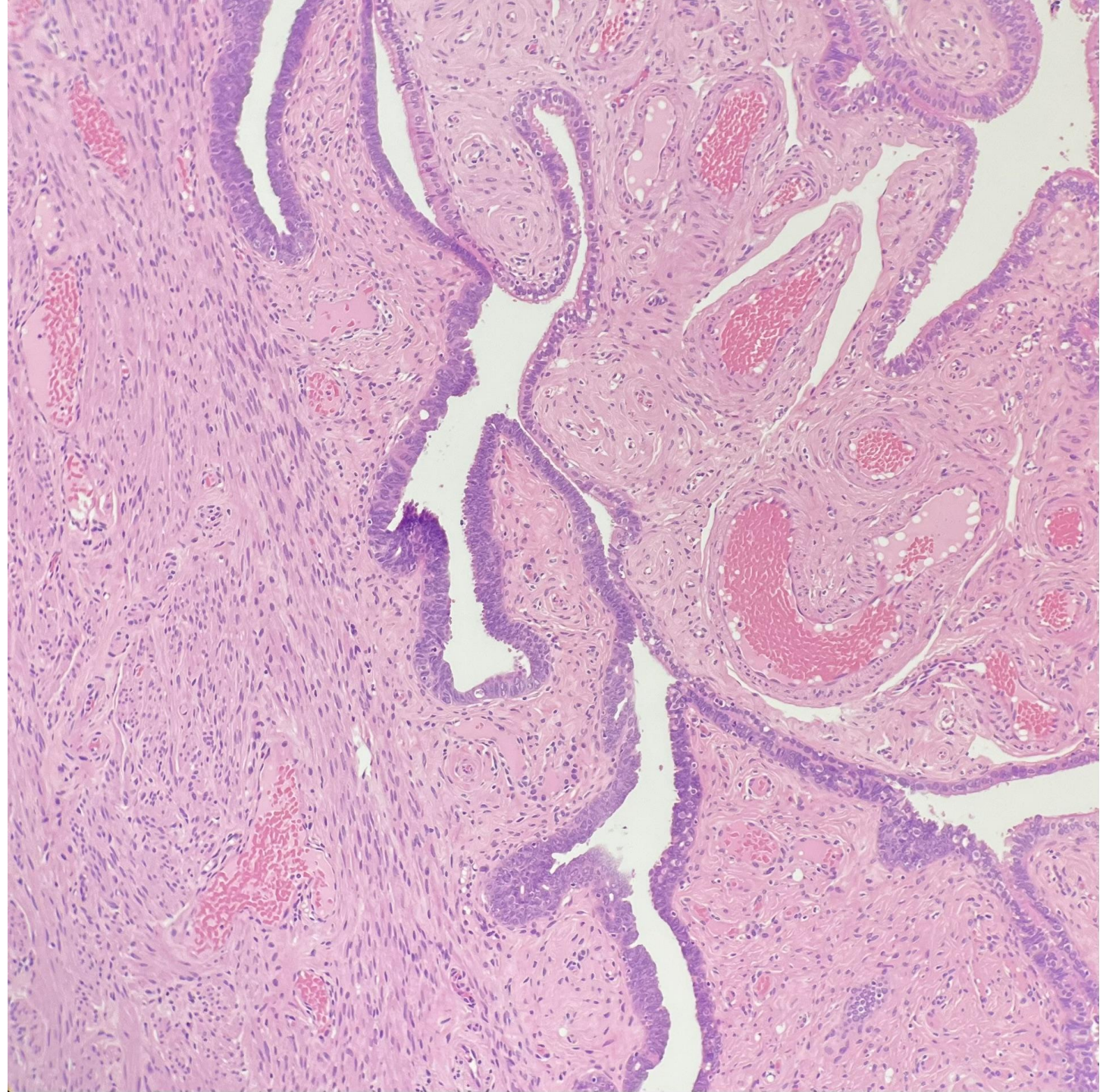
Visvanathan, Kala et al. 2011. PMID: [21989347](21989347)

