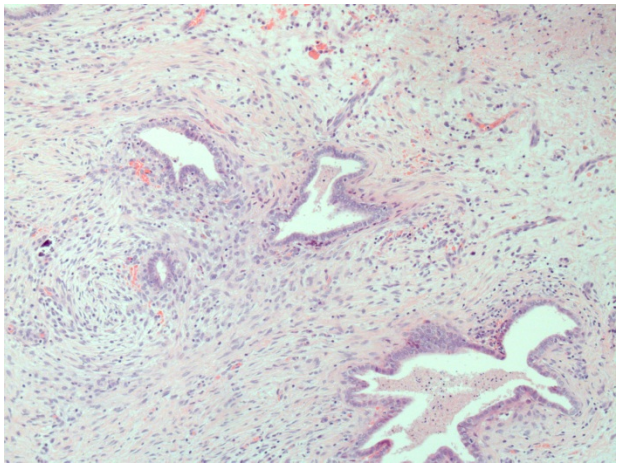
FRCPath Revision Course Gynaecological Pathology

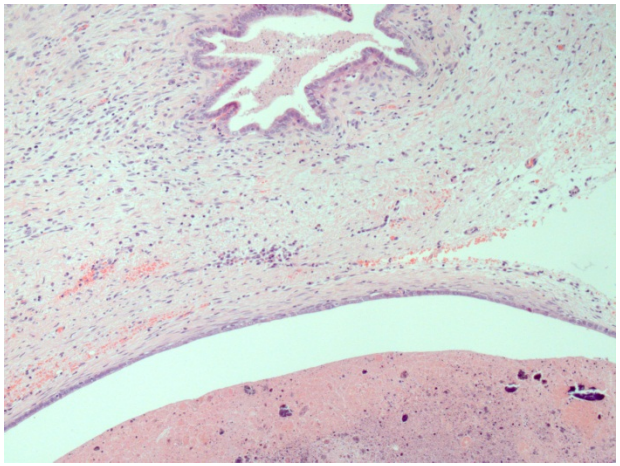
Prof Naveena Singh
Consultant Pathologist
Barts Health NHS Trust

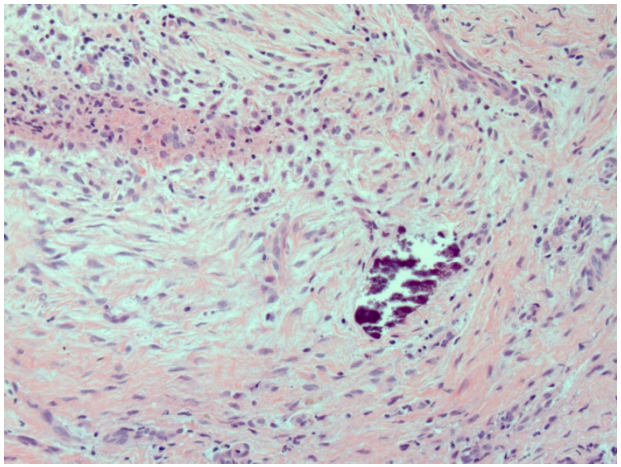
Case 1

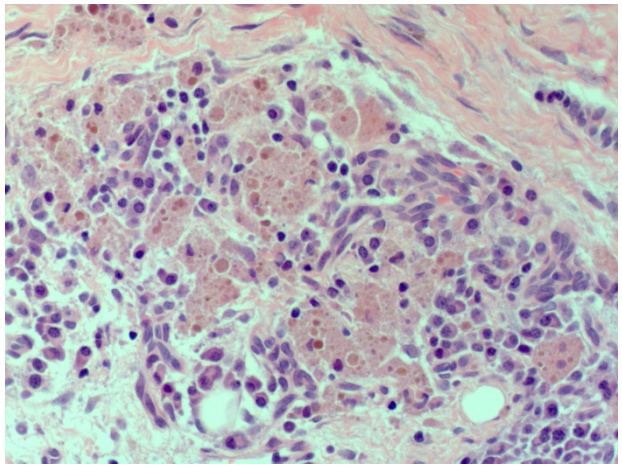
- 09S36776
- 29/F Excision of fibrous nodule at end of lower abdomen incision.

Case 1









Endometriosis

- Typically glands+stroma+haemosiderin; 2 out of 3 for diagnosis
- Glands:
  - Inactive or functional
  - Metaplastic changes: ciliated, hobnail, squamous, mucinous
- Stroma:
  - Usually obvious
  - May be inconspicuous cuff
  - Spiral arterioles, haemosiderin, CD10 IHC
  - Decidual change
  - Myxoid change
  - Smooth muscle metaplasia/ elastosis
- Haemosiderin:
  - Pigmented histiocytes
  - Pseudoxanthomatous

Endometriosis – Differential diagnosis

- Endosalpingiosis
- Endometrial stromal sarcoma with glandular differentiation (‘aggressive endometriosis’)
- Adenosarcoma
- Other causes of pseudoxanthomatous reaction

Malignancy in endometriosis

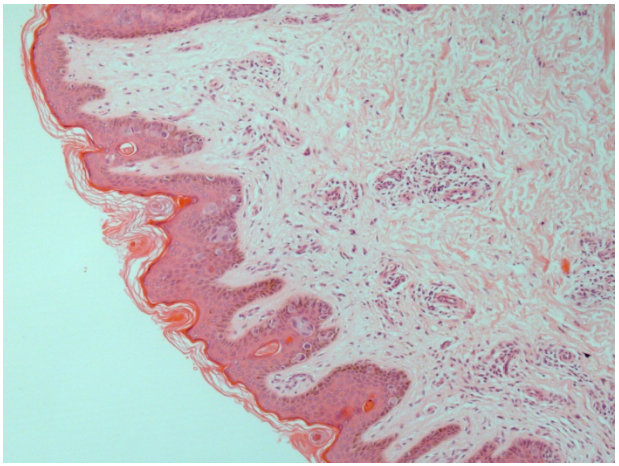
- Up to 10% can have malignancy
- Carcinoma: clear cell or endometrioid
- Other epithelial: Seromucinous borderline tumours; endometrioid adenofibroma
- Mesenchymal: ESS, MMMT, adenosarcoma

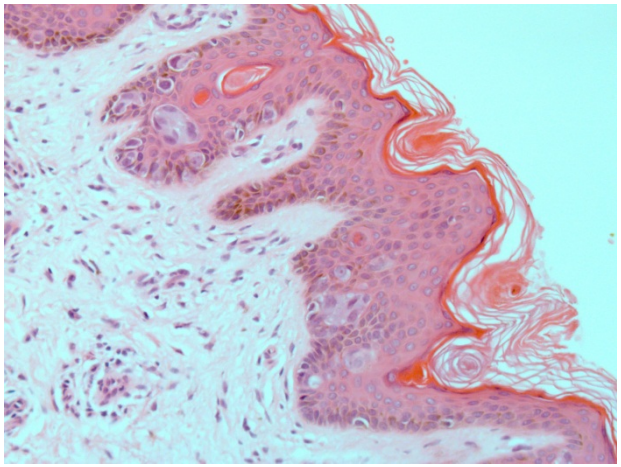
Revision: Polypoid tumour-like endometriosis

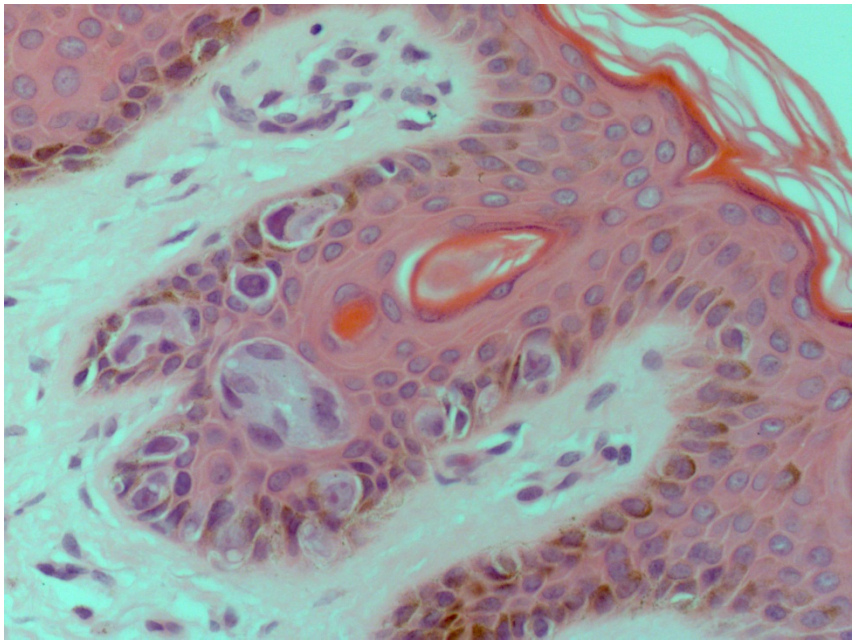
Case 2

- 09S14138
- 66/F Previous vulvectomy for extramammary Paget disease

Case 2







Paget disease of Vulva

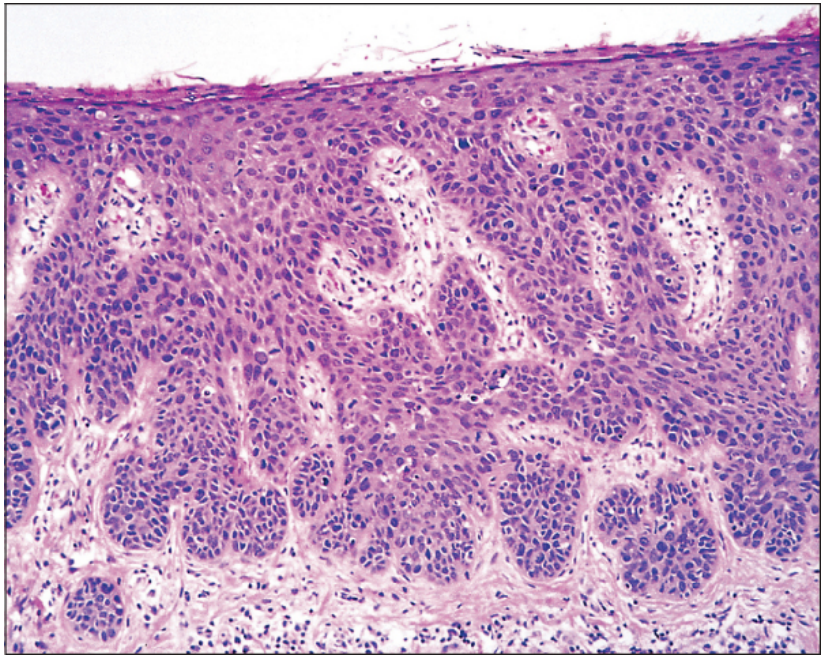
- Malignant cells in epidermis and adnexal structures
- Vesicular nucleus, prominent nucleolus, pale amphophilic cytoplasm which is mucin positive
- IHC: CK7, CEA, Cam 5.2
- 30% have unrelated synchronous/metachronous Ca (breast, cervix, UB)
- <5% are secondary to local carcinoma (genital, anal, urinary tract)
- 30% have dermal invasion – facilitated by CK7

Paget disease of Vulva – Differential diagnosis

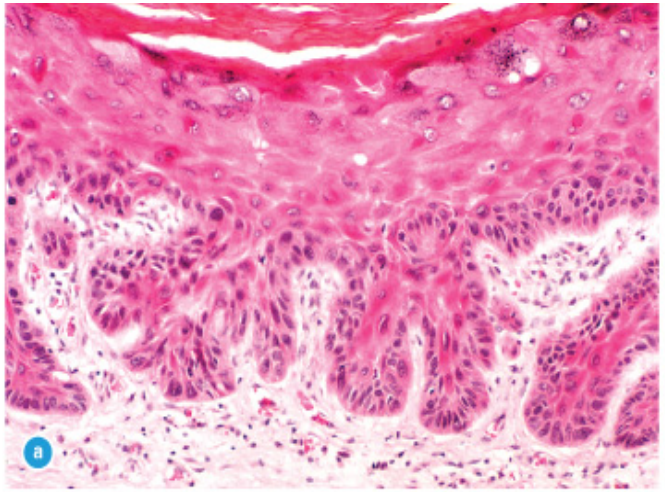
- Pagetoid VIN
- Malignant melanoma – superficial spreading

Revision: Pathways of VIN and VSCC

VIN



Classical VIN 3



VIN simplex

	HPV	Non-HPV
Age	4^{th} – 6^{th} decade	6^{th} – 9th decade
Etiology	Oncogenic HPV infection	Chronic inflammation (lichen sclerosus)
Precursor	High grade VIN, usual type	Differentiated VIN
Biomarker expression	p16 overexpression	Abnormal p53 expression; p16 negative
Outcome	Favorable	Less favorable (more likely to have nodal mets, recur

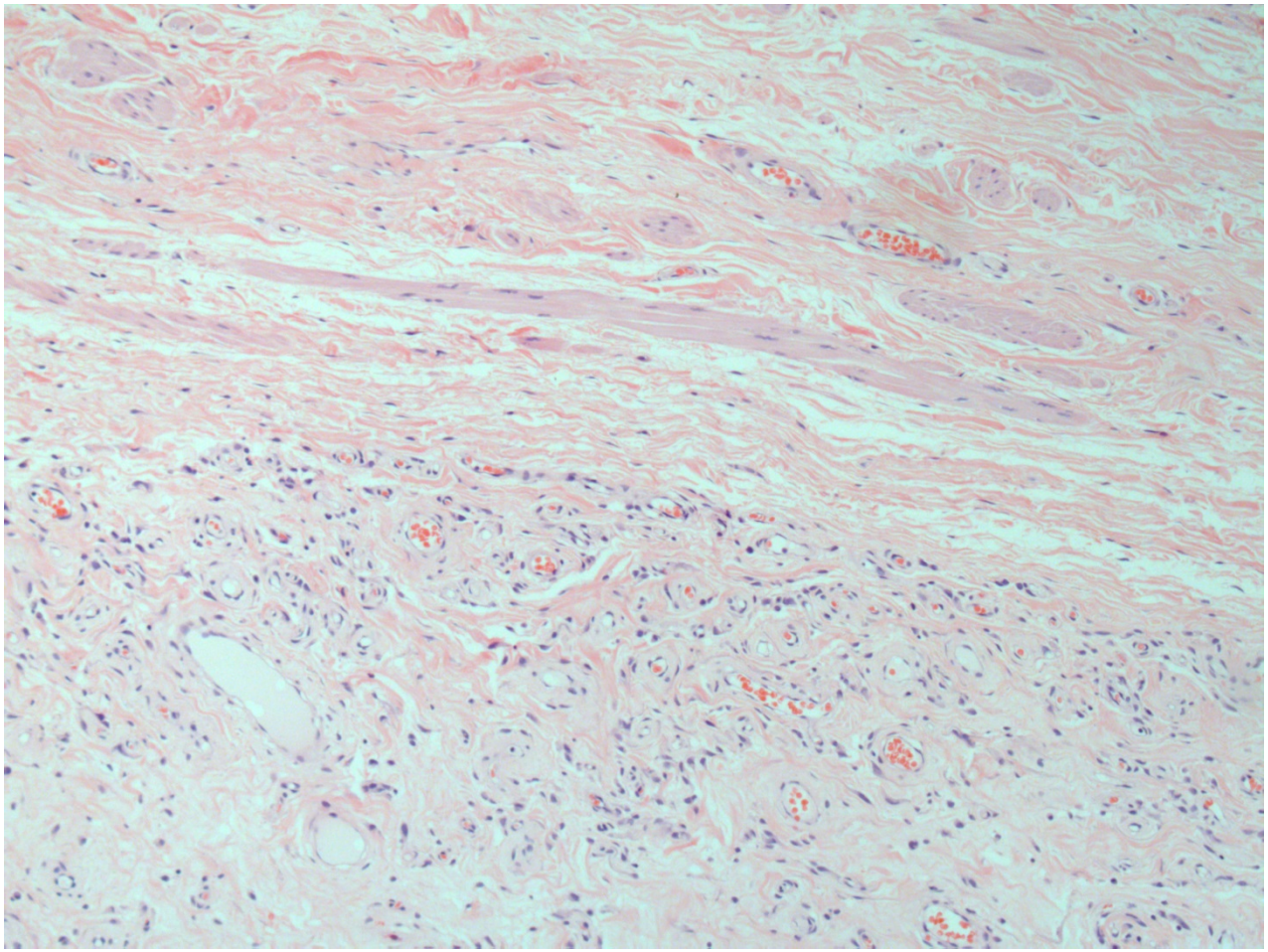
Clinical Significance of HPV Status in VSCC

- HPV-related VSCC has better outcomes
  - Younger
  - Less advanced
  - Lower incidence of LN mets
  - Better outcomes with surgery, even when conservative
  - Better outcomes with RT/chemoRT
- **Essential to classify VIN/VSCC as HPV-mediated or HPV-independent**

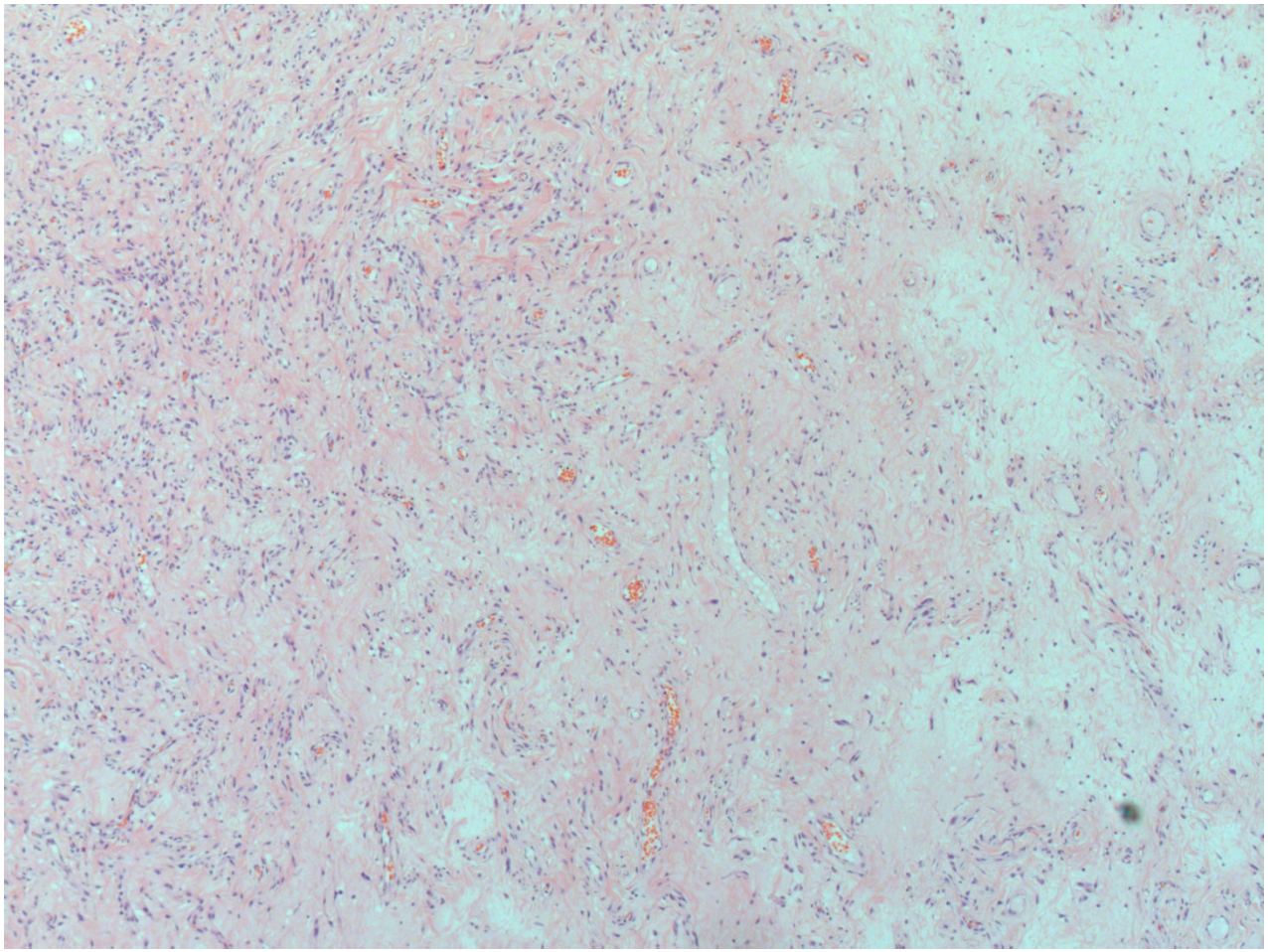
Case 3

- 07S8184
- 30/F Excision of vulval cyst

Case 3



Case 3



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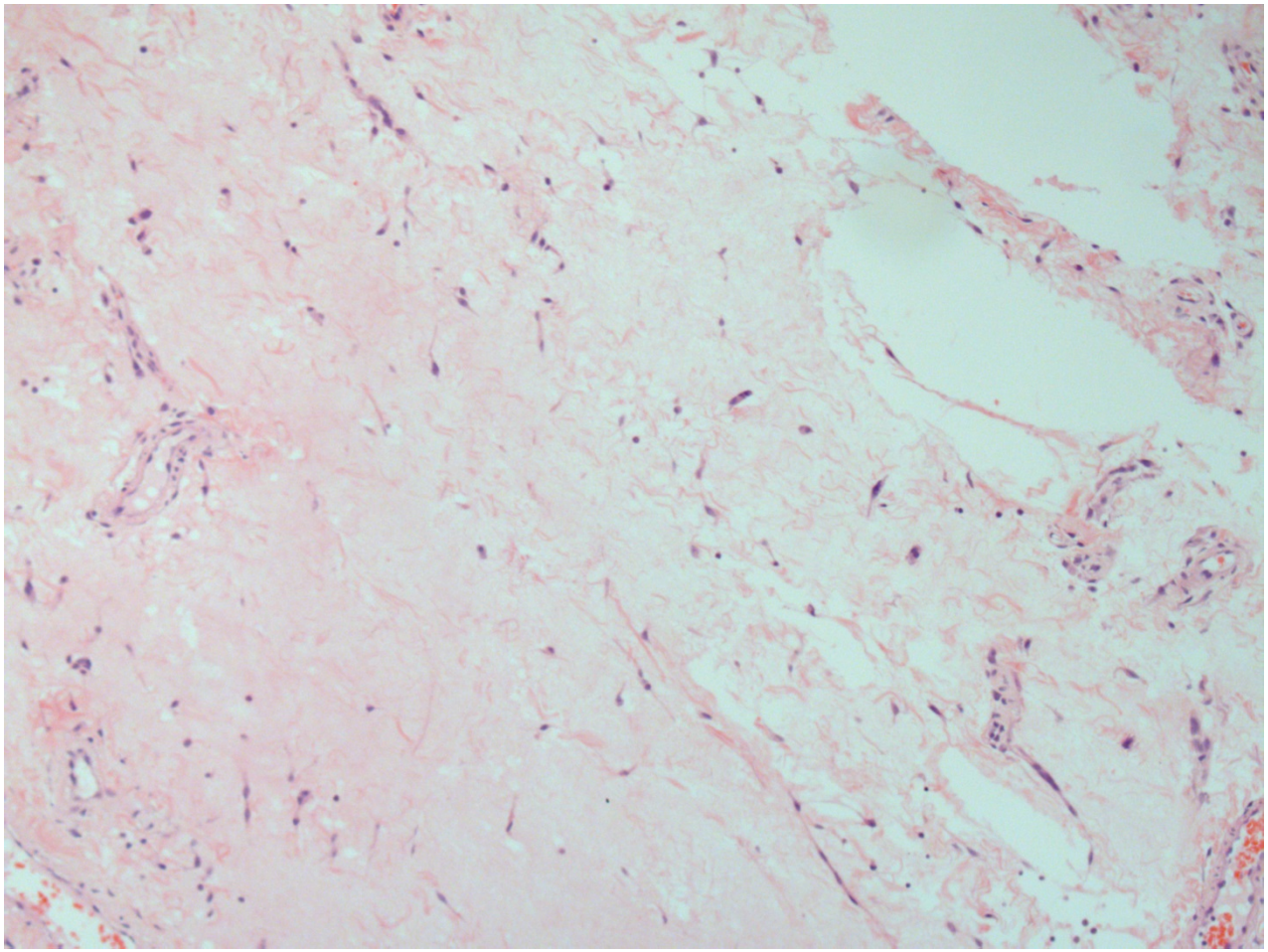

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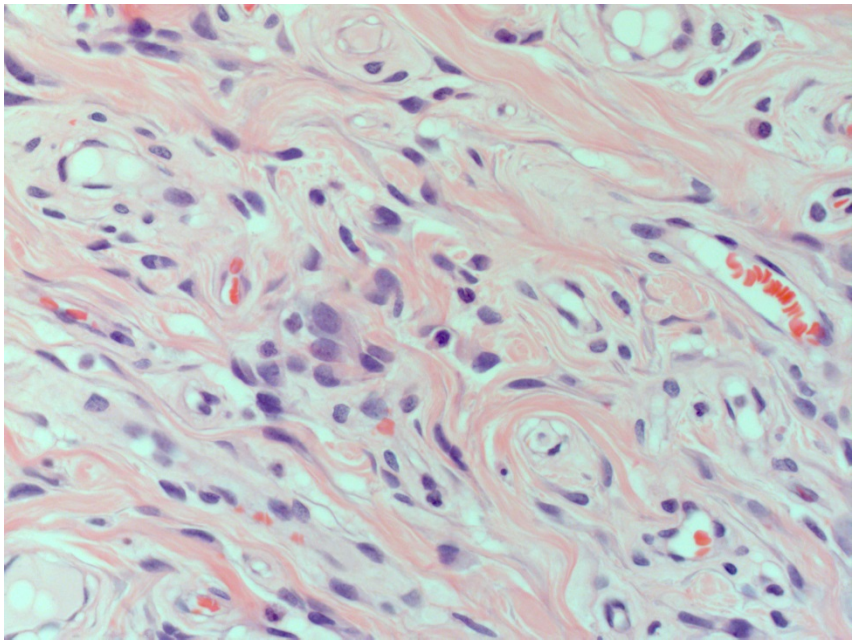
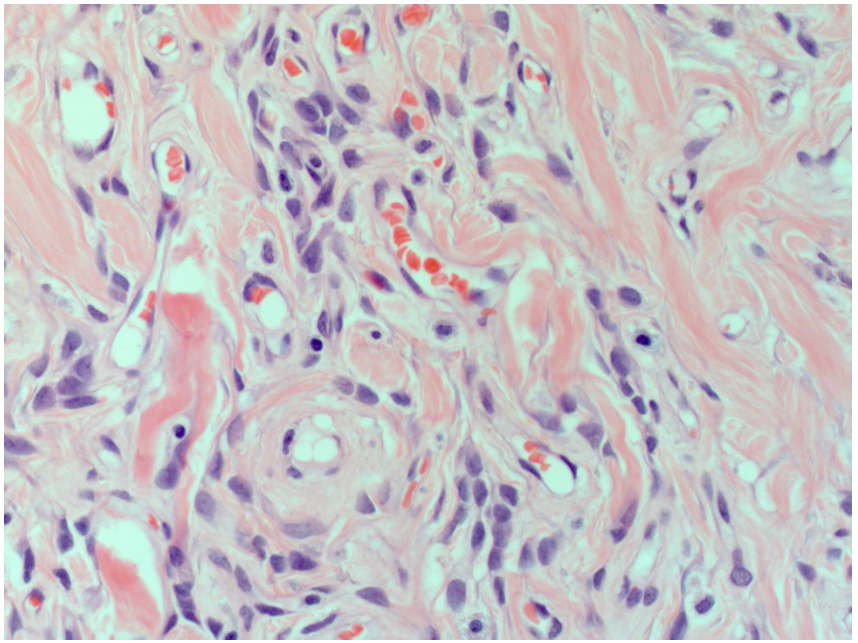




Angiomyofibroblastoma

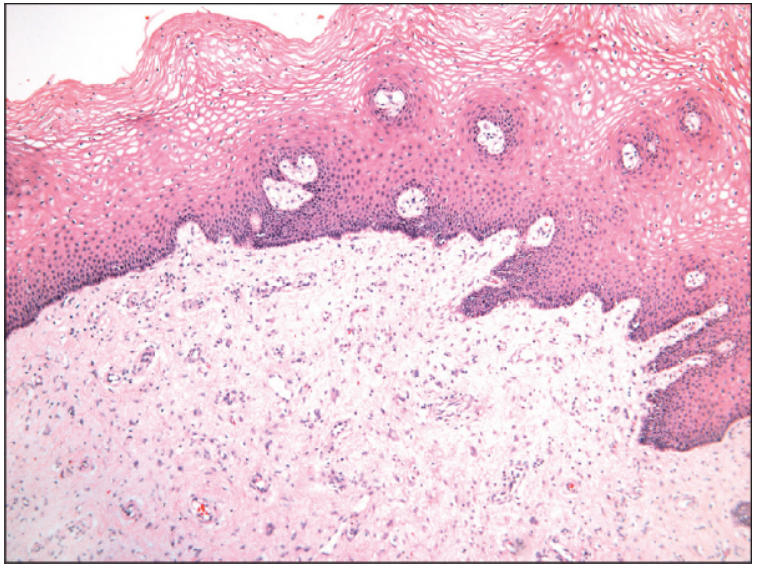
- Well circumscribed
- Alternating hyper- and hypocellular zones
- Numerous small to medium-sized blood vessels
- Perivascular fibrosis
- Spindled, oval, epithelioid or plasmacytoid cells
- Collagen strands or bundles
- IHC: Vimentin, desmin+, occasionally actin, CD34

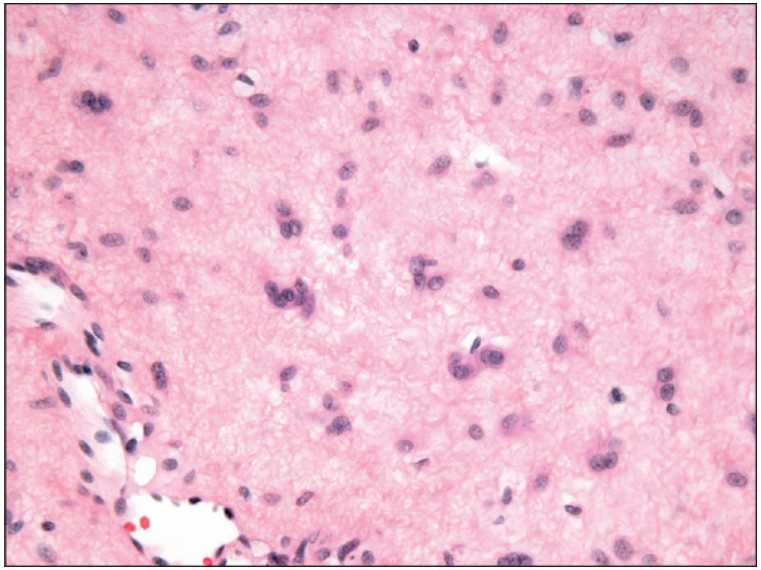
Angiomyofibroblastoma – Differential diagnosis

- Aggressive angiomyxoma
- Cellular angiofibroma

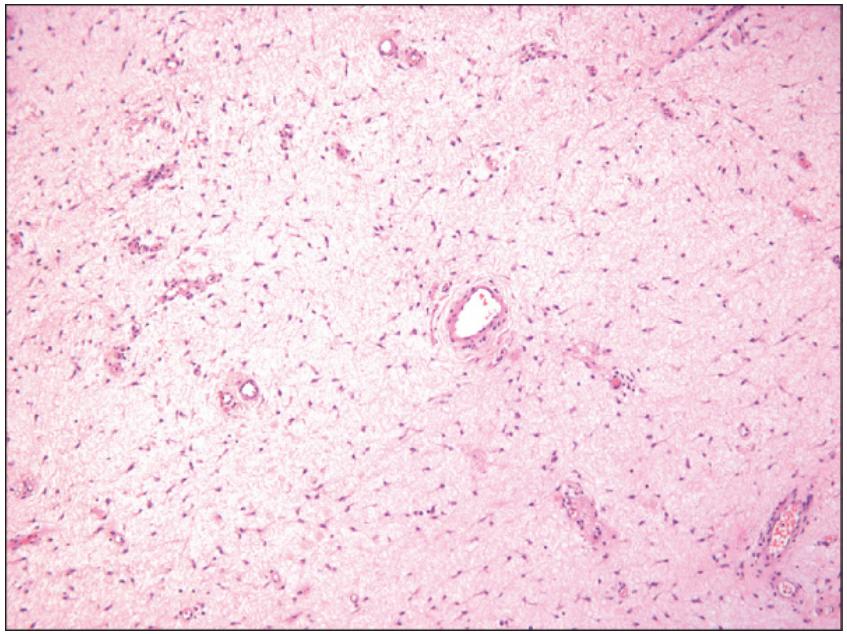
Revision: Site-specific vulvar mesenchymal lesions and their differentiating features

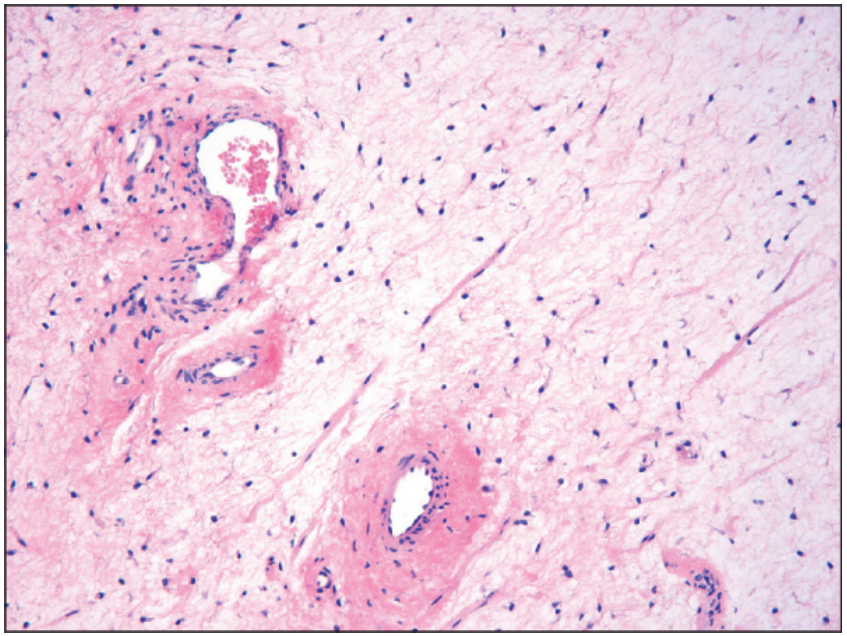
Fibroepithelial stromal polyp





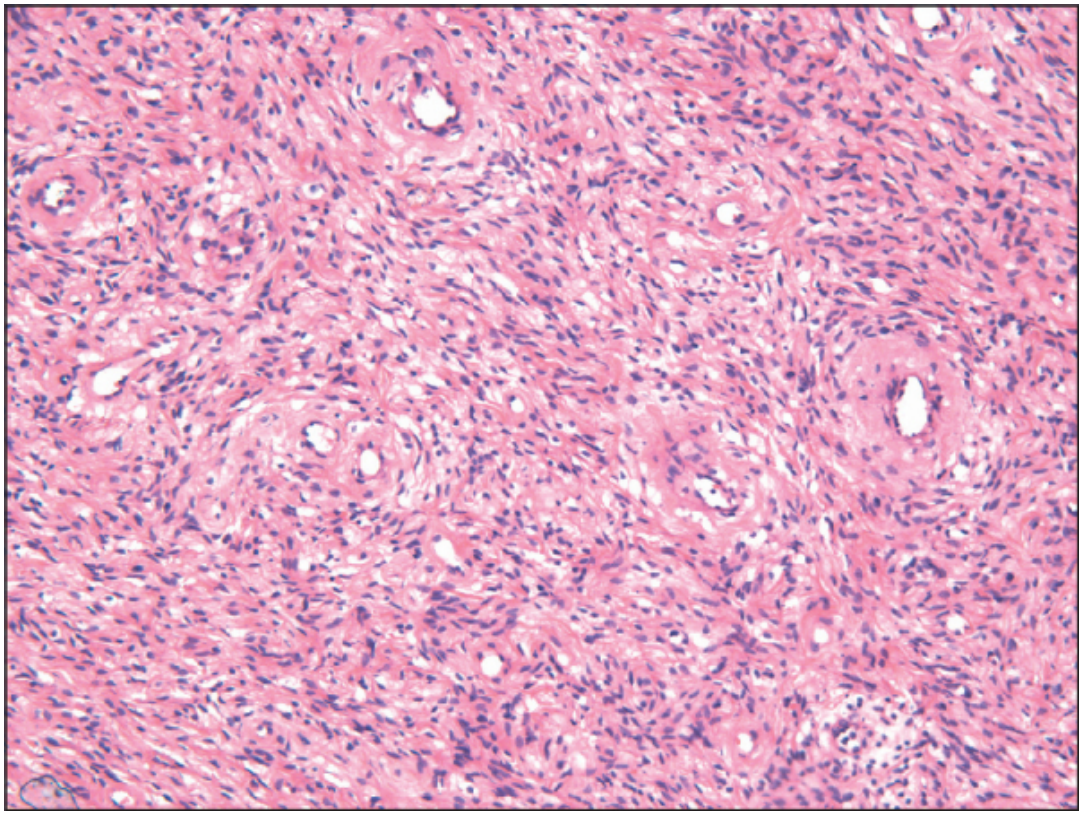
Aggressive/deep angiomyxoma





New IHC marker: HMGA2

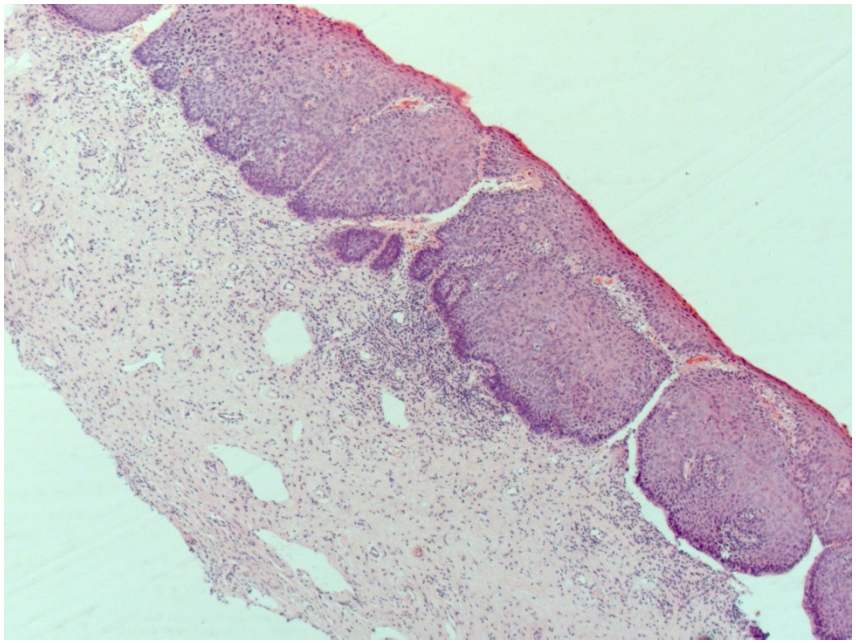
Cellular angiofibroma

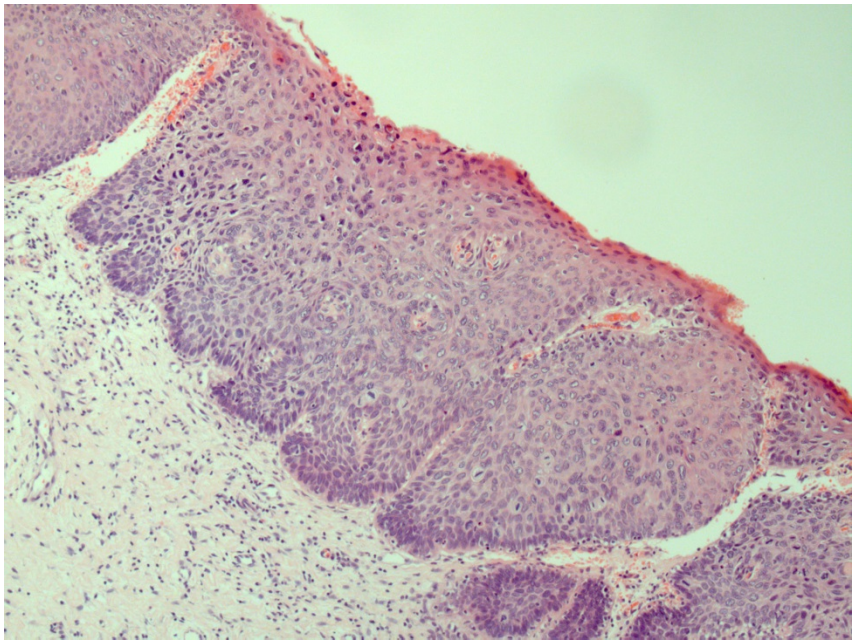


Case 4

- 09S28705
- 34/F Vaginal biopsy, retrovirus positive

Case 4





VAIN 3

- Only 1% as common as CIN 3, may be associated with invasive SCC

Revision: Vulvovaginal cysts

Also: Prostatic type lesions in vagina

Remember: Prolapsed FT; tubulosquamous polyp

Look up: LAST project: unified 2-tier terminology for anogenital HPV related squamous lesions (with -IN1, 2 and 3)

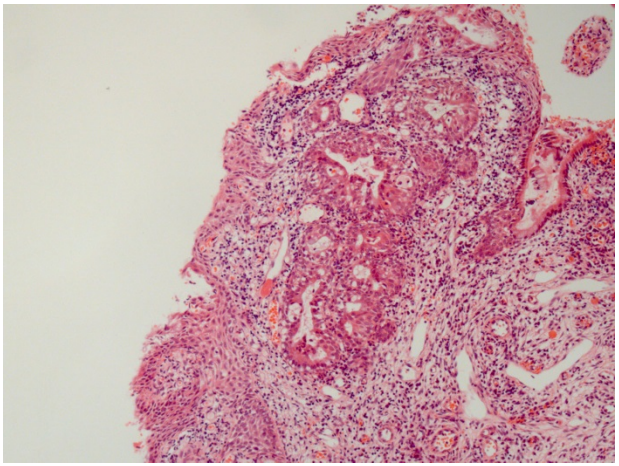
Vulvovaginal cysts

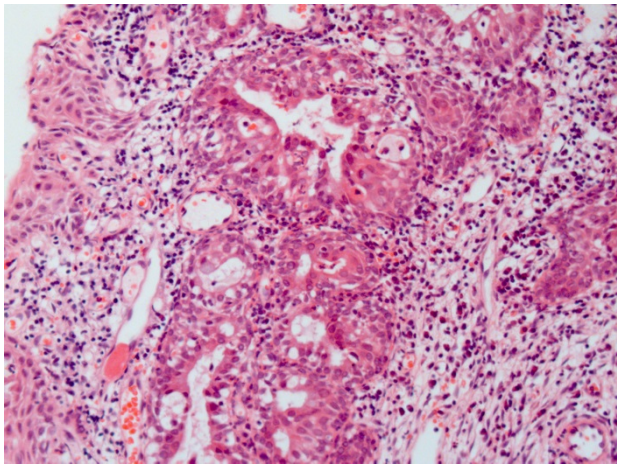
Lining		Site	Origin
Mucinous	Mullerian cyst	Upper vagina, usually anterolateral wall	Mullerian duct
	Mucous vestibular	Usu vestibule, other	Minor vestibular glands
	Bartholin cyst	Posterolat vagina	Bartholin gland
Non-mucinous, non-ciliated cuboidal	Gartner's cyst	Lateral wall of vagina	Wolffian remnants
Columnar endometrial type/ciliated	Mullerian cyst	Upper vagina, usually anterolateral wall	Mullerian duct
	Endometriotic cyst	Vulvovaginal endometriosis	Site of trauma/ vault or posterior fornix
Transitional	Bartholin's cyst		Posterolat vagina
	Skene's cyst	Close to urethral meatus	Skene's duct

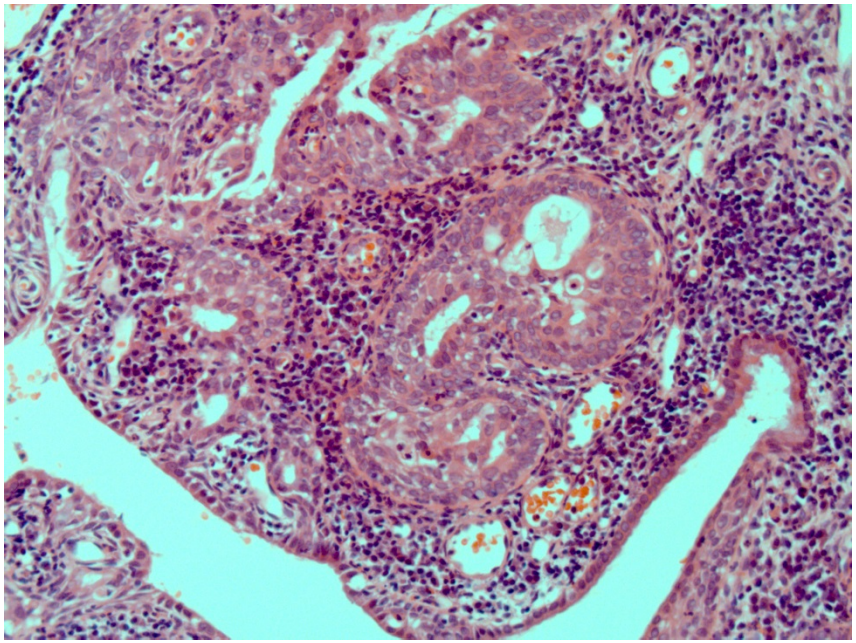
Case 5

- 10S326
- 35/F High grade dyskaryosis; recent pregnancy. Cervix looks suspicious with contact bleeding

Case 5







Microglandular hyperplasia with cytological atypia

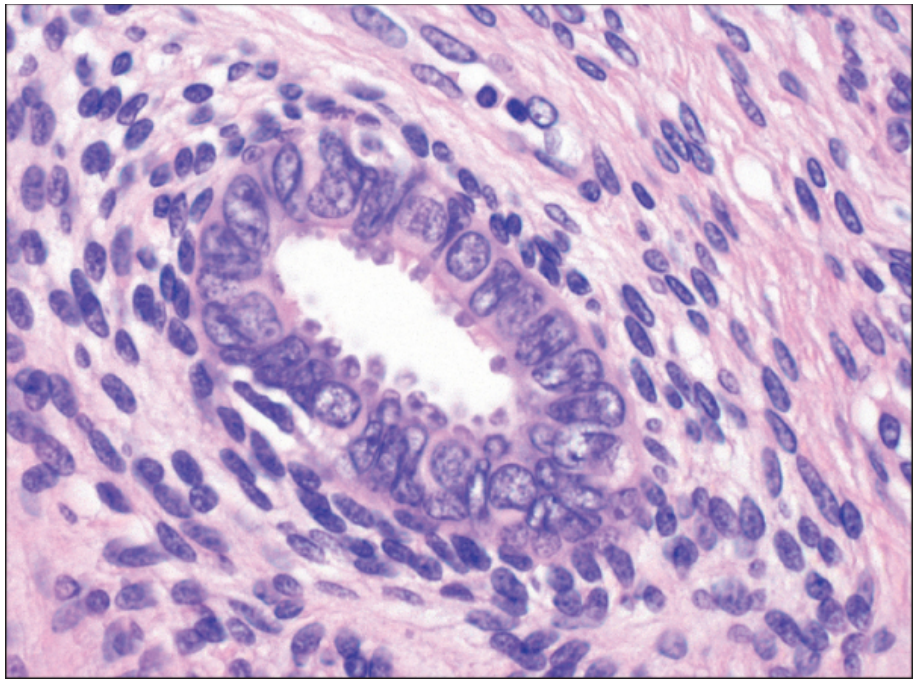
- Closely packed glands with variable shape, cribriform architecture
- Lumen contains inspissated mucin and inflammatory cells
- Stromal inflammatory infiltrate
- Glandular cells low columnar or cuboidal, subnuclear vacuolation present
- Small regular nuclei, inconspicuous nucleoli
- Focal squamous metaplasia
- Mild to moderate atypia may occur but is unusual