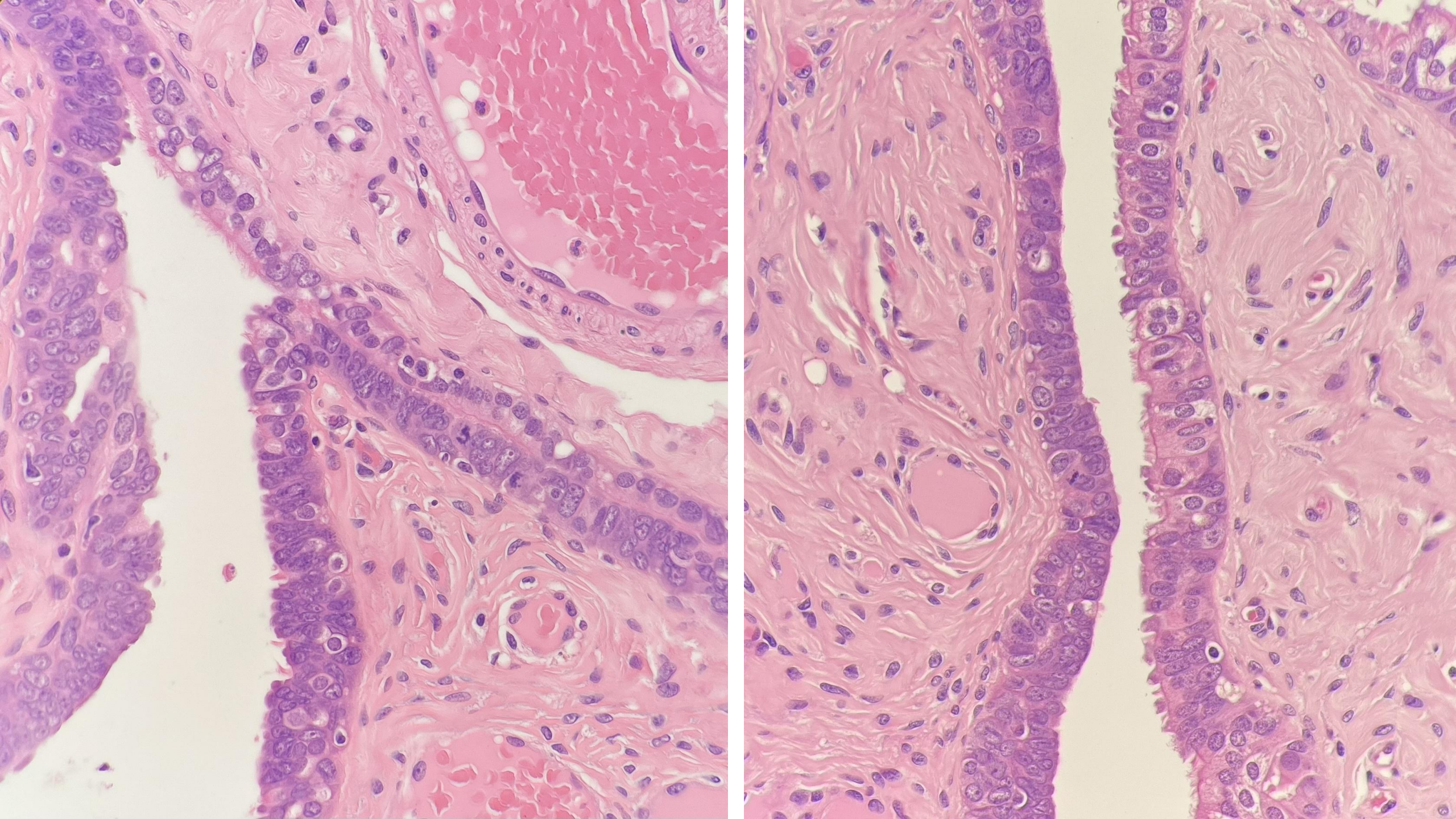
Case 2

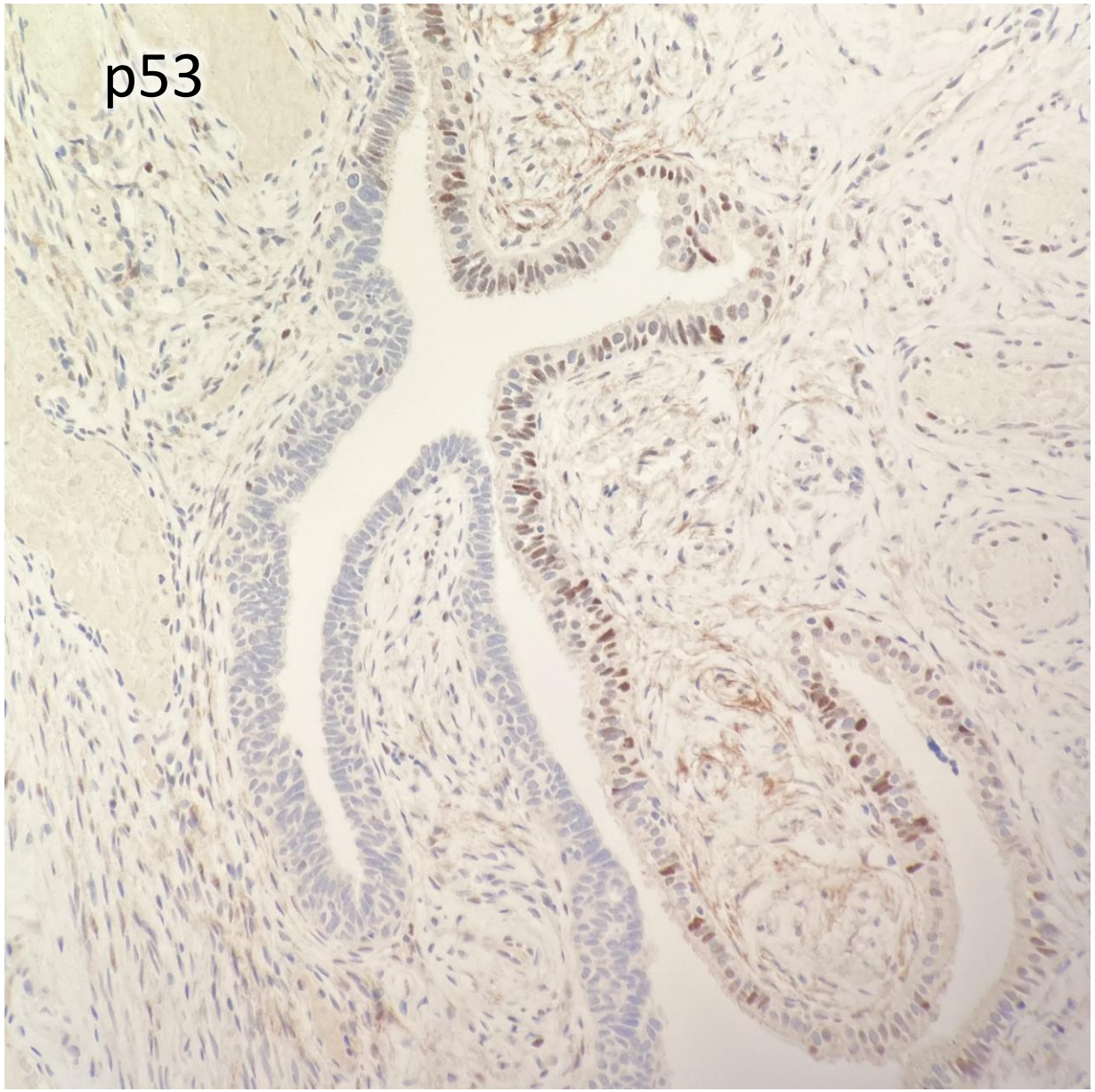
- 50F
- TAH BSO for vaginal prolapse