Microglandular hyperplasia with cytological atypia – Differential diagnosis

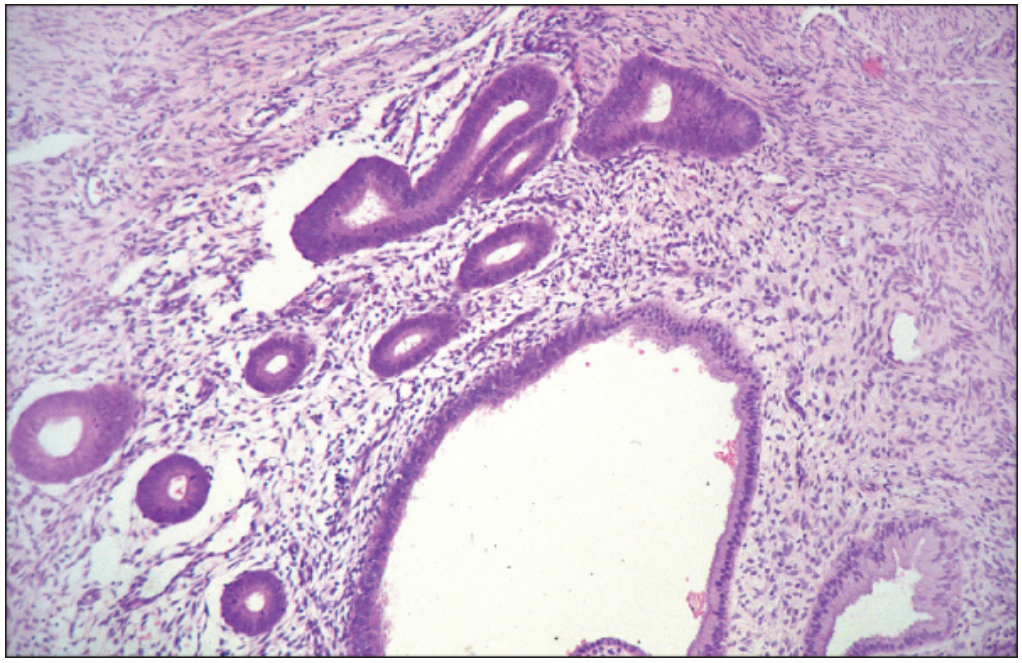
- Endometrium with secretory change
- Endometrial carcinoma: endometrioid or clear cell
- Cervical adenocarcinoma or adenosquamous carcinoma

Revision: benign mimics of cervical adenocarcinoma; role of p16 in diagnosis of cervical neoplasia

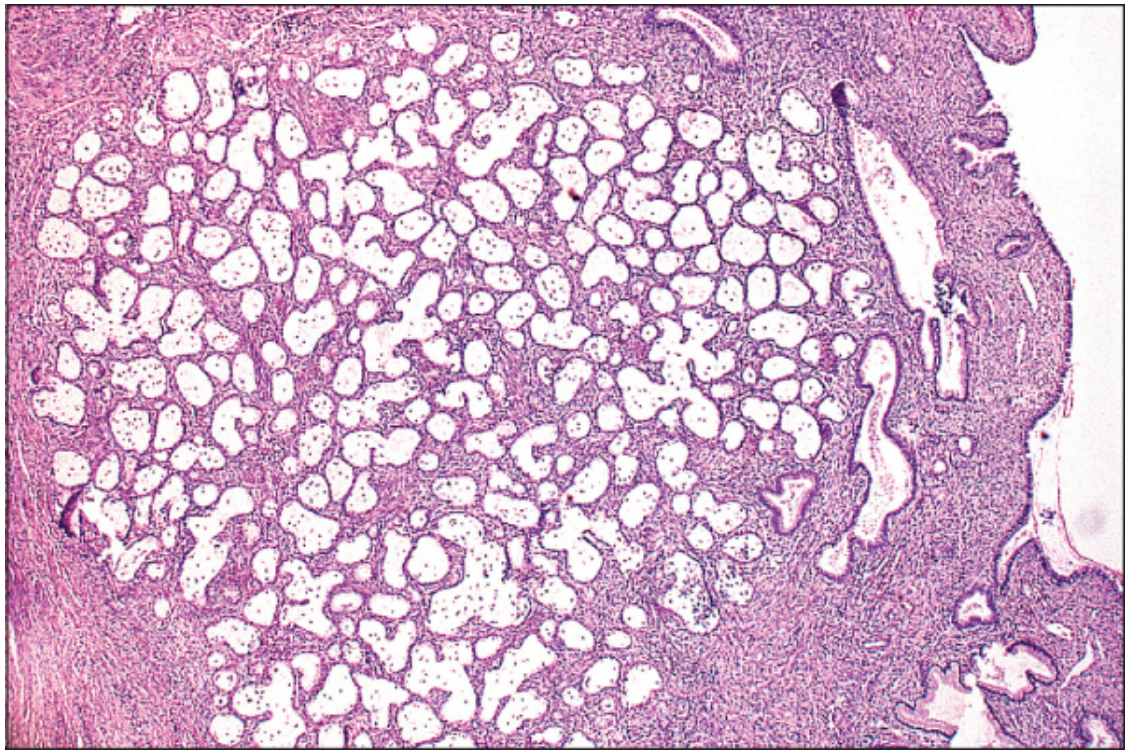
Tuboendometrioid metaplasia



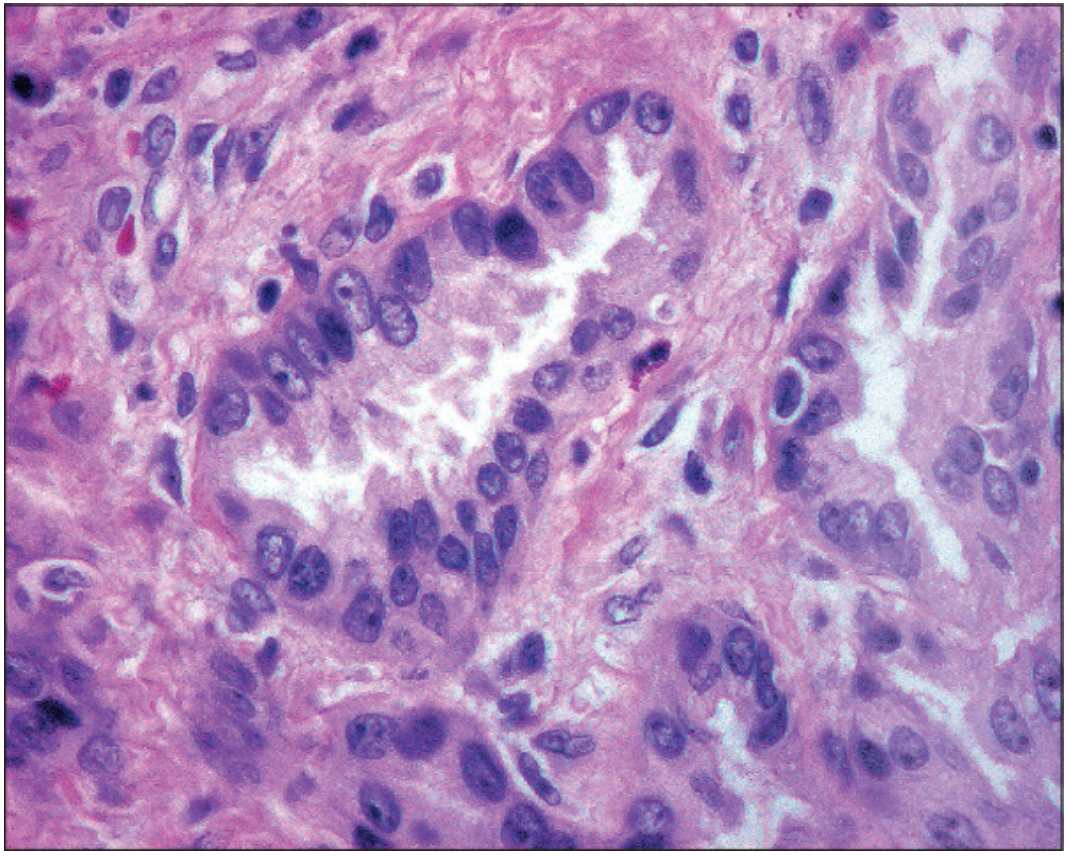
Endometriosis



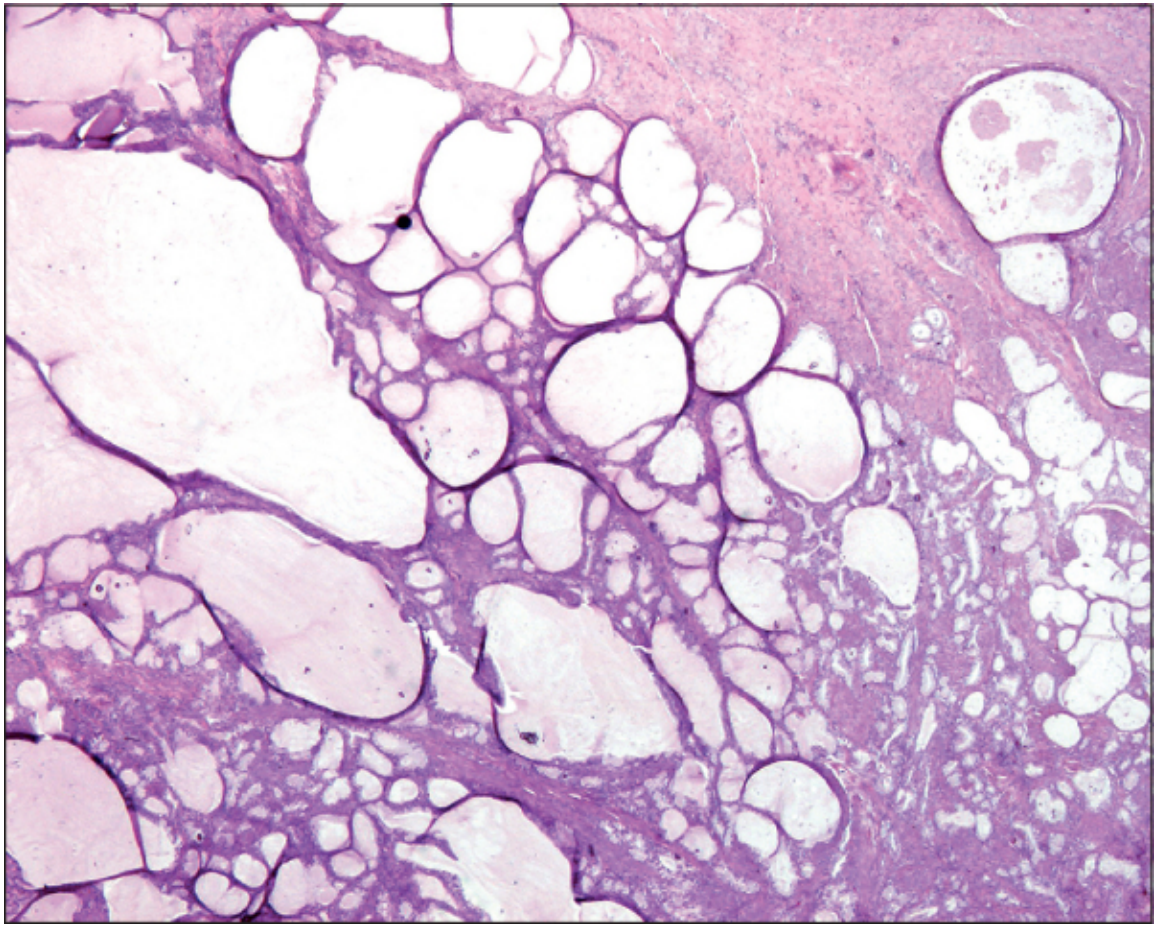
Tunnel clusters type B



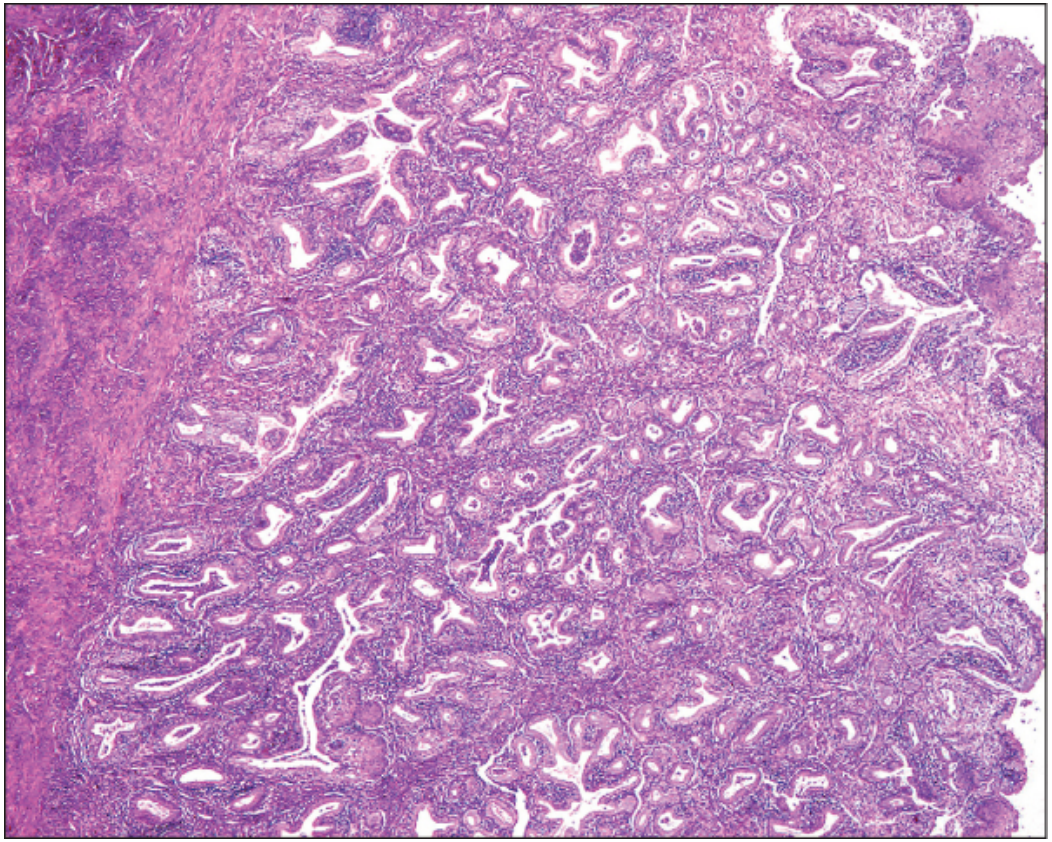
Tunnel clusters type A



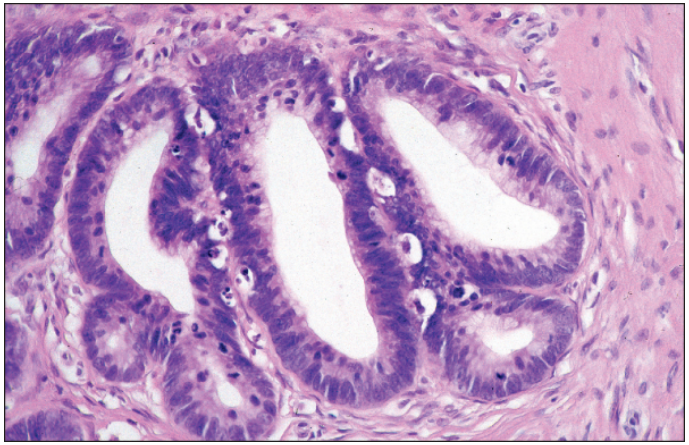
Lobular endocervical glandular hyperplasia

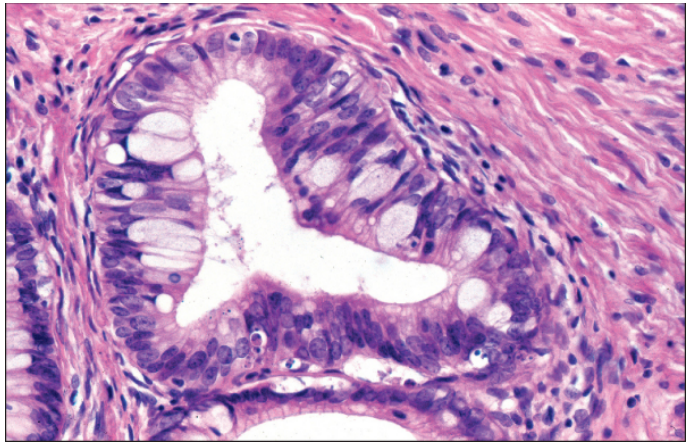


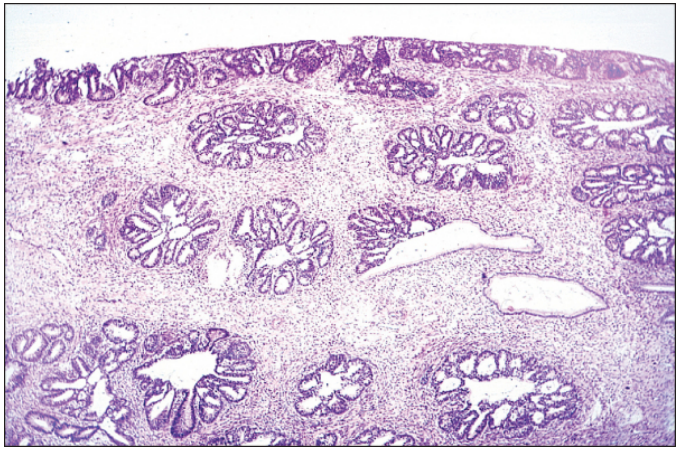
Diffuse laminar endocervical glandular hyperplasia

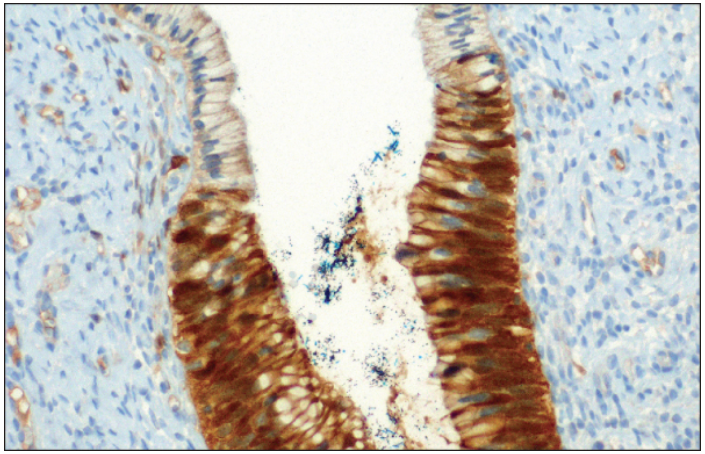


CGIN

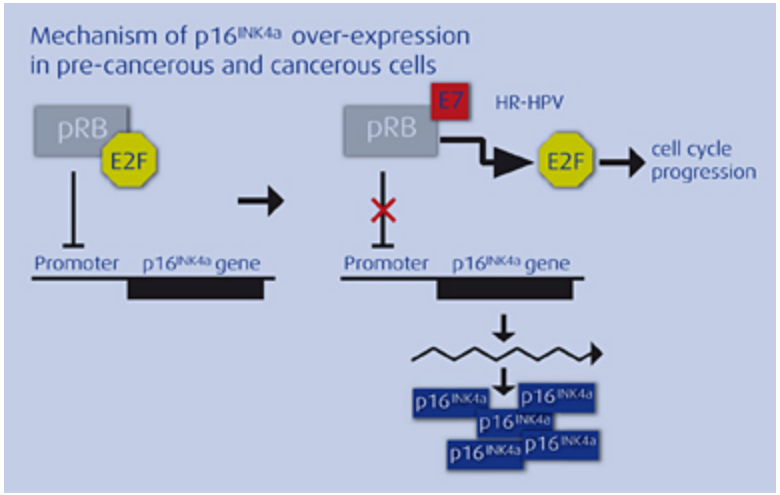








p16ink4a



- hrHPV E7 inactivation of pRB results in p16 overexpression by disturbing E2F dependent feedback loop
- p16 is not expressed in ALL hrHPV infected cells
- Some normal cells also express p16
- ***Diffuse and strong*** p16 overexpression is a sensitive and specific marker for a *transforming* hrHPV infection
- ***p16 is not directly related to HPV and has diagnostic value in other settings***

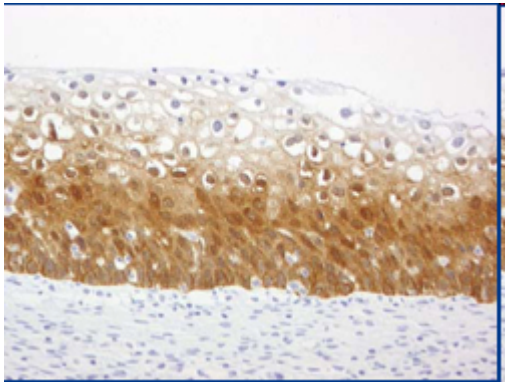
What does p16 expression signify in HPV neoplasia?

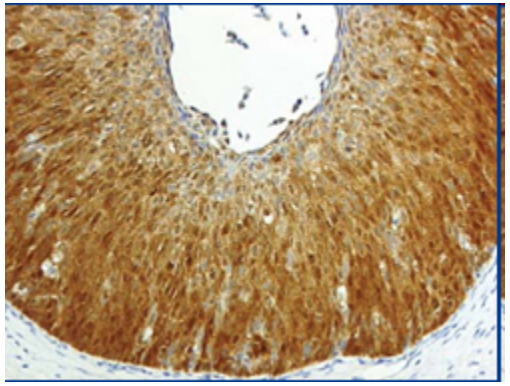
- ***Diagnostic*** marker of transforming HRHPV infection (***necessary but not sufficient*** for progression to cancer)

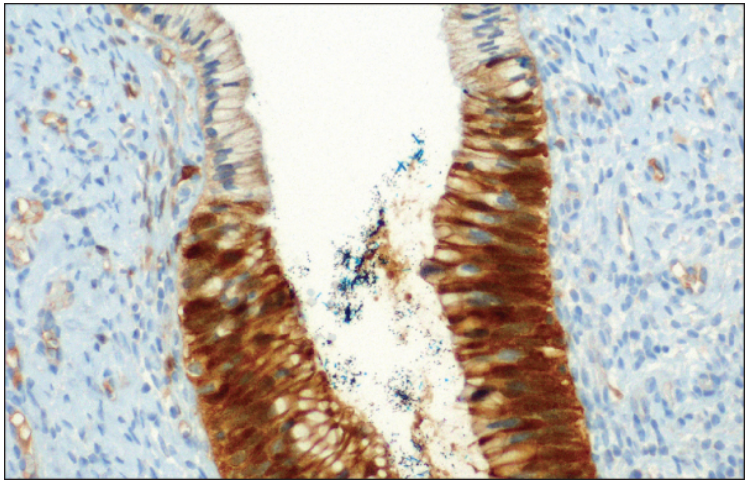
What does p16 **NOT** signify?