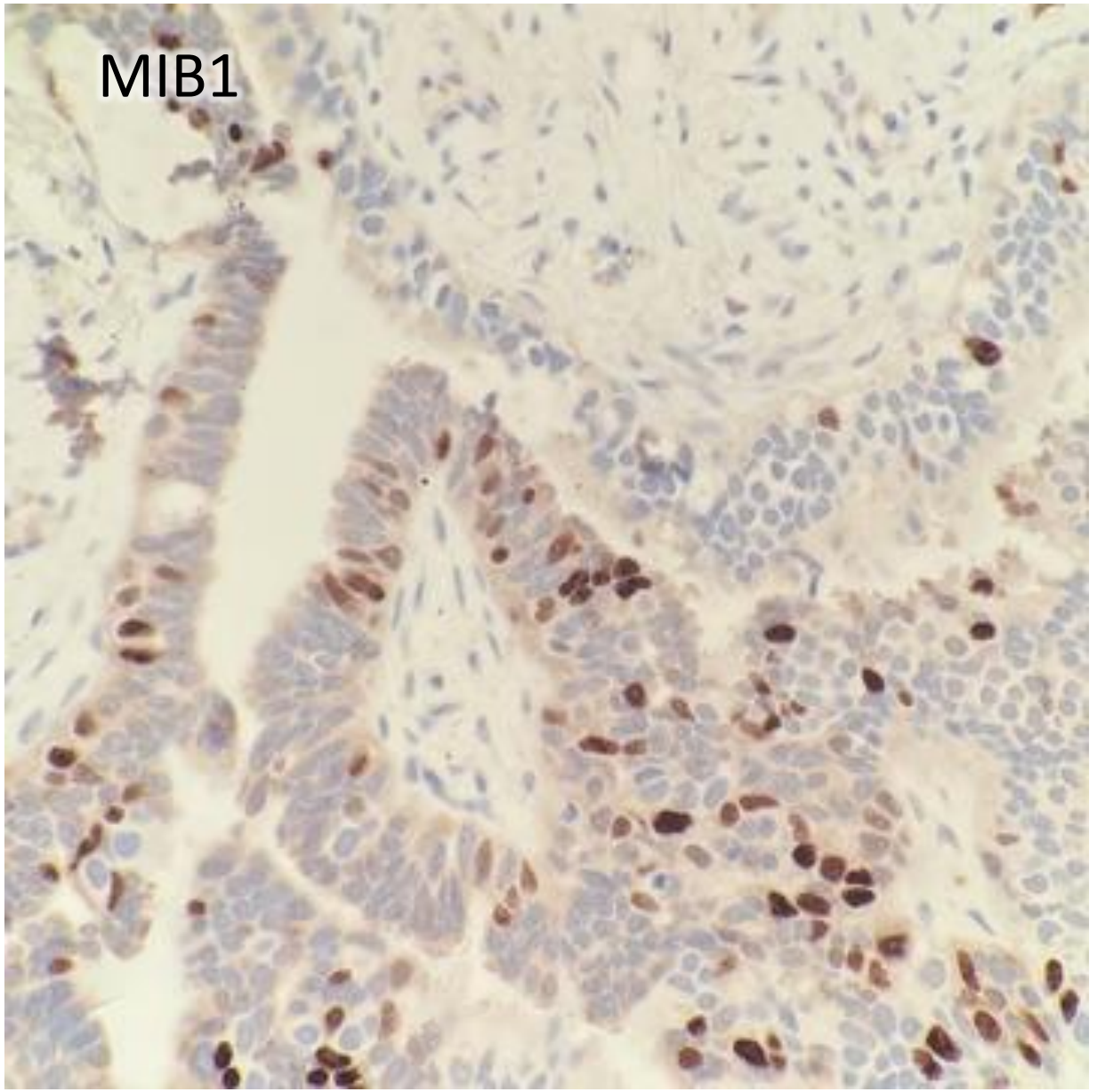









p53


MIB1

Isolated STIC

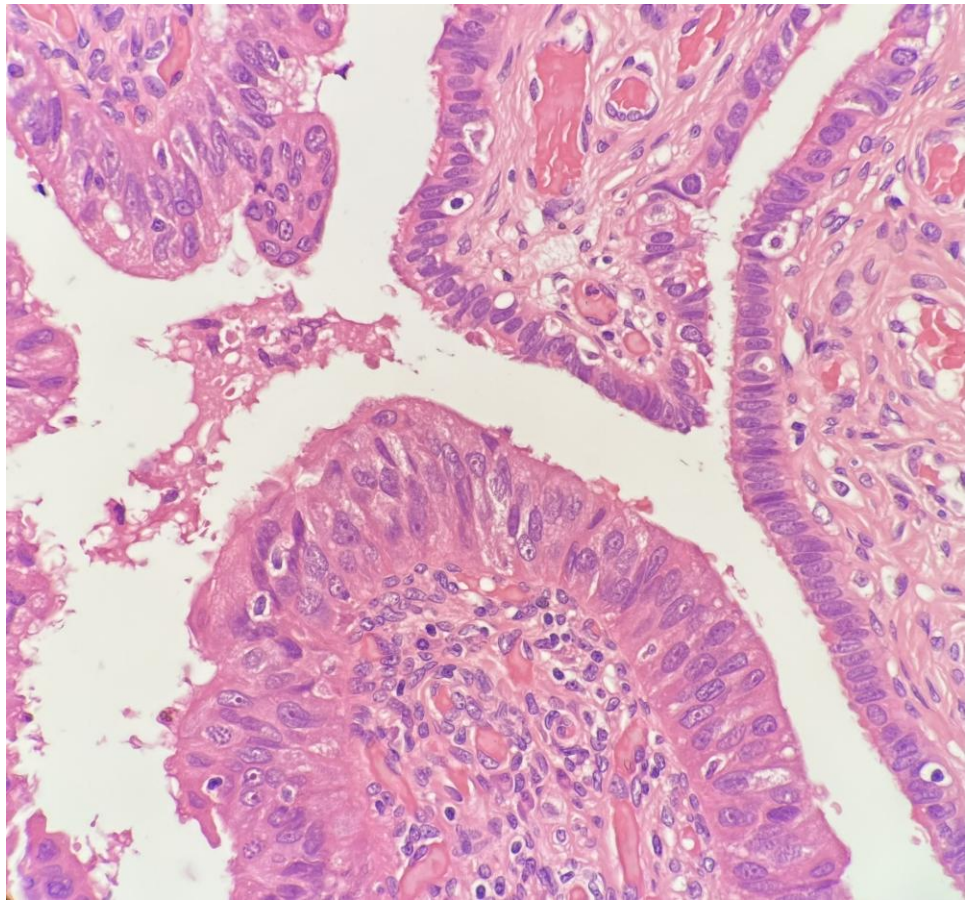
- Risk of concurrent HGSC: ~10%
- Risk of subsequent HGSC (7-28%)
  - Mostly in patients with germline BRCA1 mutation
- Management
  - Discussion at MDM
  - Staging surgery
  - Germline genetic testing
    - No BRCA, BRIP1, EPCAM, MLH1, MSH2, MSH6, PALB2, RAD51C or RAD51D mutation identified
  - Follow up
    - CA125 and ultrasound