- **Not present in ALL HRHPV infection**
  - SPECIFIC for hrHPV but not seen in ALL cases
  - HRHPV spectrum: silent-productive-transforming/abortive
  - Not seen in lrHPV
- **Not diagnostic of high grade CIN**
  - About 50% of CIN1 is also p16 positive
- **Does NOT indicate likelihood of progression**
  - Many conflicting papers but overall p16 (in CIN1) does NOT have predictive value for progression
  - >90% CIN1 and up to 2/3rds CIN2 in young women will spontaneously regress after biopsy
  - (CIN1 overcalled; CIN2 poorly reproducible)

p16





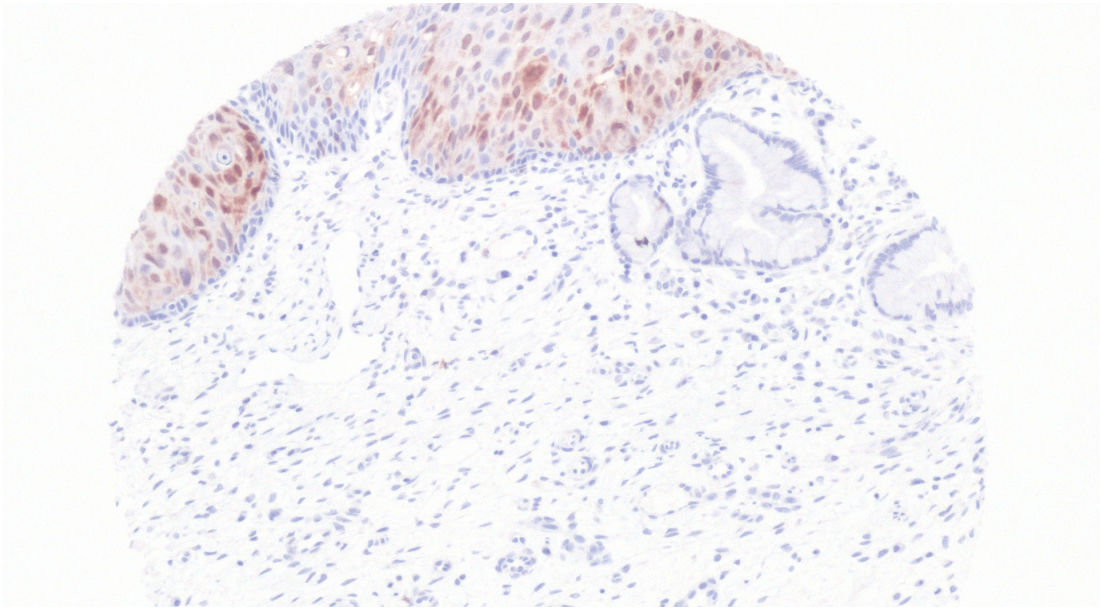


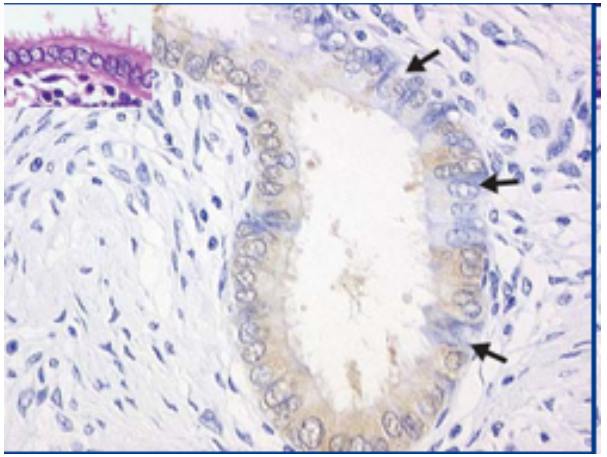
It is the pattern not the presence of positive staining that is specific:

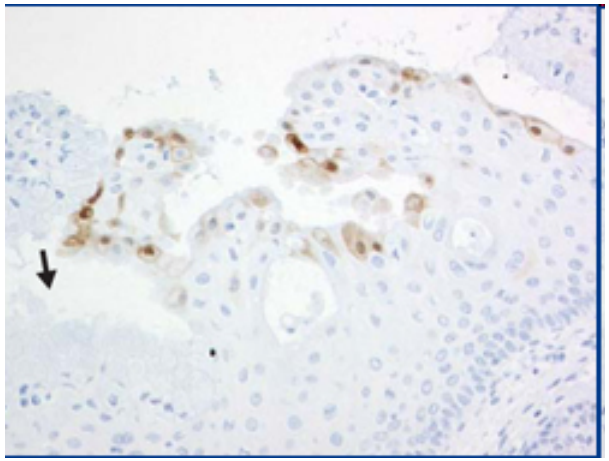
Squamous: Diffuse basal nuclear or nuc+cytoplasmic for at least lower one-third epithelium (‘block-positive’)

Glandular: Diffuse, strong nuclear or nuc+cytoplasmic

P16 in benign mimics







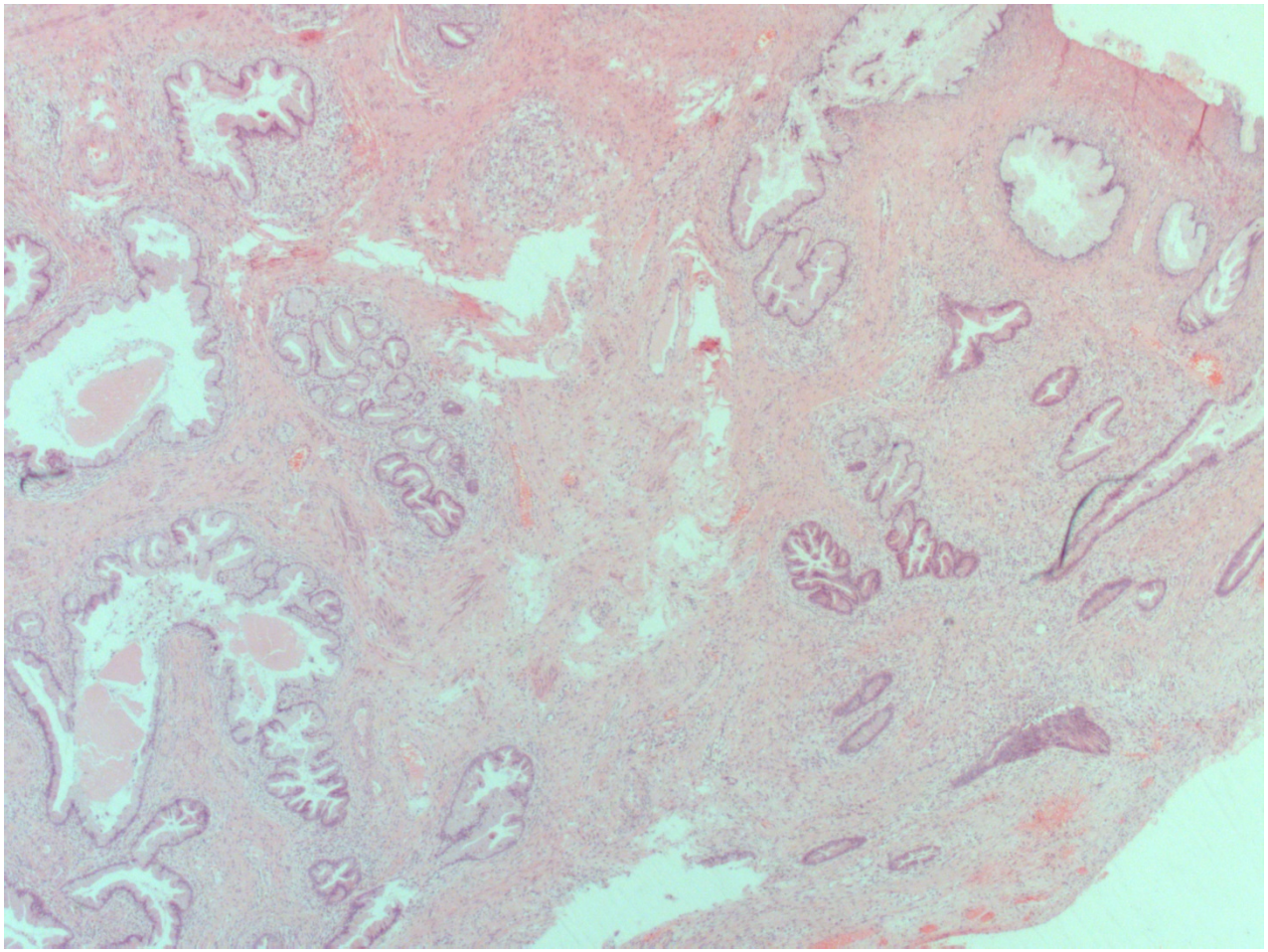
Recommendations for use of p16 (LAST project)

- DD between HG CIN and a mimic: strong and diffuse block-positive p16 → HGCIN
- To help clarify a diagnosis of CIN 2: negative or non-block-positive staining → LGCIN or non-HPV associated pathology
- p16 should not be used if H&E DD is between LGCIN and negative, as CIN 1 can be either p16 negative or positive: p16 IHC is not recommended if diagnosis is “obvious” CIN 1.

Case 6

- 09S39415
- 42/F Glandular abnormality. On colposcopy - Unusual appearance with fibroid on posterior lip

Case 6



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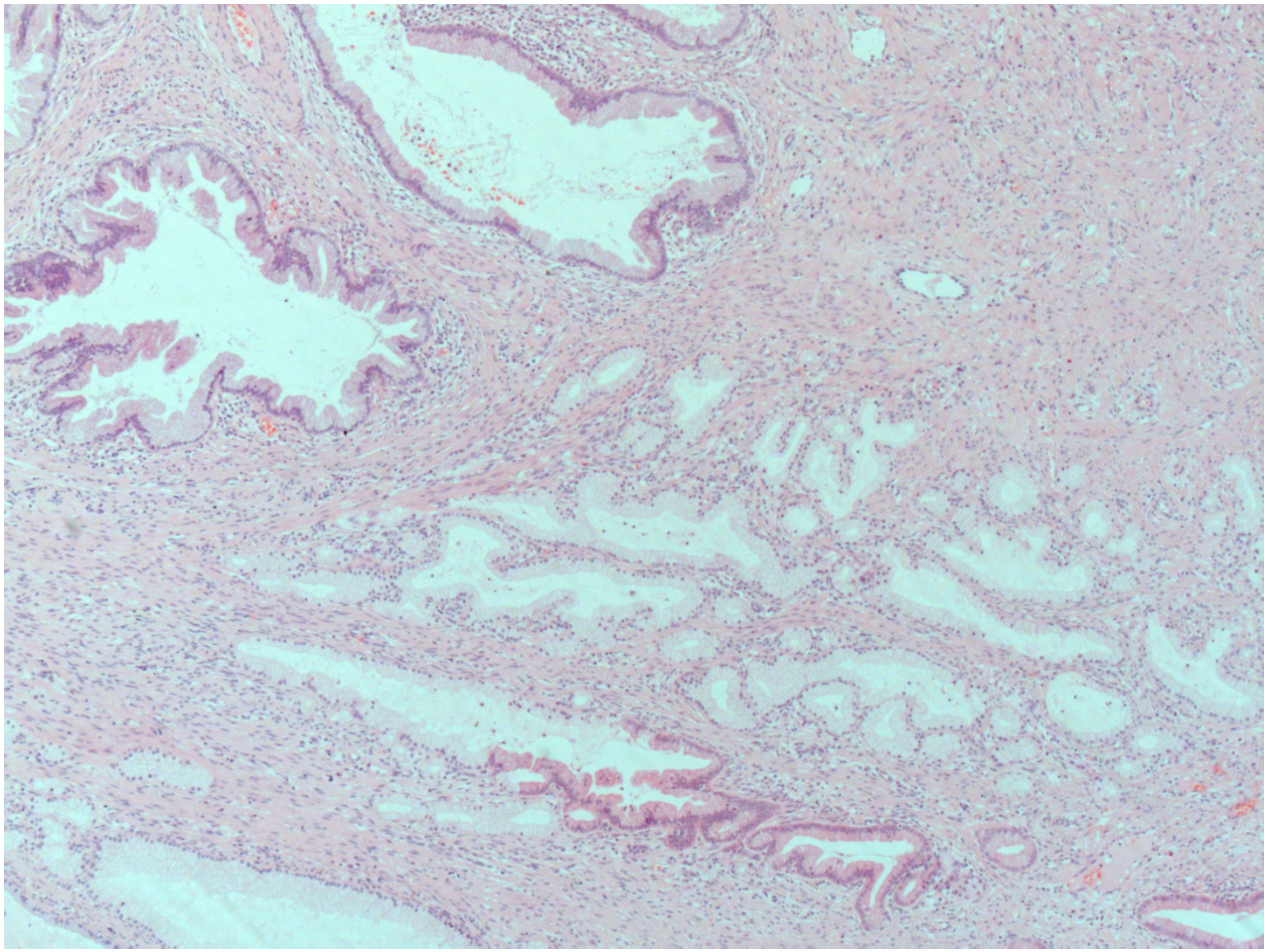

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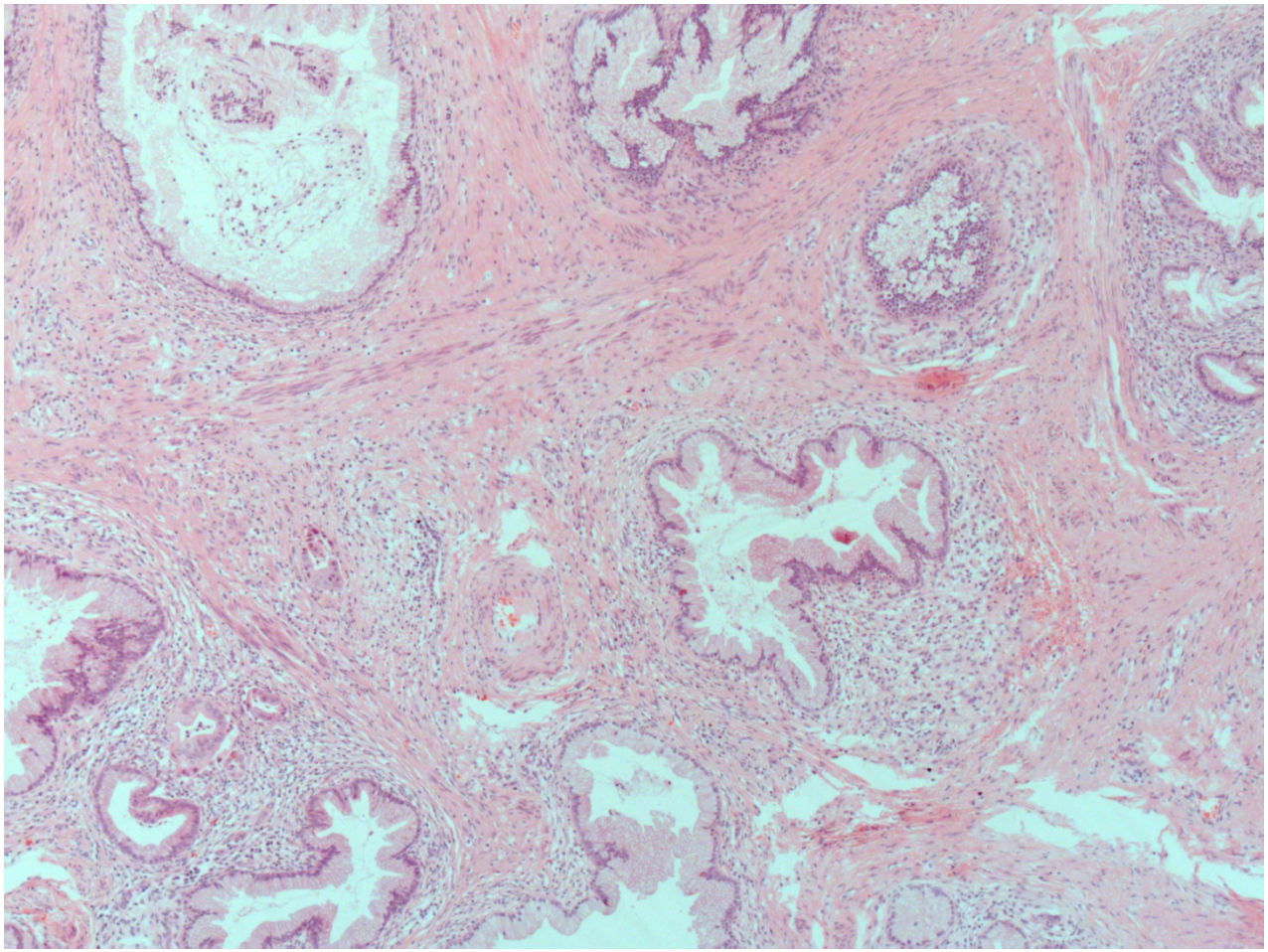

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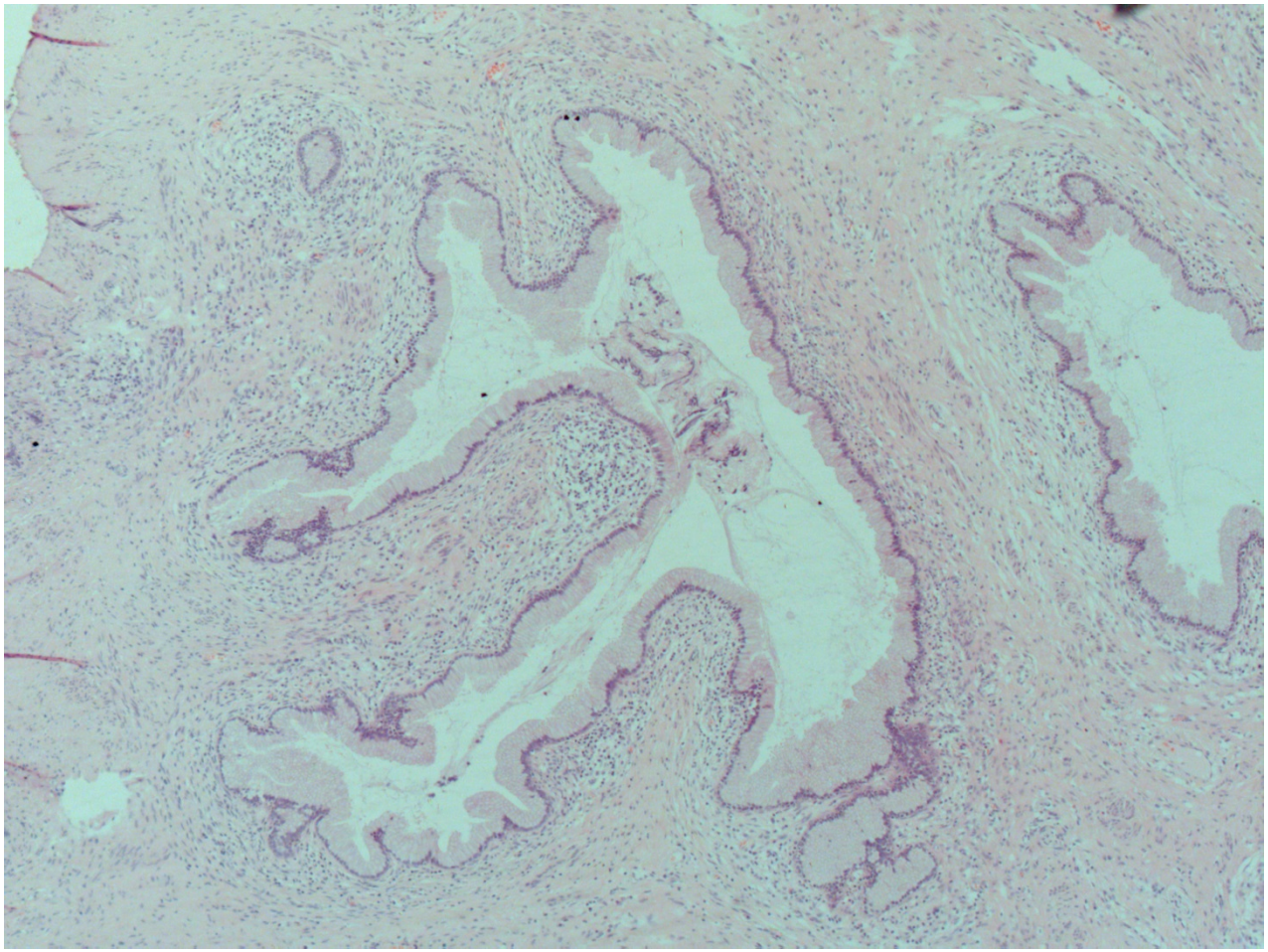
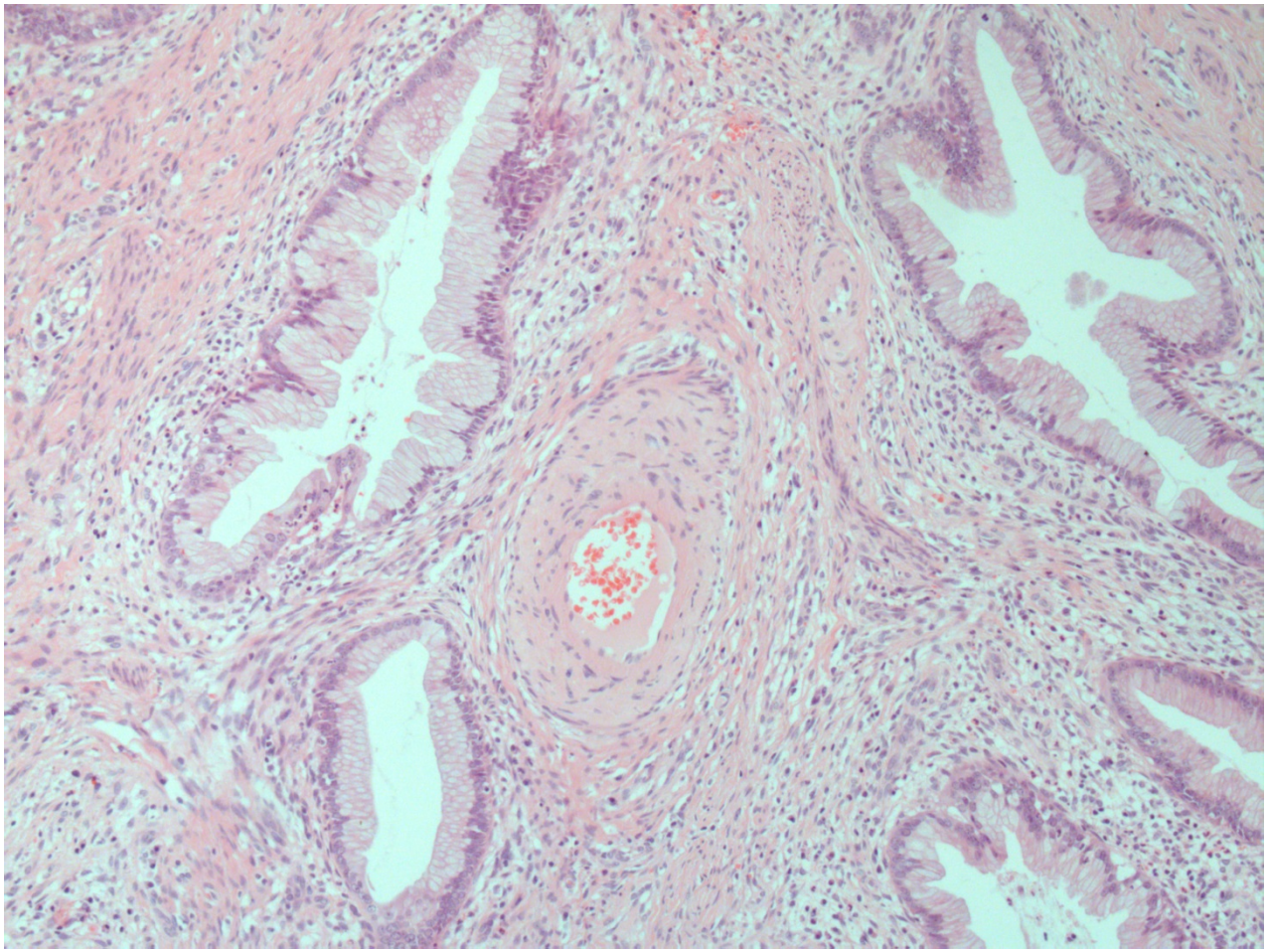


Case 6



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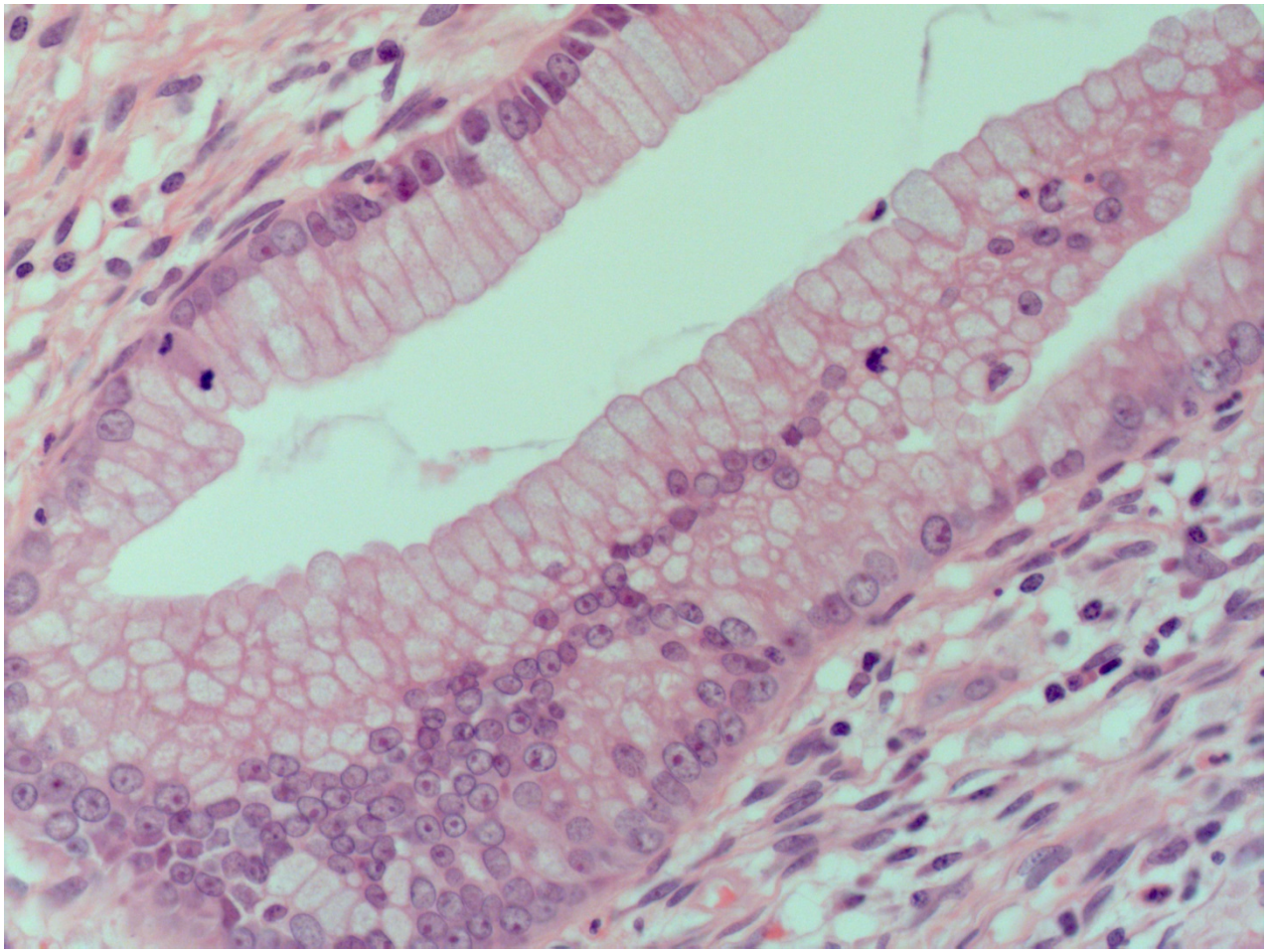

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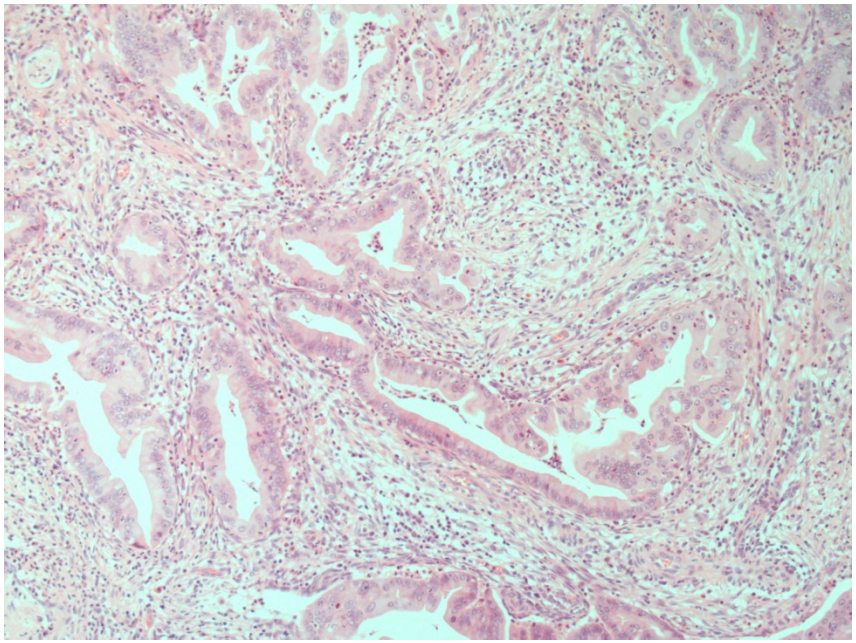

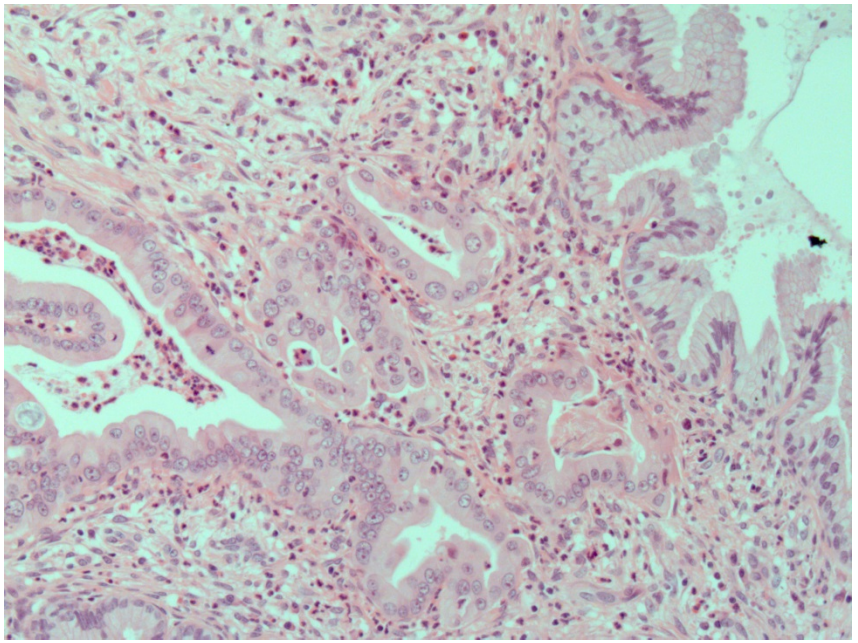

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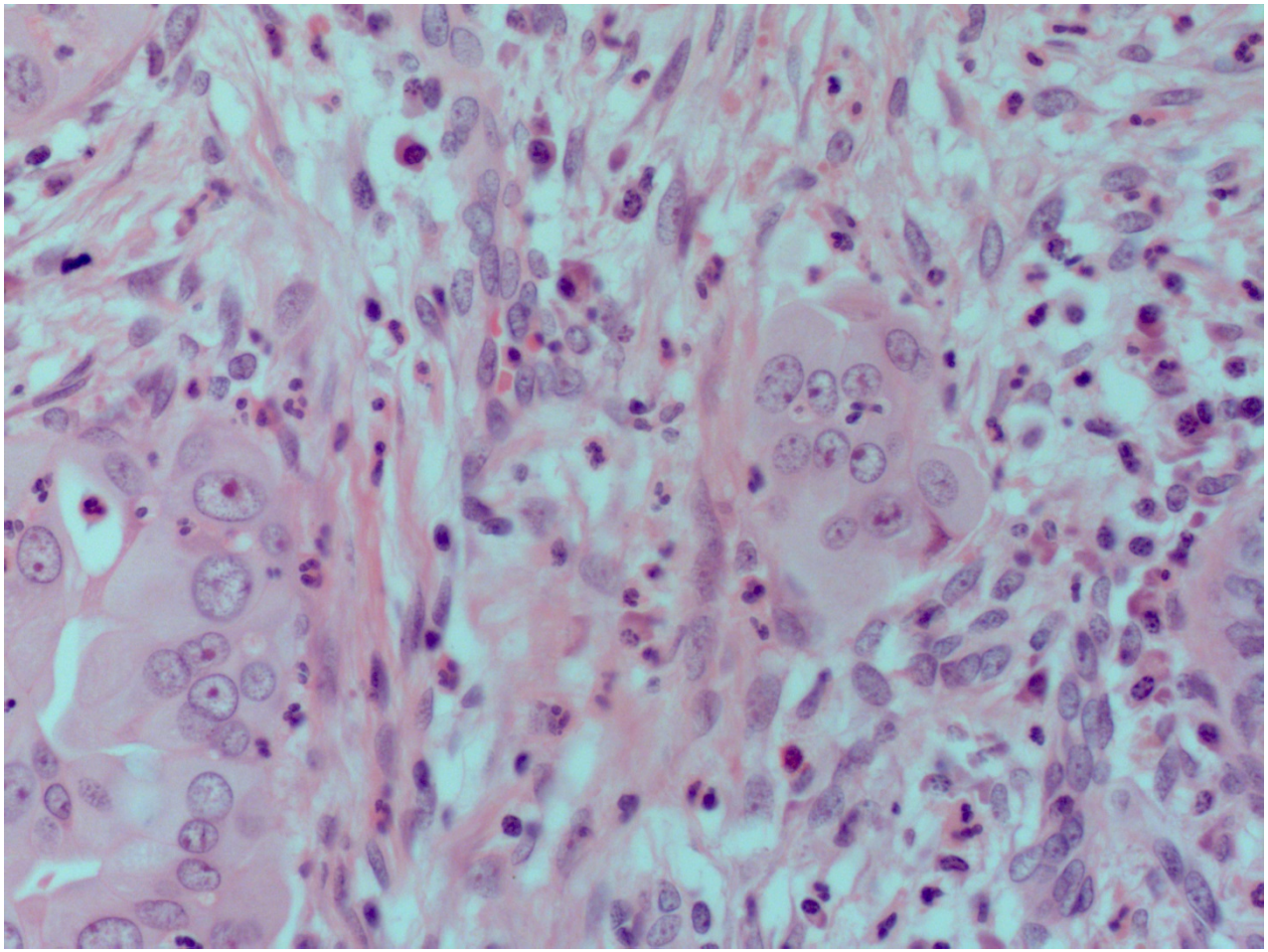

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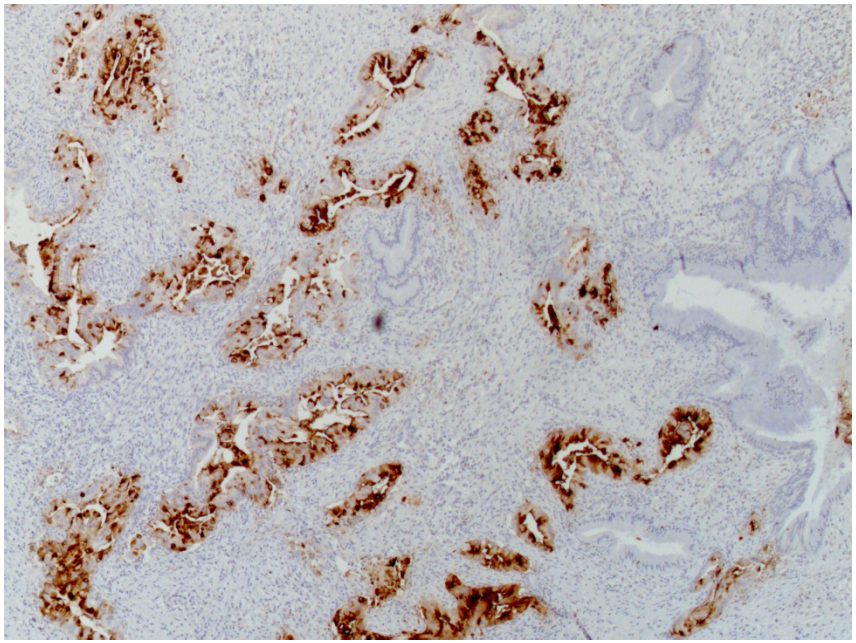
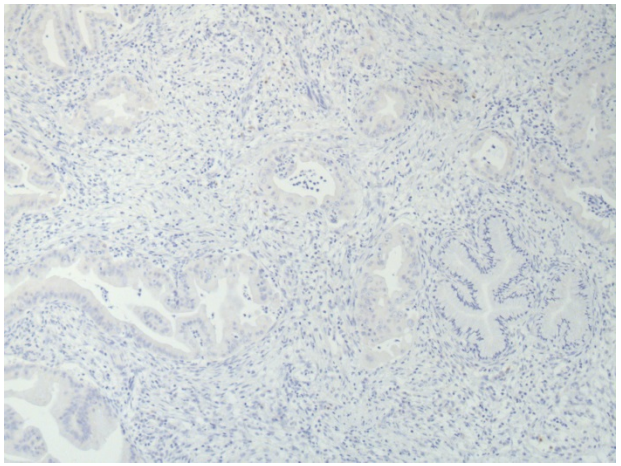
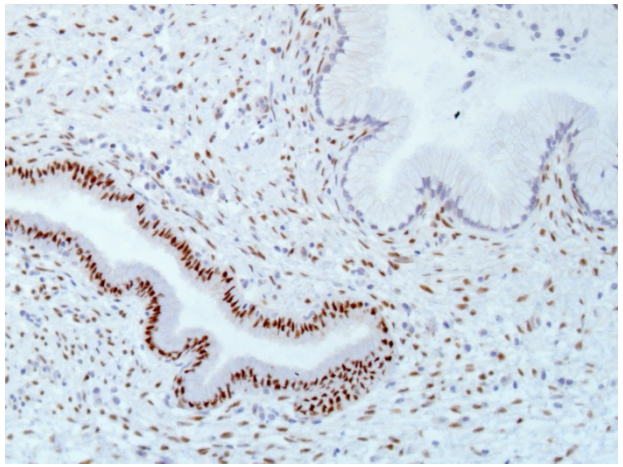






Minimal deviation adenocarcinoma, mucinous type

- 1% of cervical adenoca; HPV negative
- Neoplastic glands lined by deceptively benign appearing epithelium
- Mucinous epithelium, basal nuclei, occasional mitotic figures
- Irregular outlines, variable, claw-like contours
- Desmoplastic stroma seen focally
- Glands adjacent to thick-walled vessels
- At least focal dysplasia present or frank invasion
- CEA positive, ER/PR/CA125 negative

Minimal deviation adenocarcinoma, mucinous type– Differential diagnosis

- Deep glands, cysts, tunnel clusters, diffuse laminar hyperplasia, adenomyoma of endocervical type

Revision: rare subtypes of cervical cancer, including gastric type carcinomas; hereditary gyn neoplasms

Endocervical Glandular Lesions Showing Gastric Differentiation

Category	Diagnostic term
Benign	Lobular endocervical glandular hyperplasia (LEGH) / pyloric gland metaplasia (PGM)
	Simple gastric / pyloric gland metaplasia
	Tunnel cluster (type A)
Premalignant	Atypical lobular endocervical glandular hyperplasia (atypical LEGH)
	Adenocarcinoma in situ (gastric type)
Malignant	Gastric type adenocarcinoma (GAS)
	Minimal deviation adenocarcinoma (MDA) (AKA: adenoma malignum)
Specific clinical or clinicopathologic conditions	Synchronous mucinous metaplasia and neoplasia of the female genital tract (SMMN-FGT)
	Peutz-Jeghers syndrome

Mikami and McCluggage. Adv Anat Pathol 2013; 20(4): 227-237.

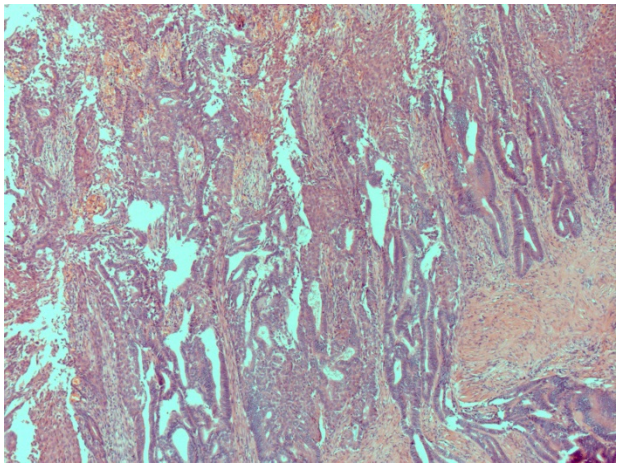
Hereditary Cancer Syndromes (other than BRCA and Lynch)

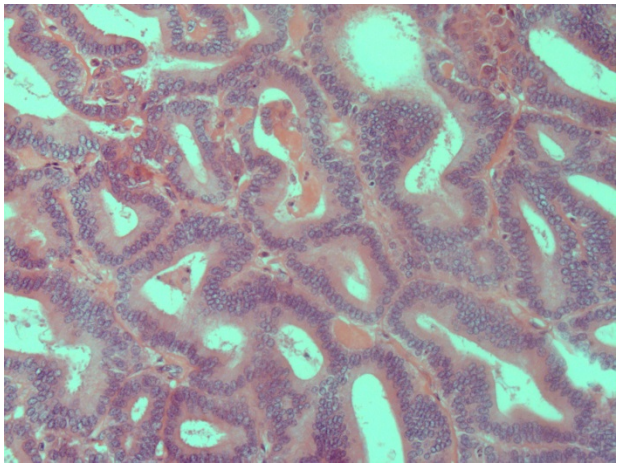
Syndrome	Gene	Gynaecological tumours	Associated tumours
Peutz-Jeghers Syndrome	*STK11/LKB 1*	Ovary: SCST (5-15% risk: SCTAT, Sertoli cell tumours) Cervix: Adenoma malignum (10% risk)	Hamartomatous GI polyps Breast, GI, lung, pancrease, testis cancers
Hereditary leiomyomatosis and renal cell carcinoma (HLRCC)	*Fumarase hydratase*	Uterus: Leiomyomas (prominent nucleoli, perinuclear halos, young patients (most patients)	Renal cell carcinoma (15% risk) Cutaneous leiomyomas
Gorlin Syndrome (nevoid basal cell Syndrome)	*PTCH*	Ovary: Fibromas, bilateral and calcified (2-25% risk)	Basal cell carcinomas Odontogenic keratocysts Medulloblastomas
Cowden Syndrome (PTEN hamartoma tumour Syndrome)	*PTEN*	Uterus: Leiomyomas Endometrial carcinoma (5-19% risk)	Hamartomas of GI tract, and multiple other sites Breast (25-50% risk) and Thyroid(3-10% risk) carcinomas

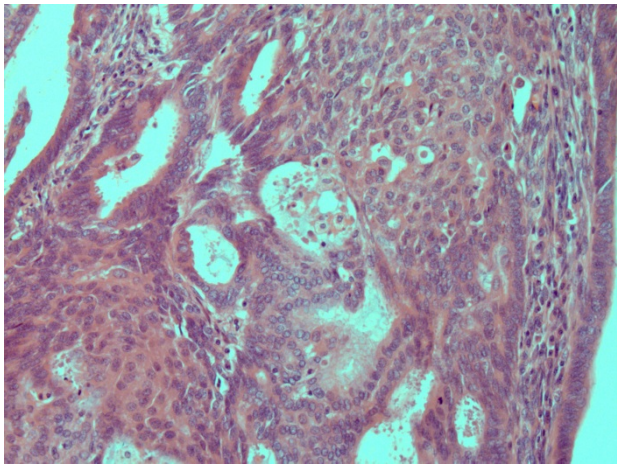
Case 7

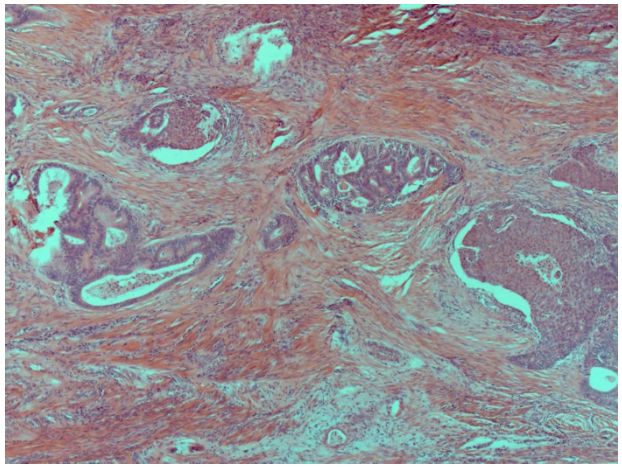
- 10S1197
- 62/F Total hysterectomy for PMB

Case 7









Grade 1 endometrioid adenocarcinoma, infiltrating inner myometrium

- Confluent proliferating glands with mild to moderate nuclear atypia
- Glandular architecture
- Squamous metaplasia

Grade 1 endometrioid adenocarcinoma

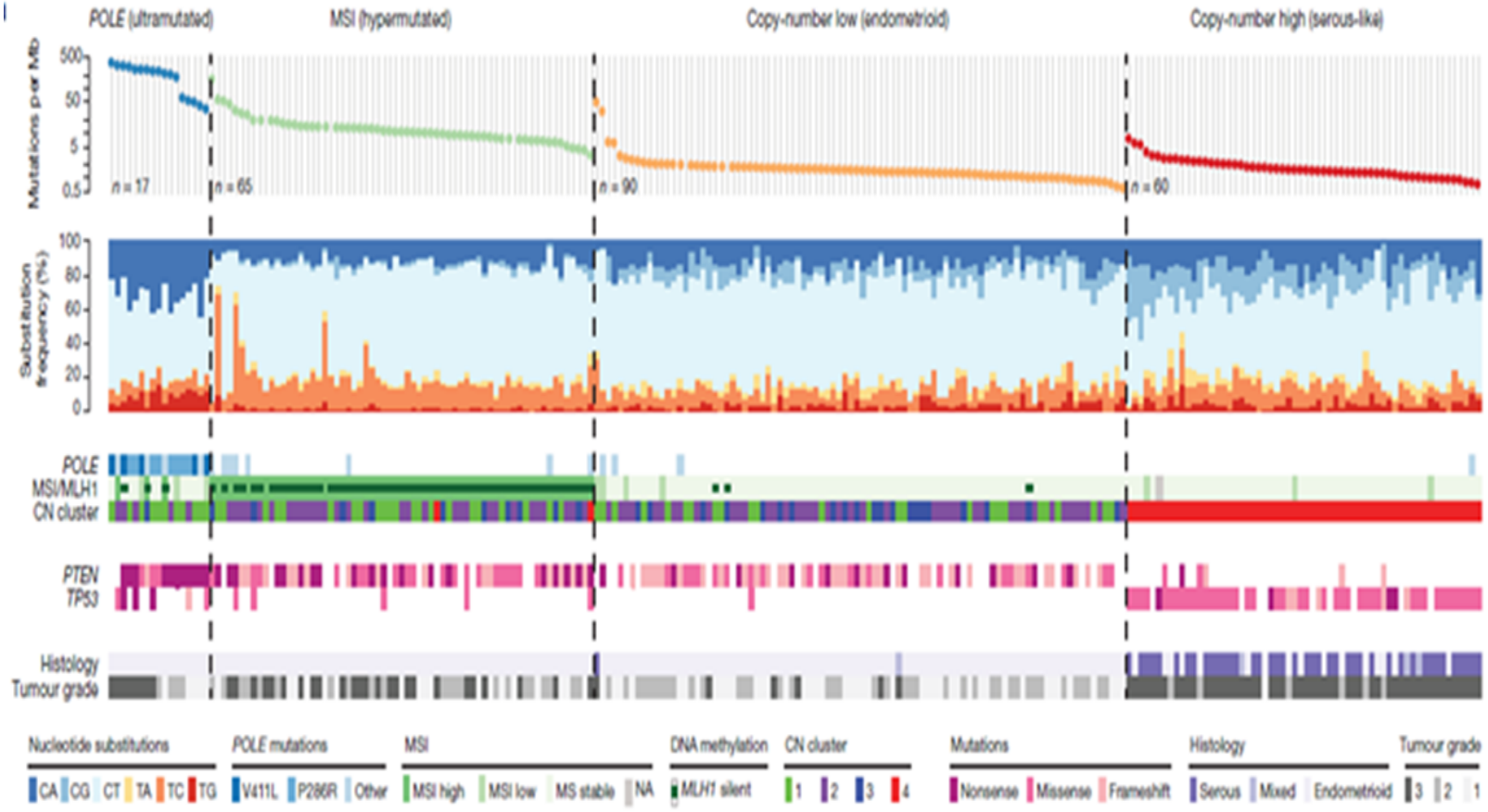
Revision: Molecular classification of endometrial carcinoma