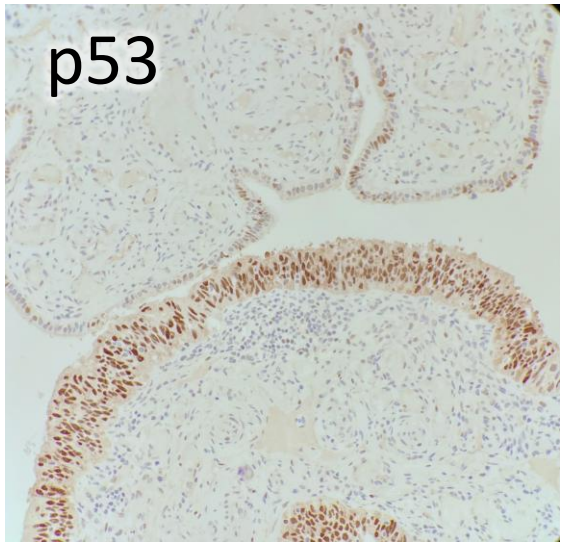
Importance of identifying STIC

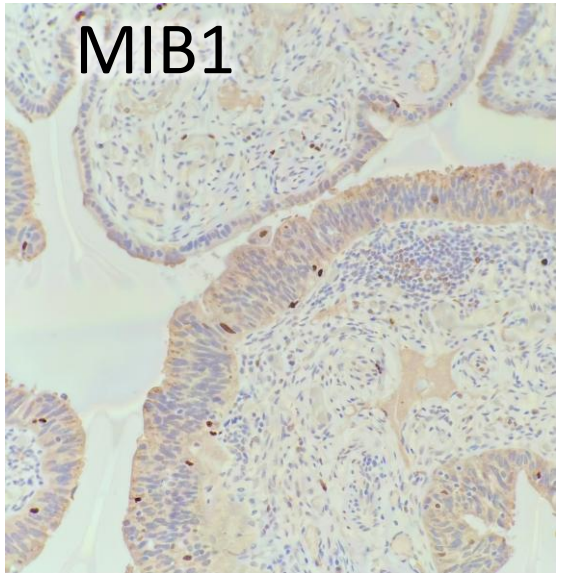
- Identify patients with increased risk of developing HGSC
  - Further surgery
    - Staging
    - Immediate oophorectomy instead of delayed
  - Follow up
- Identify patients who may have inherited predisposing conditions (e.g. germline BRCA mutations)
  - Genetic testing may be indicated, if not already known about
- Assignation of primary site when evaluating high grade serous carcinomas