Uterine neoplasia: Endometrial carcinoma

- Type 1: Endometrioid, oestrogen driven, favourable prognosis

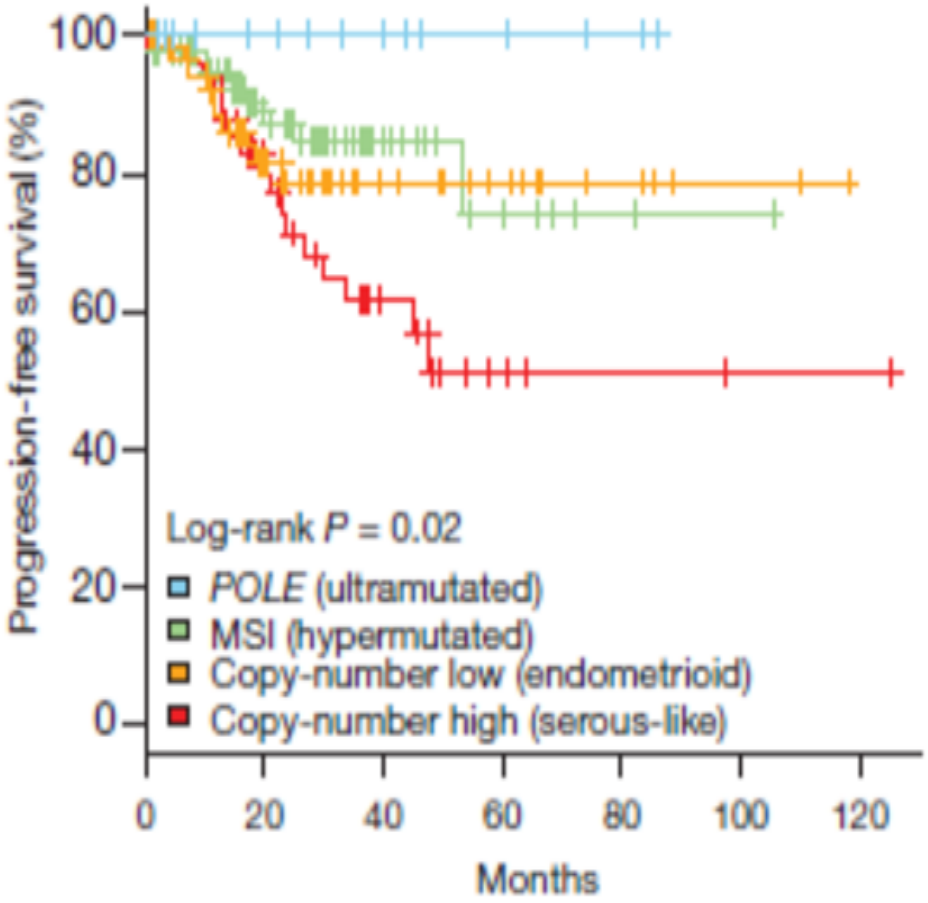
- Type 2: Serous, ?clear cell, carcinosarcoma, oestrogen-independent, aggressive clinical course

Endometrial cancer: Molecular groups



TCGA, Nature 2013

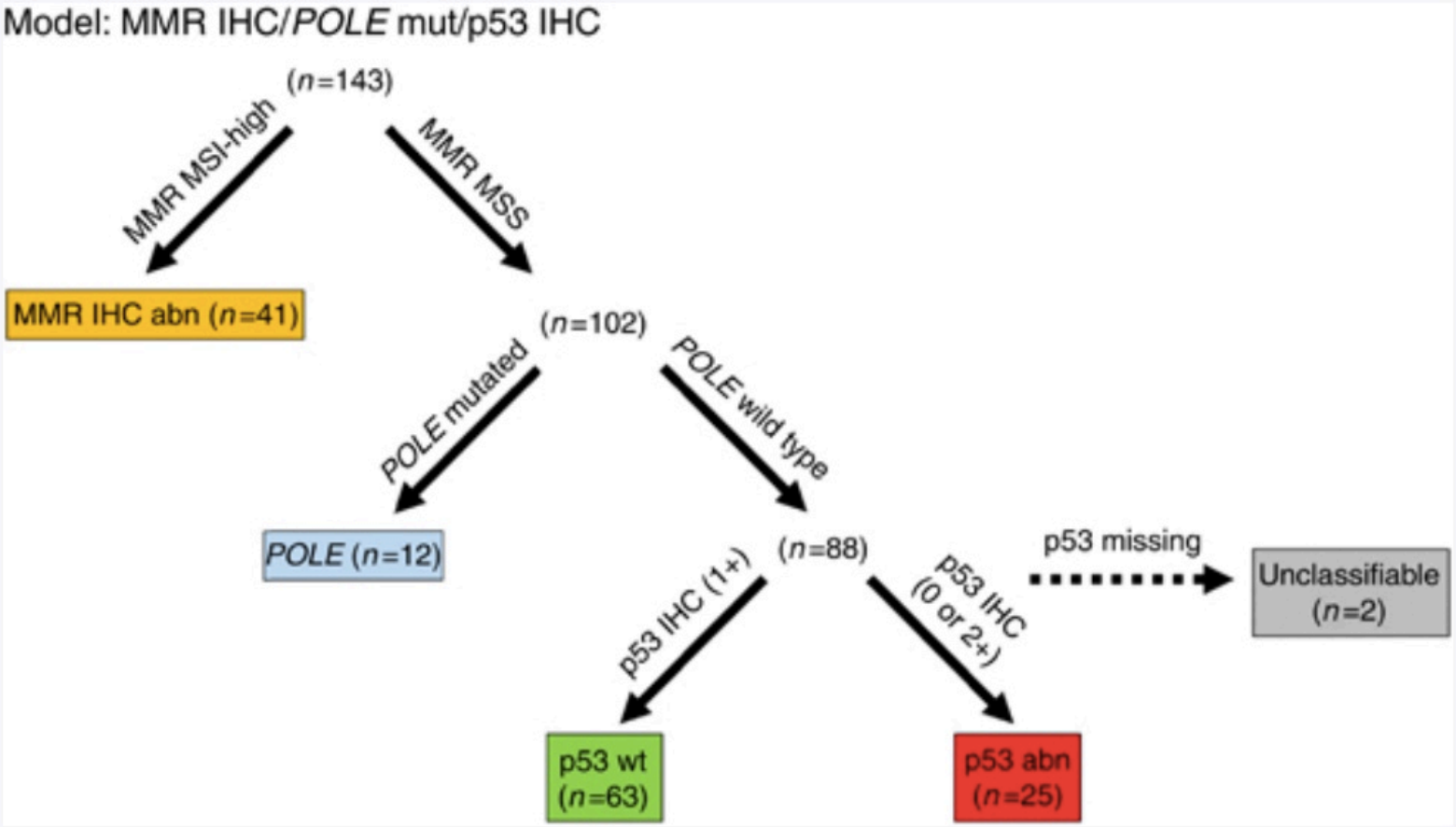
Endometrial cancer: Molecular groups



- 4 distinct groups:
  - **POLE**
  - **MSI**
  - **Copy-number low (endometrioid)**
  - **Copy-number high (serous-like)**

TCGA, Nature 2013

Endometrial carcinoma: Molecular classification strategies being developed



British Journal of Cancer **113**, 299-310.

LS and endometrial cancer

- >95% LS undiagnosed
- Only 2-5% EC is caused by LS; but this gives opportunity to screen for LS
- Women with LS have comparable risk of EC and CRC
- LS EC patients are at substantial risk for second of more malignancies
- Screening/preventative strategies reduce incidence and mortality

LS and endometrial cancer

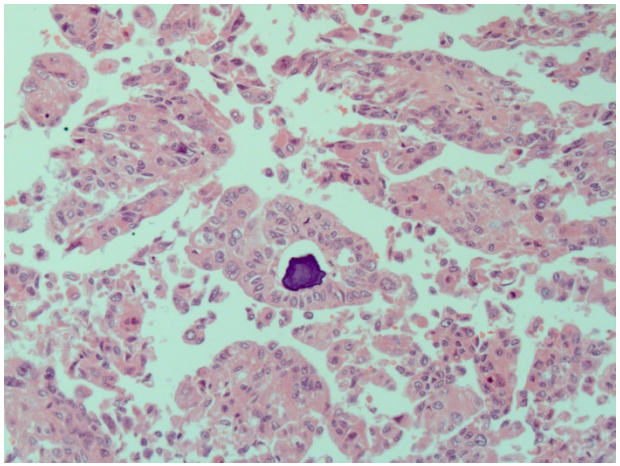
Look up:

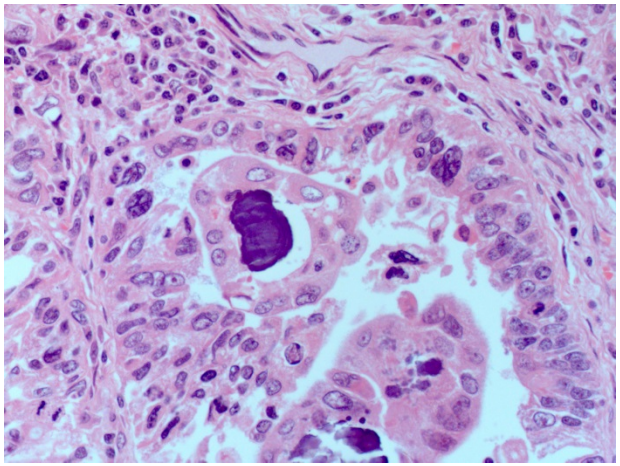
- LS IHC
- LS related morphology in EC

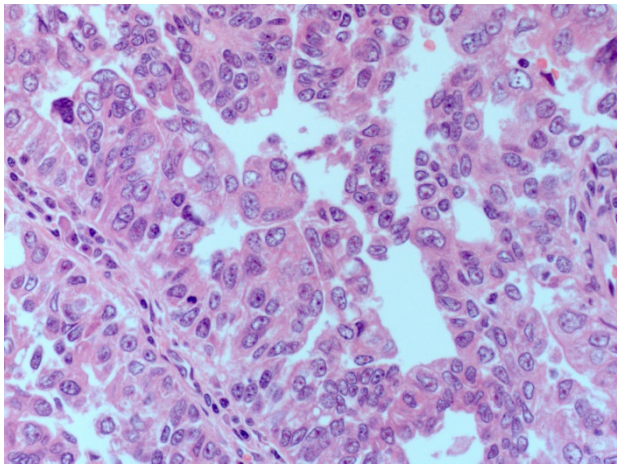
Case 8

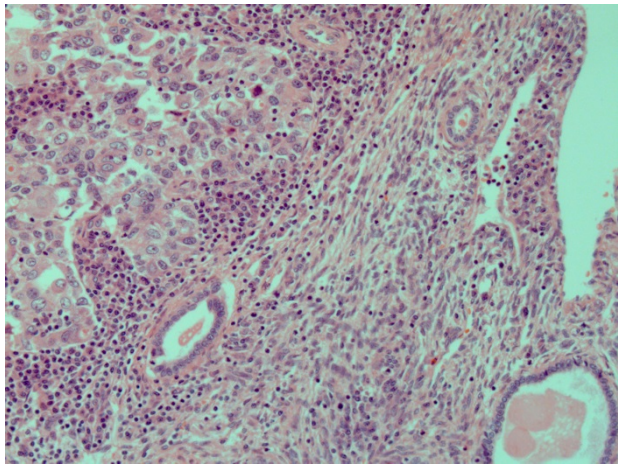
- 10S177
- 73/F Total hysterectomy for PMB; biopsy showed high grade carcinoma

Case 8

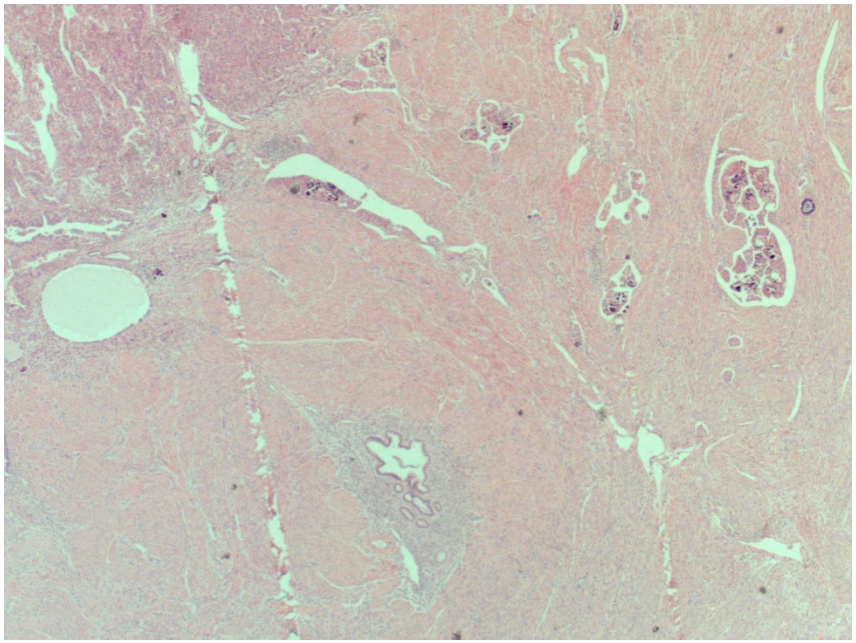


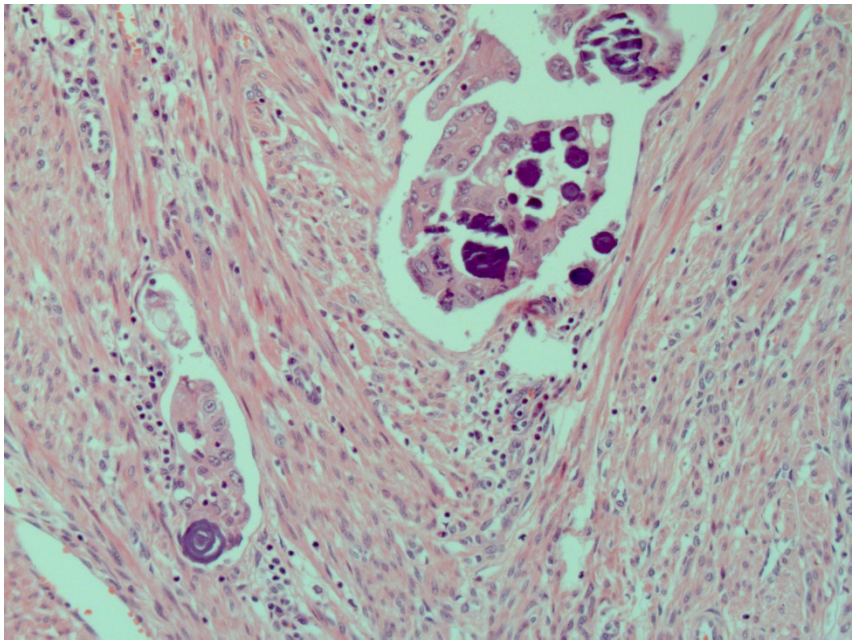






Case 8





Uterine serous carcinoma

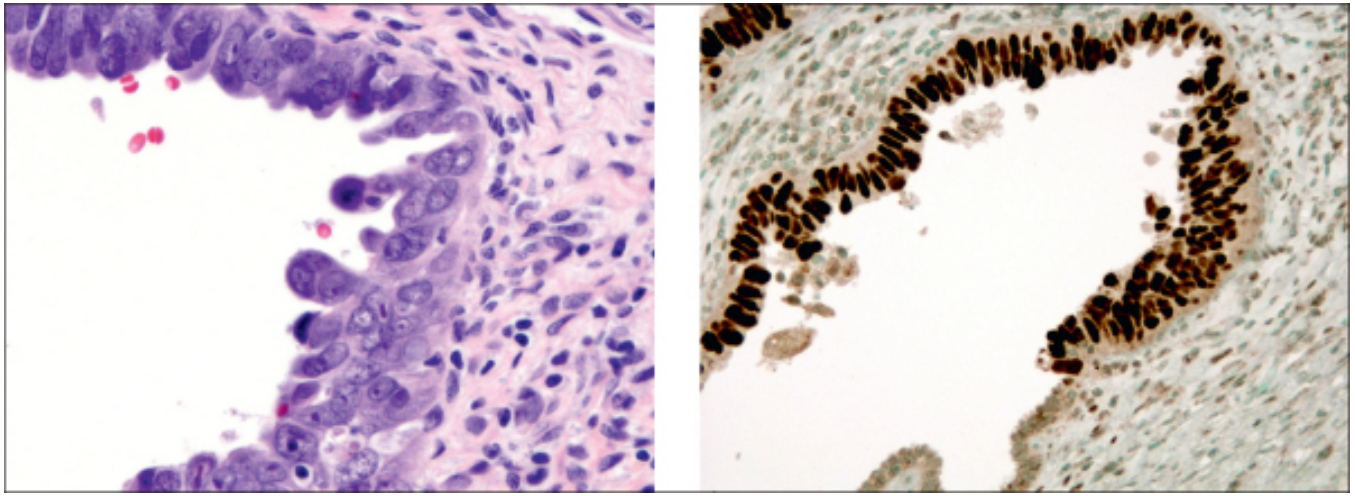
- Marked nuclear atypia out of proportion to architecture
- High mitotic activity
- Bizarre nuclei, vesicular nuclei, prominent nucleoli
- Papillary architecture +/-; tubuloglandular or slit-like common, ‘hobnail’ luminal outline
- LVSI common
- Extrauterine spread even if minimally invasive
- IHC: ER/PR negative; p53 abnormal/p16 positive

Uterine serous carcinoma – Differential diagnosis

- Endometrioid carcinoma with papillary architecture
- Clear cell carcinoma
- MMMT
- Metastatic serous ca from FT or ovary (WT1)
- Papillary syncytial metaplasia (p53 and Ki67)

Revision: as for endometrioid carcinoma

Serous endometrial intraepithelial carcinoma (EIC)



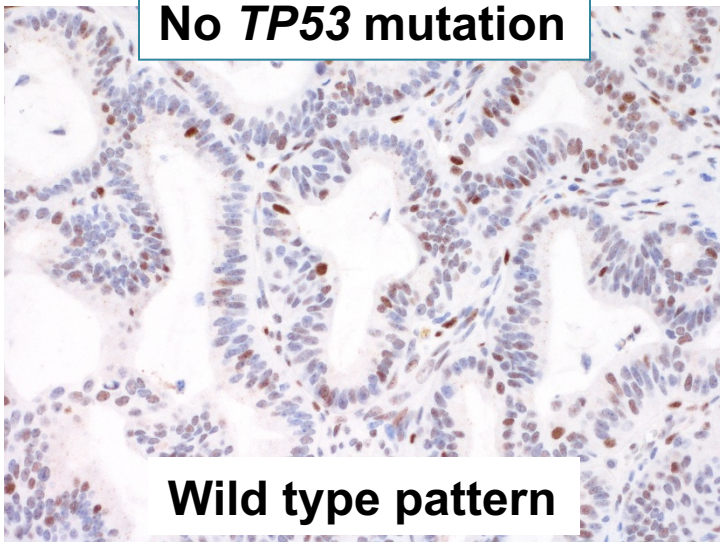
p53 IHC

ABERRANT/ABNORMAL

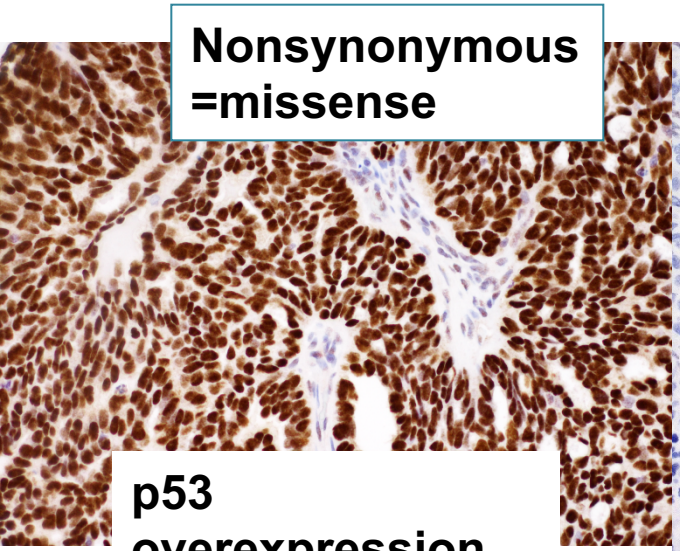
- POSITIVE: diffuse strong nuclear immunoreactivity (75% cells suggested) (missense mutation)
- NULL (nonsense mutation or deletion)

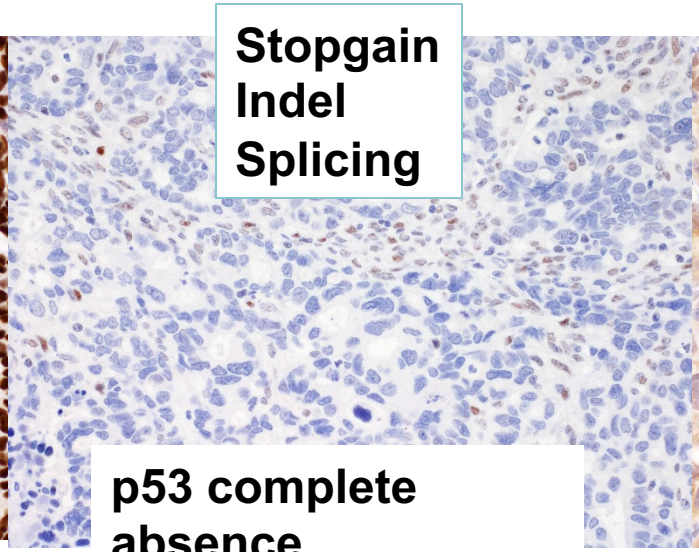
NORMAL = focal, weak, heterogenous staining (“wild-type” staining)

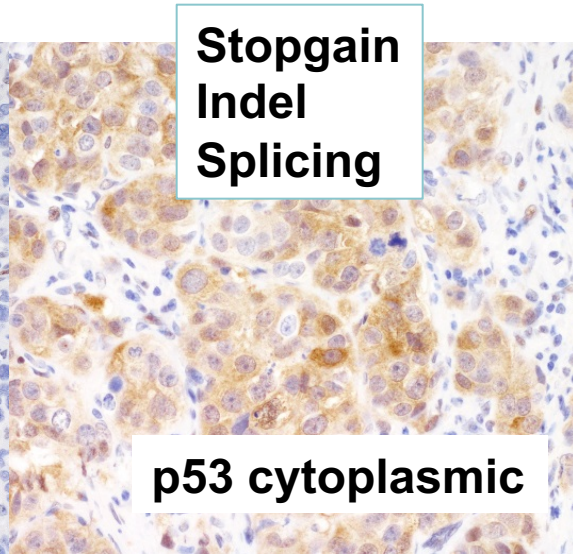
Interpretation of p53 immunohistochemistry