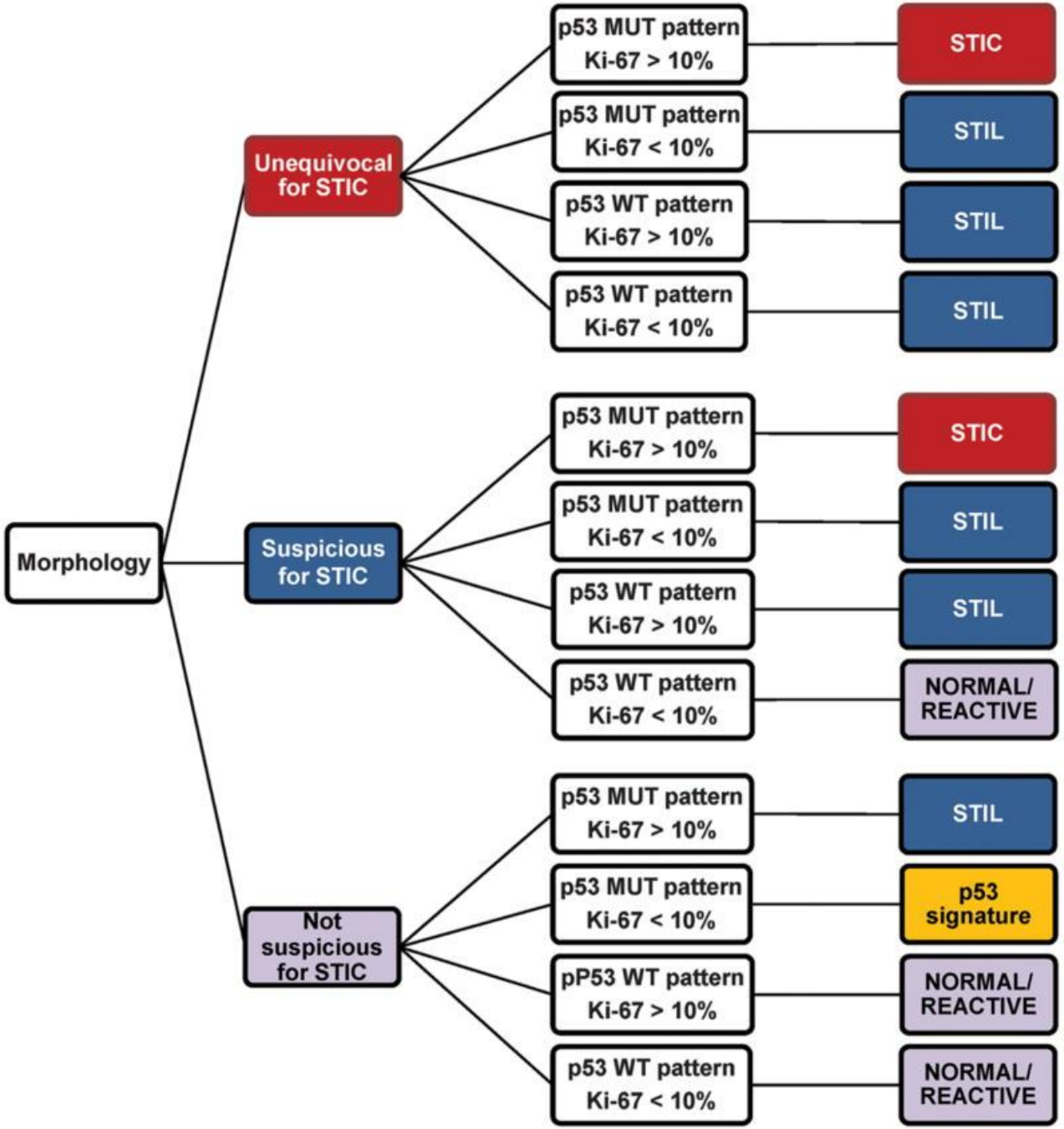
Case 3

- 46F
- Bilateral salpingectomy for endometriosis
- Histology referred for opinion
- Not amounting to STIC



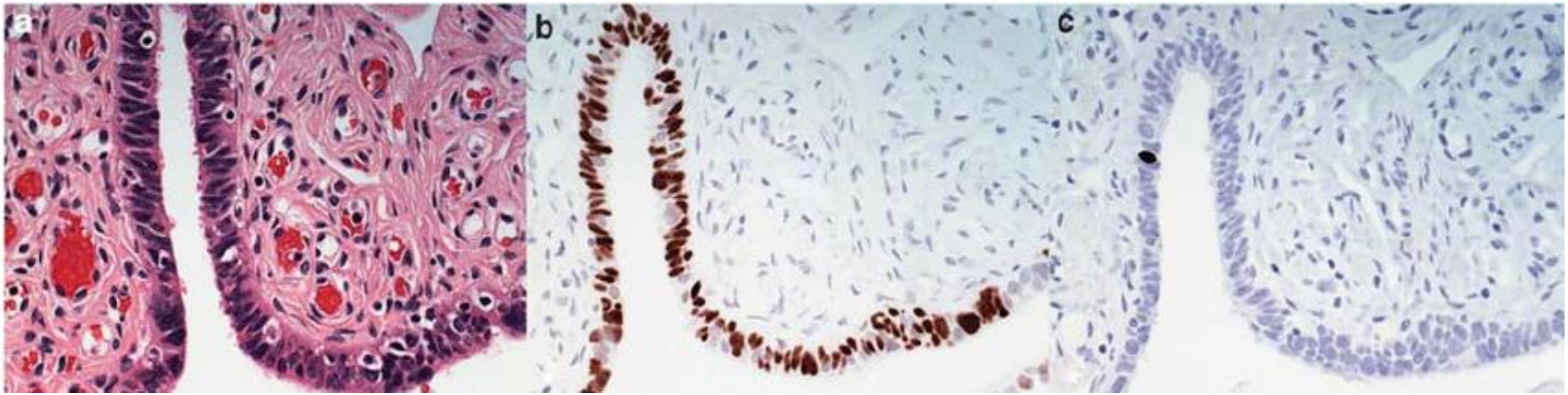






Visvanathan, Kala et al. 2011. PMID: [21989347](21989347)