Normal







Abnormal

J Pathol Clin Res 2016;2:247

p53 immunohistochemistry pattern and interpretation

Pattern	**p53 IHC Interpretation**	***TP53* mutation type**	**% in HGSC**
		***TP53* MUTATION ABSENT**	
Wild type	Normal	No mutation	0
		***TP53* MUTATION PRESENT**	
Overexpression	Abnormal	Non-synonymous (missense); also in-frame deletion, splicing	66%
Complete absence/ null	Abnormal	Indels, stopgains, splicing mutations	25%
Cytoplasmic	Abnormal	Indels and stopgains with disruption of the nuclear localization domain	4%
Wild type	Normal*	Truncating mutation	5%

HGSC- high-grade serous carcinoma

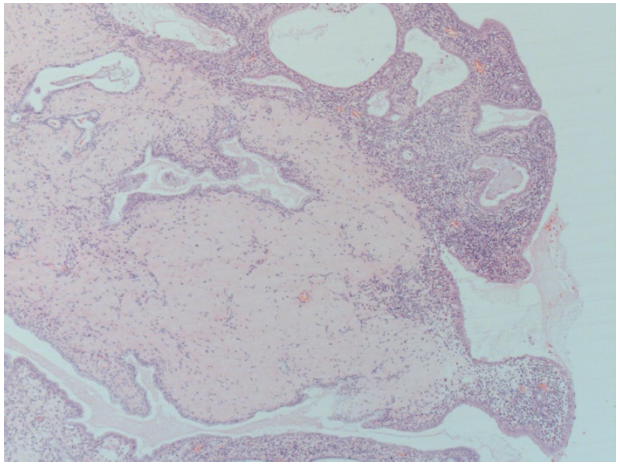
EIN

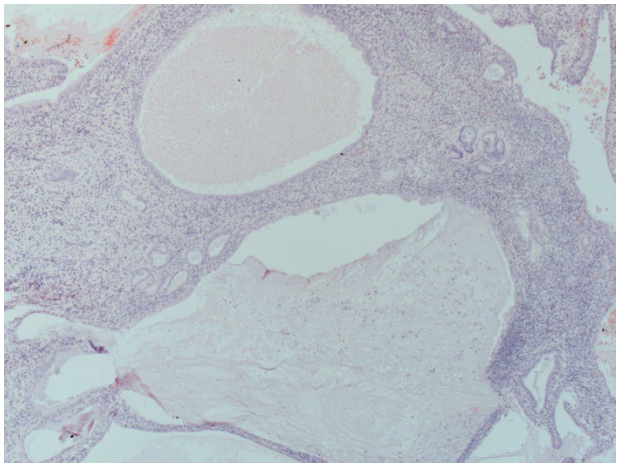
- Not used in the UK
- Refers to endometrioid carcinogenesis
- Identification of endometrioid precancerous change with higher prediction than hyperplasia classification
- Cytoarchitectural demarcation and/or morphometric definition, rather than nuclear atypia
- WHO (2014) equated EIN to atypical hyperplasia (‘endometrioid intraepithelial neoplasia’)

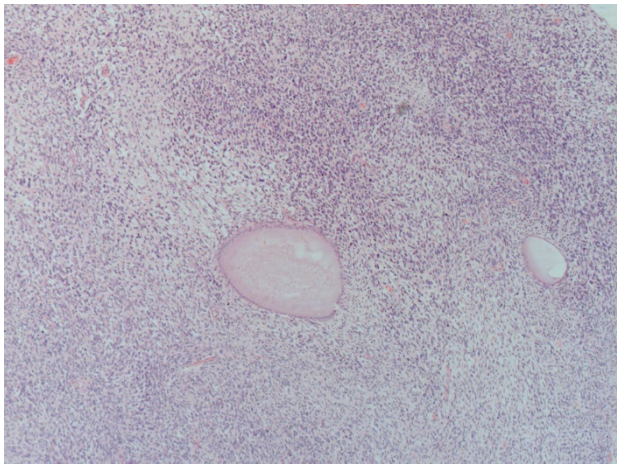
Case 9

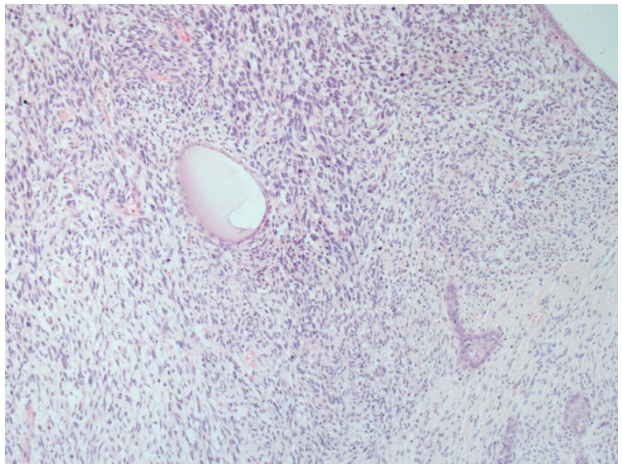
- 09S21401
- 63/F Uterine mass

Case 9

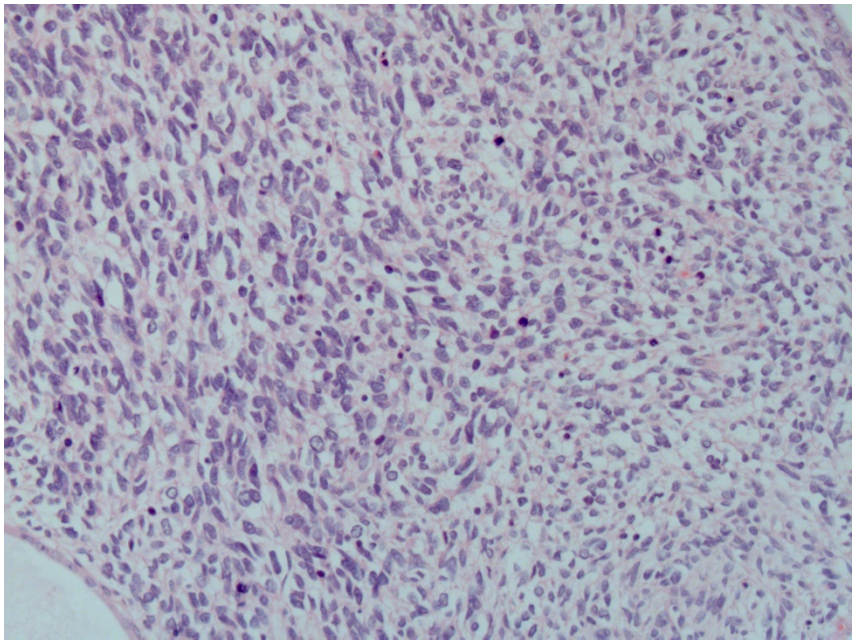


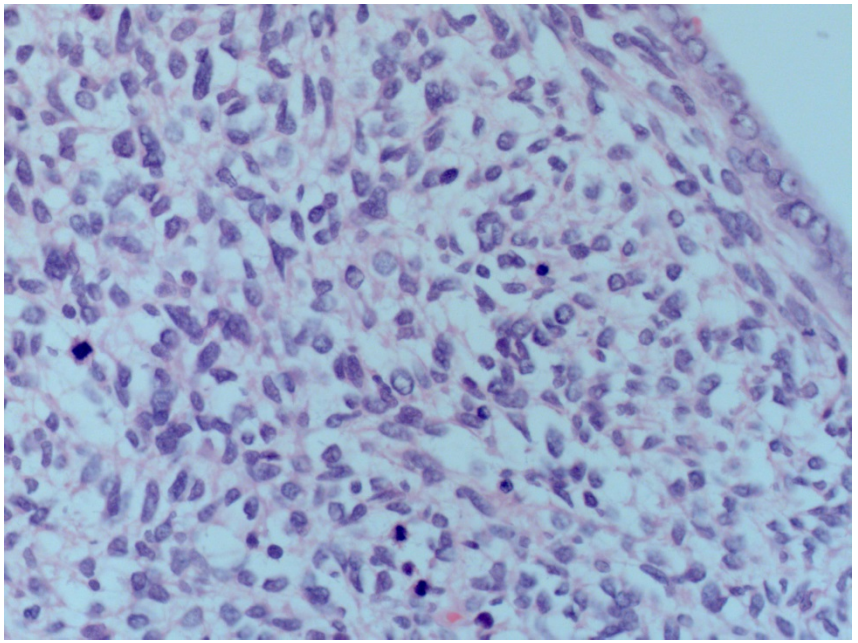




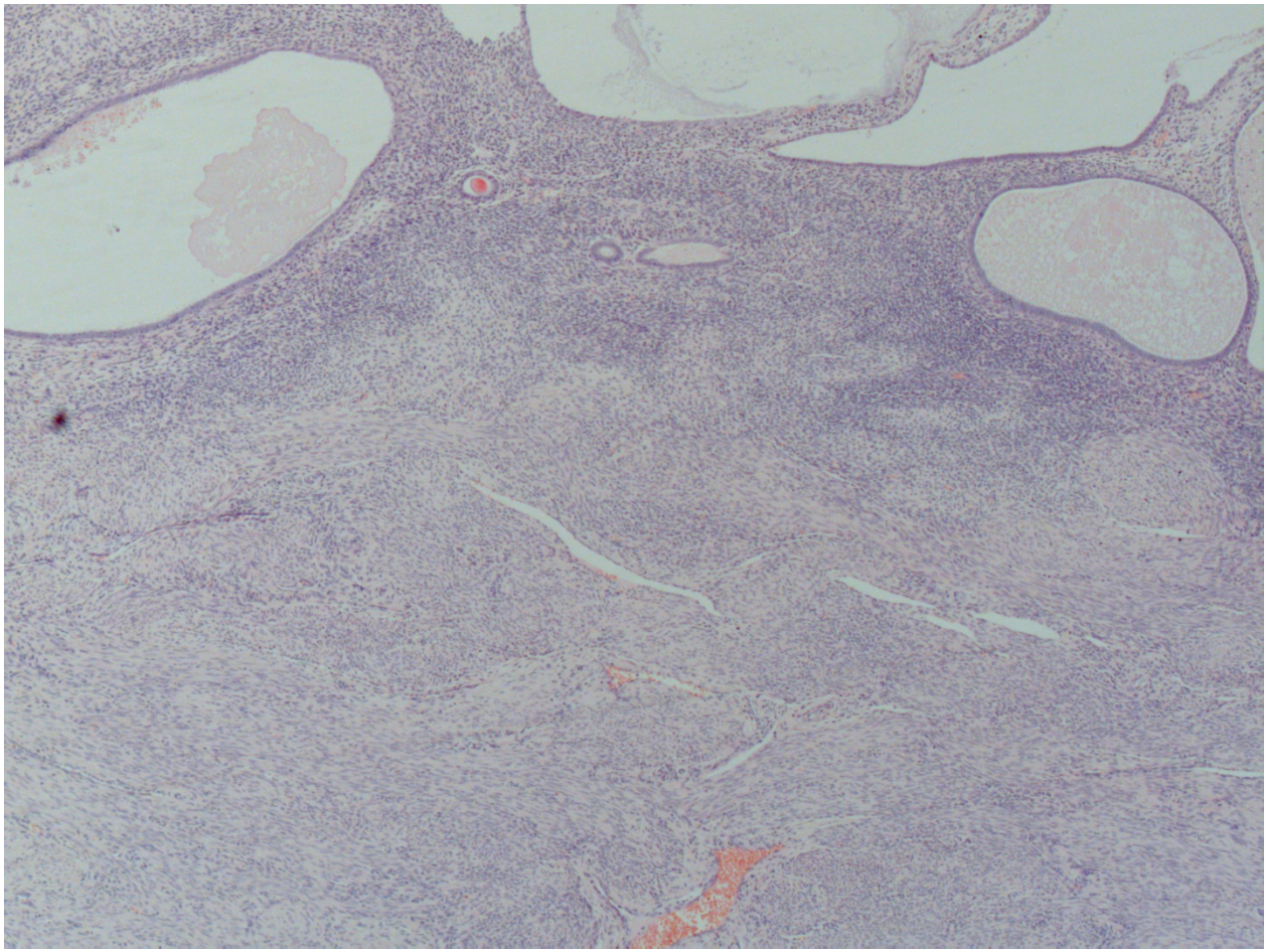


Case 9





Case 9



Mullerian Adenosarcoma

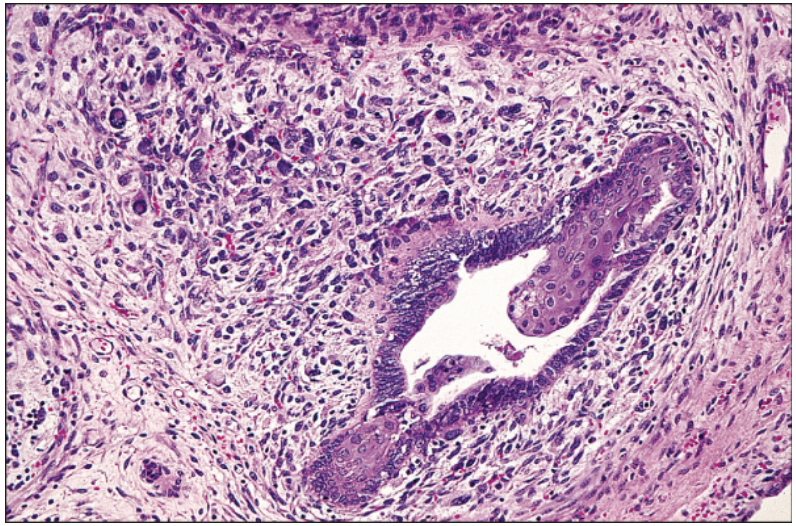
- Biphasic
- Glands should be scattered throughout the mesenchymal component
- Papillary (phyllodes-like) architecture
- Gland lining variable with at most focal and mils cytoarchitectural atypia
- Mesenchymal component consists of low grade sarcoma resembling ESS or fibrosarcoma
- Periglandular cuffing
- Mitosis >4/10 hpf (CAREFUL)
- Heterologous elements +/-
- Low malignant potential

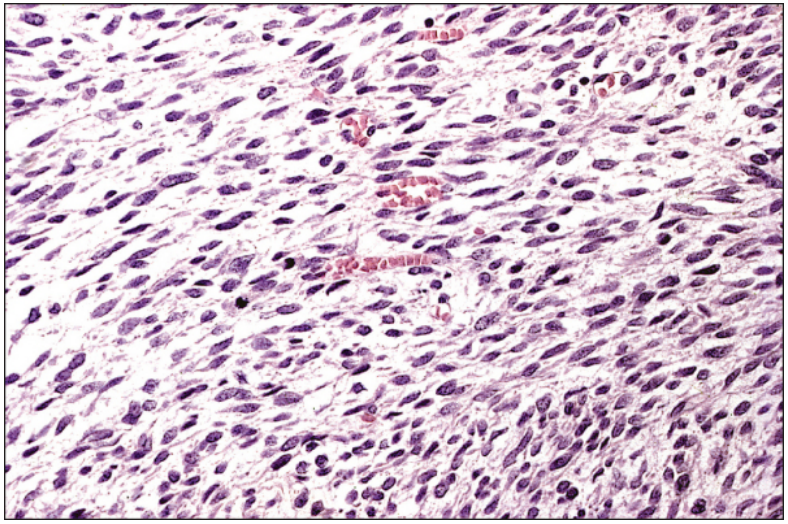
Mullerian Adenosarcoma – Differential diagnosis

- Mullerian adenosarcoma with high grade (heterologous) stroma
- Mullerian adenosarcoma with sarcomatous overgrowth (10% of all)
- Adenofibroma
- Benign endometrial (or endocervical) polyp
- Atypical polypoid adenomyoma
- MMMT
- ESS

Revision: FIGO staging of uterine sarcoma (2009)