p53 signature



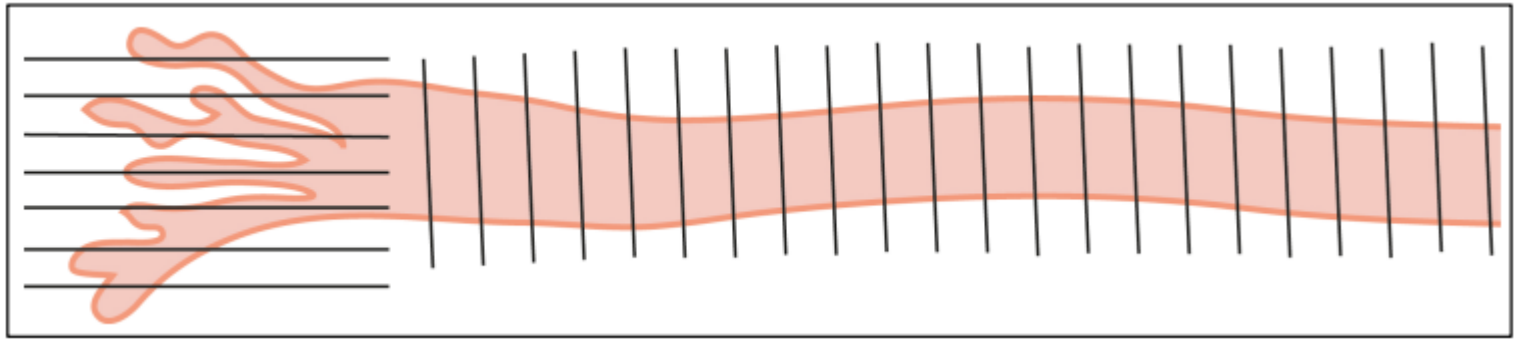
Shaw, Patricia & Rouzbahman, Marjan & Pizer, Ellen & Pintilie, Melania & Begley, Heather. (2009). Candidate serous cancer precursors in fallopian tube epithelium of BRCA1/2 mutation carriers. Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc. 22. 1133-8. 10.1038/modpathol.2009.89.

Prophylactic surgery

- Patients with germline mutations in BRCA1, BRCA2, RAD51C/RAD51D, BRIP1, PALB2
- Risk of ovarian cancer by age 80:
  - BRCA1 carrier: 44%
  - BRCA2 carrier: 17%
  - Background population: 2%
- No effective screening method for HGSC
- Risk reducing salpingo-oophorectomy
  - Reduce risk of ovarian cancer by over 80% in BRCA carriers
  - Reduces risk of breast cancer
- Risk reducing salpingectomy with delayed oophorectomy
  - Avoids premature menopause

SEE-FIM protocol

- Sectioning and Extensively Examining the Fimbriated end (SEE-FIM) Protocol
- Fimbriae (distal 20mm): Longitudinally section at 2mm thickness
- Remainder: Transversely section at 2mm thickness
- Submit entire fallopian tube
- Submit entire ovary



RCPath dataset for histopathological reporting of carcinomas and borderline tumours of the ovaries, fallopian tubes and peritoneum July 2019.

Tubal dissection and sampling

- Risk reducing surgery (BRCA1, BRCA2, etc)
  - SEE-FIM protocol
- Surgery for high grade serous carcinoma
  - SEE-FIM protocol if macroscopically normal
- Fallopian tubes removed for benign conditions
  - Submit entire fimbrial end

Thanks!