Adenosarcoma with sarcomatous overgrowth

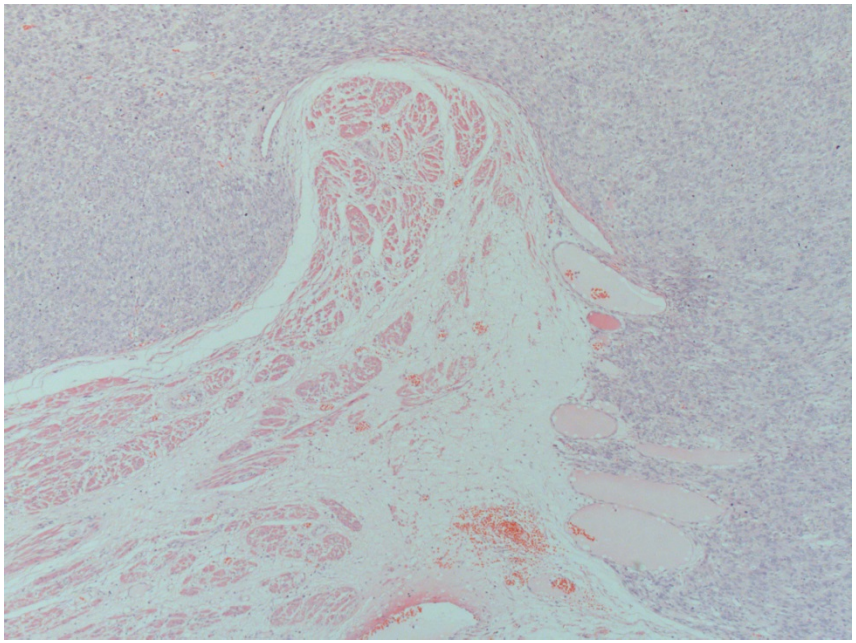


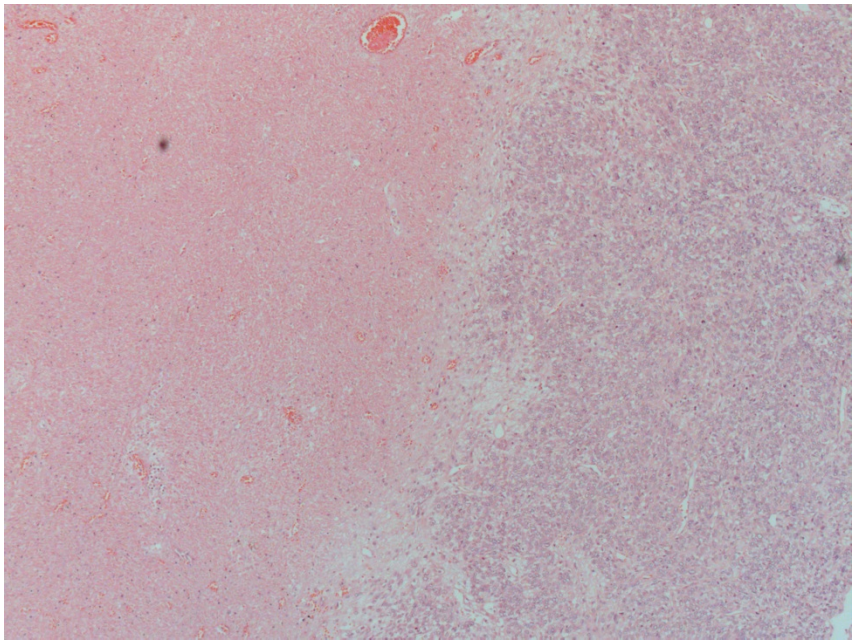


Case 10

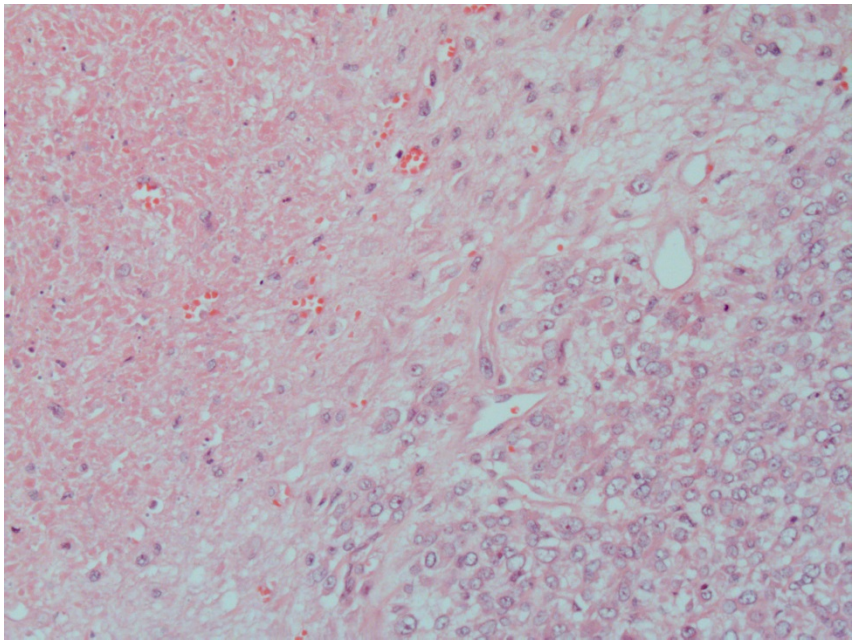
- 09S26072
- 63/F Uterine mass

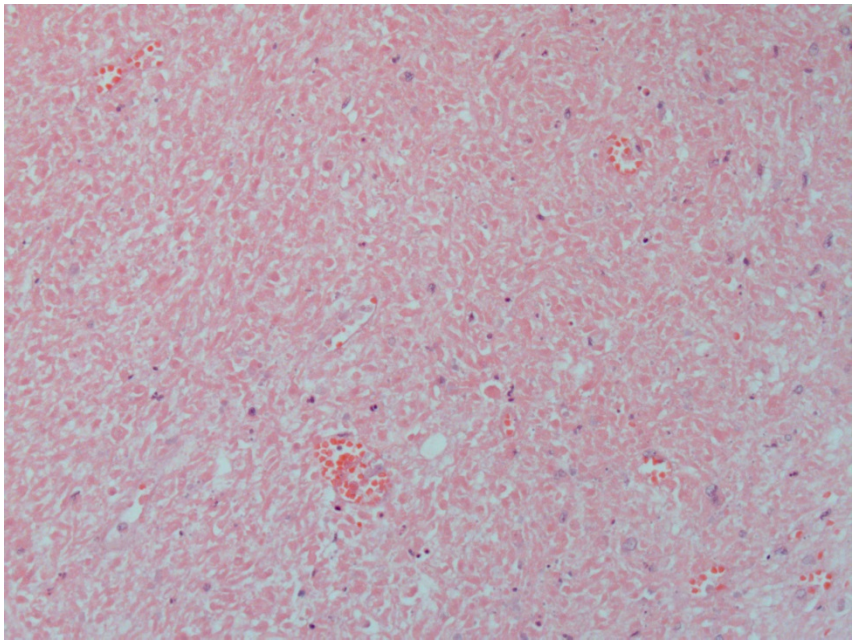
Case 10





Case 10





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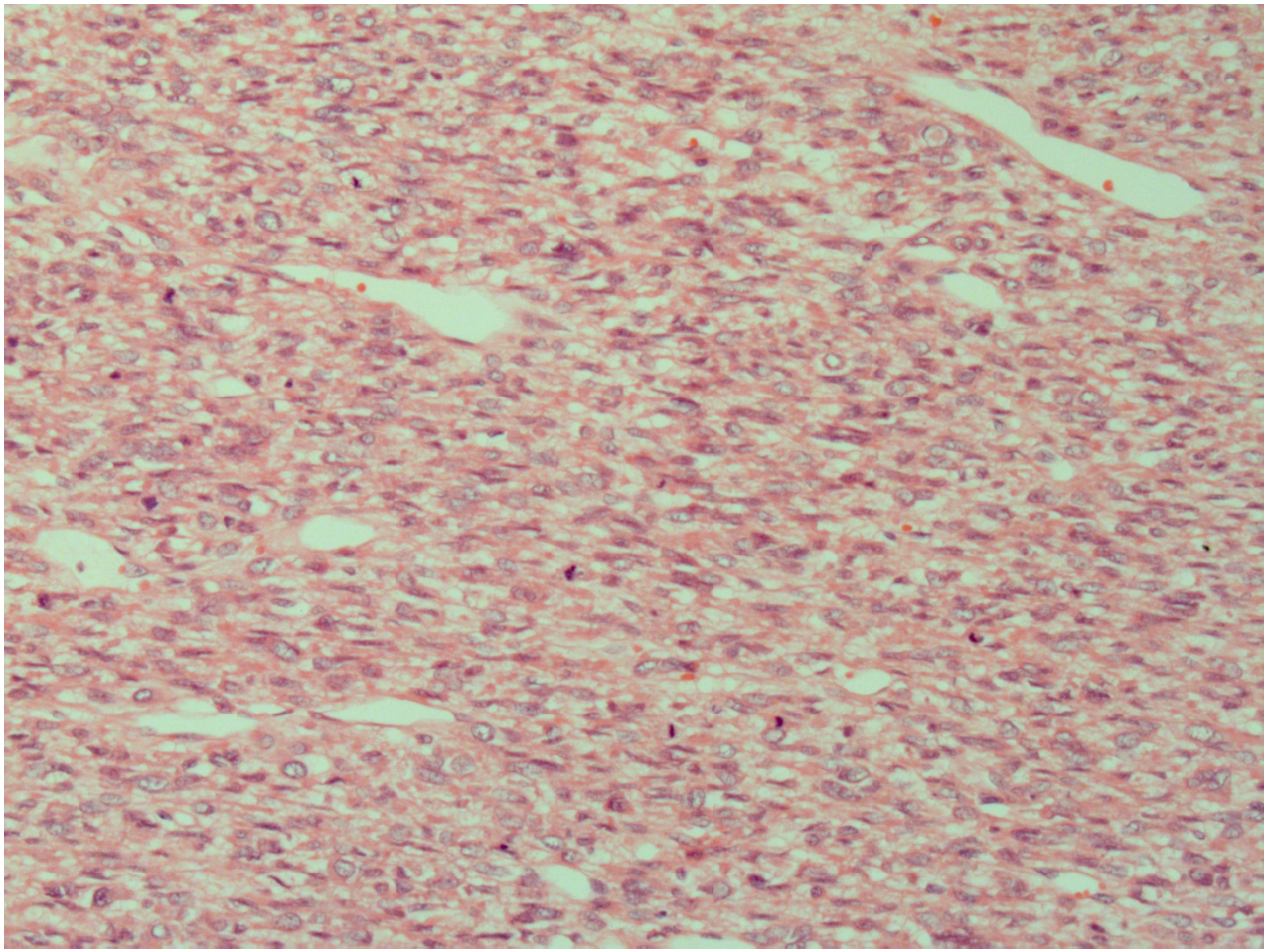
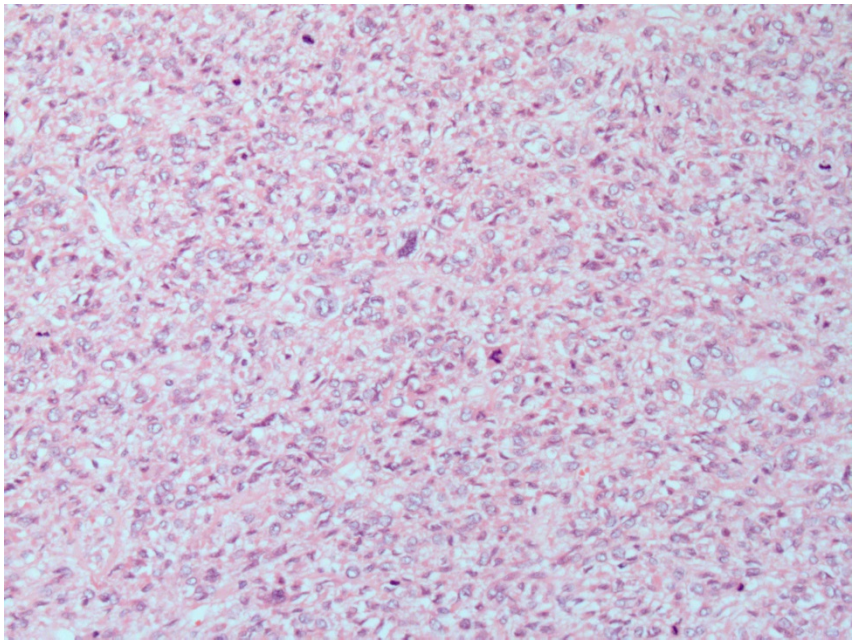
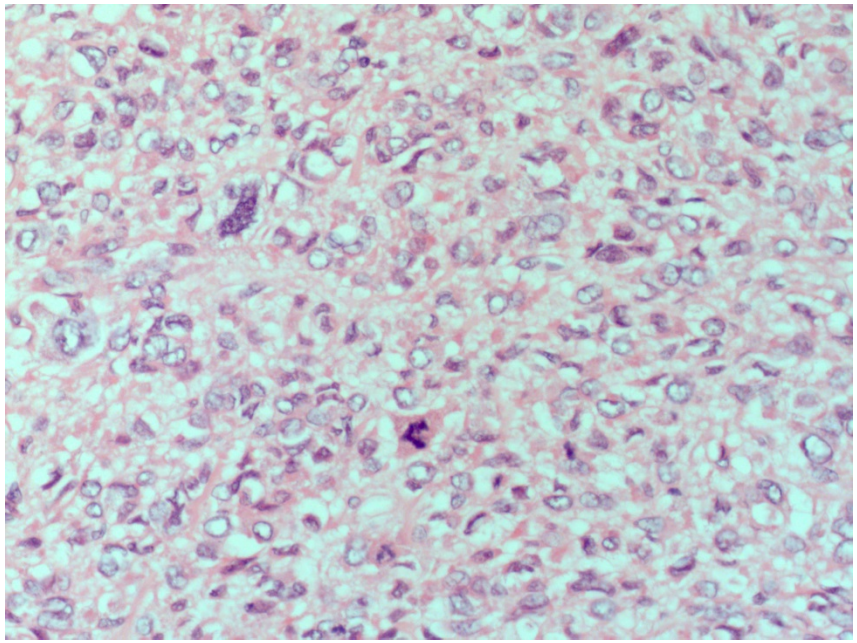


Case 10





Uterine leiomyosarcoma

- Hypercellular with 2 of 3 criteria present:
- Diffuse moderate to marked atypia
- High mitotic rate >/= 10/10 hpf
- Tumour cell necrosis (abrupt transition, ghost-like outlines of atypical cells, hyperchromatic tumour nuclei, perivascular survival pattern)
- Other features: atypical mitotic figures, infiltrative edge, vascular invasion

Uterine leiomyosarcoma – Differential diagnosis

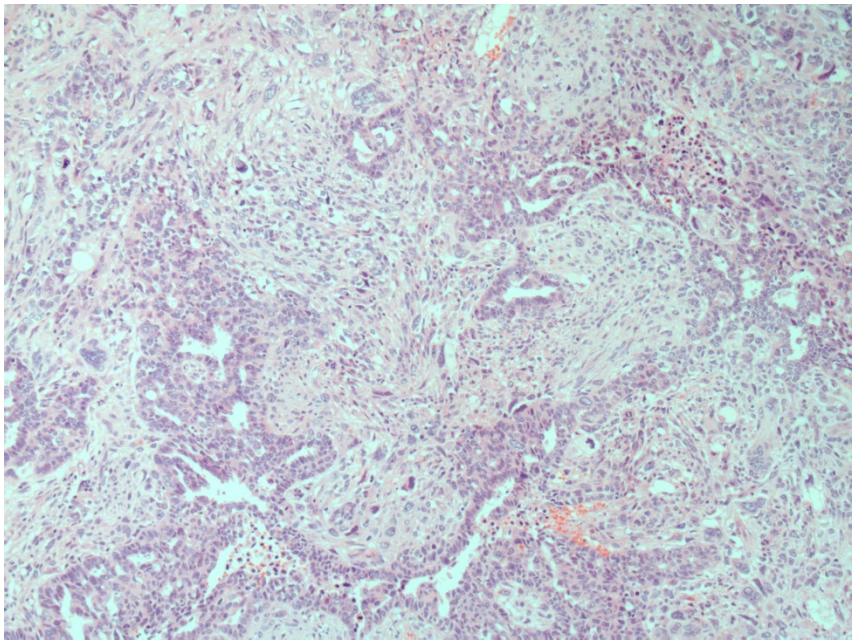
- Leiomyoma variants: cellular, atypical/symplastic, mitotically active, myxoid, intravascular
- ESS
- PEComa

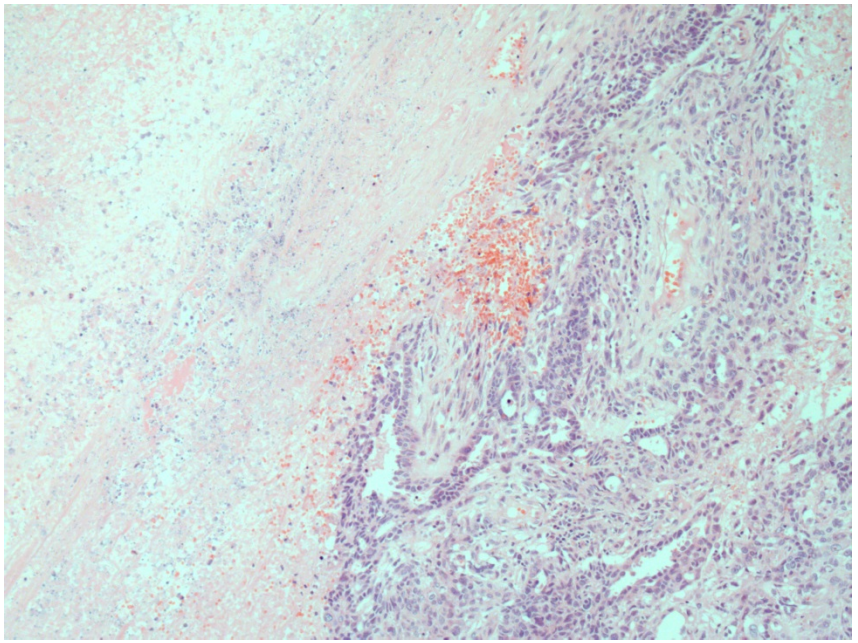
Revision: leiomyoma variants

Case 11

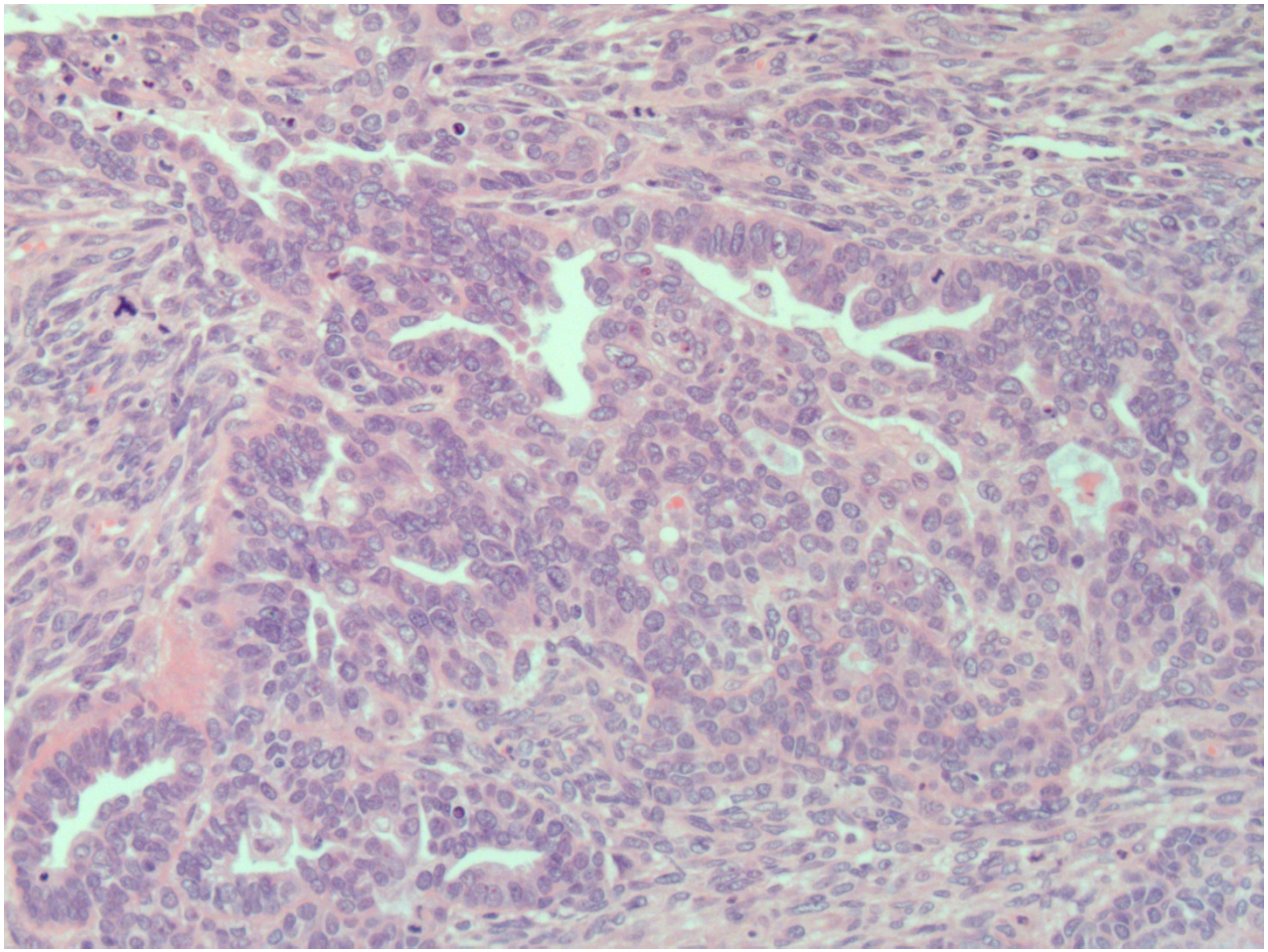
- 10S246
- 59/F Ovarian mass

Case 11

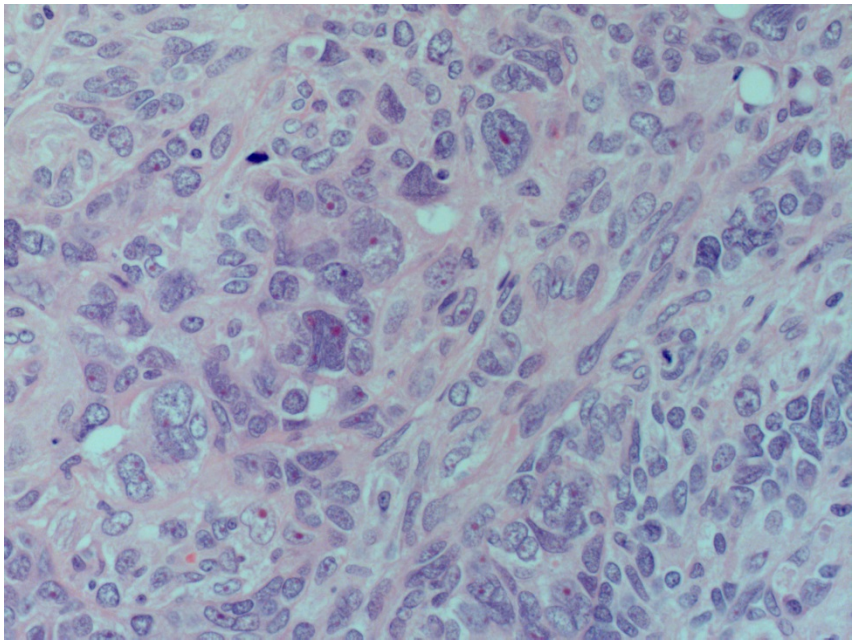


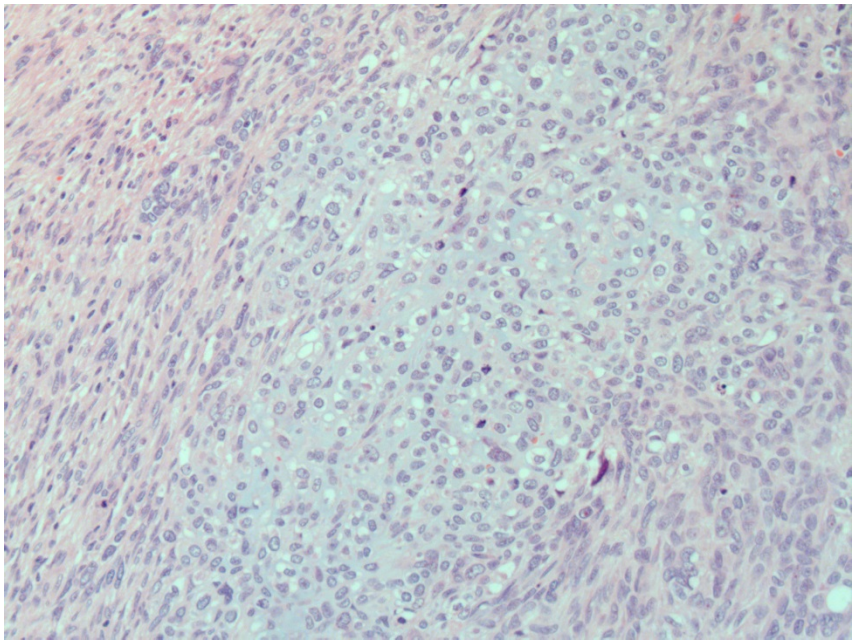


Case 11



Case 11





High grade carcinosarcoma (Malignant Mixed Mullerian Tumour)

- Most represent carcinoma with sarcomatous transformation
- Biphasic with intermingled carcinomatous and sarcomatous components
- One component may overwhelmingly predominate
- Carcinoma: serous/ high grade endometrioid/ mucinous/ clear cell/ squamous/ mixed
- Sarcoma: homologous (LMS/ fibrosarcoma) or heterologous (cartilage/ skeletal muscle)
- Metastases often purely carcinomatous, rarely purely sarcomatous

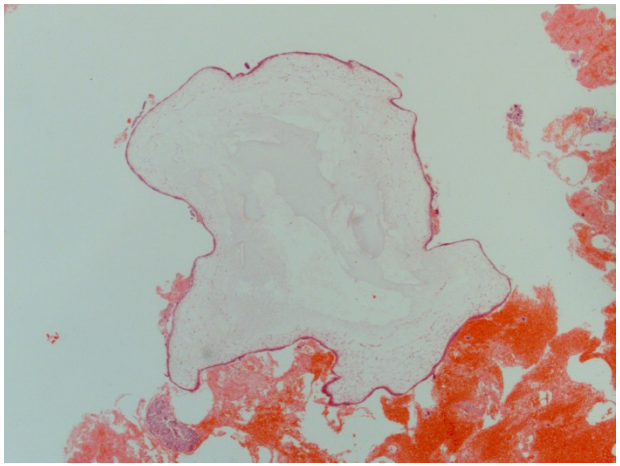
High grade carcinosarcoma (Malignant Mixed Mullerian Tumour) – Differential diagnosis (in endometrial tumours)

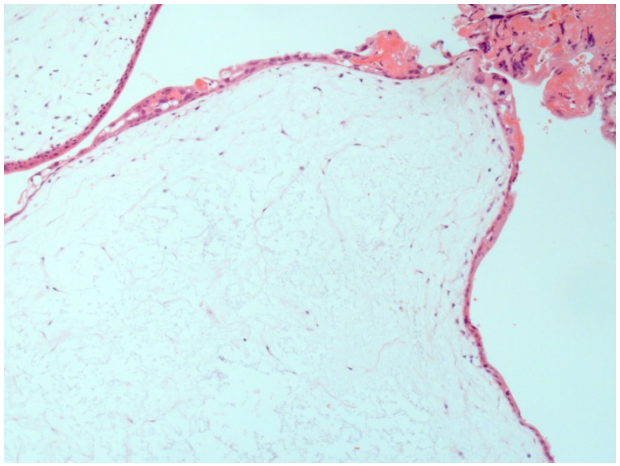
- Mullerian adenosarcoma
- Dedifferentiated endometrial carcinoma
- Sarcomatoid carcinoma = endometrioid carcinoma with spindle cells
- Pure uterine sarcomas
- Endometrioid carcinoma with heterologous elements (cartilage/osteoid/fat, NOT sarcomatous)
- Uterine (or ovarian) serous carcinoma with prominent desmoplastic stroma

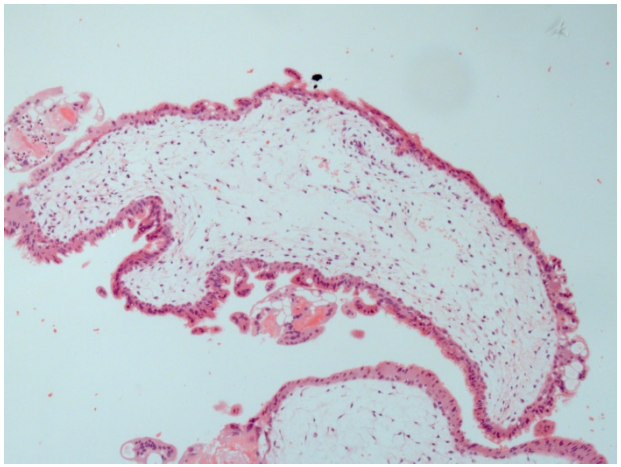
Case 12

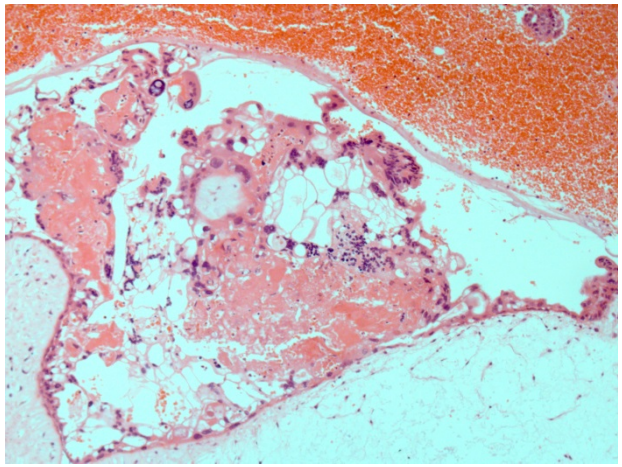
- 09S32117
- 28/F POC

Case 12

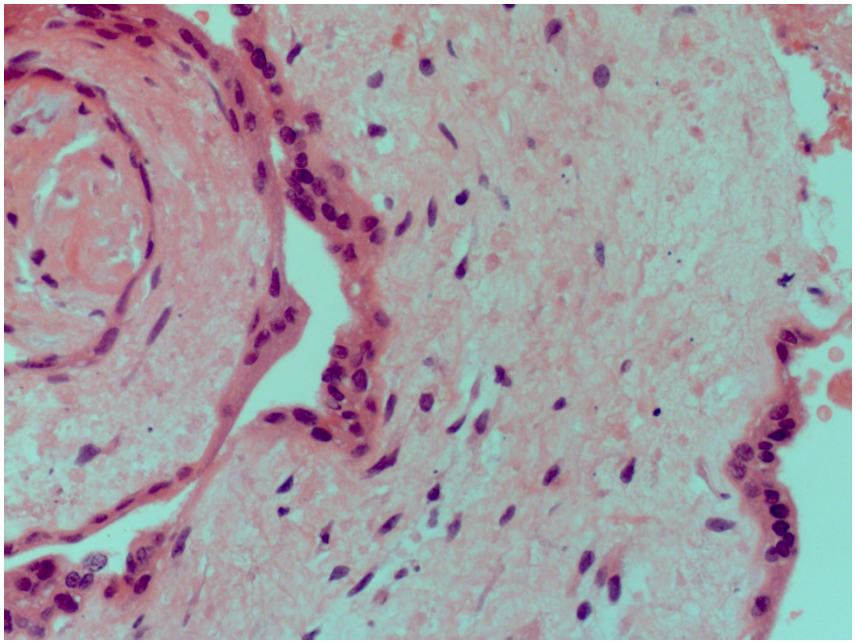


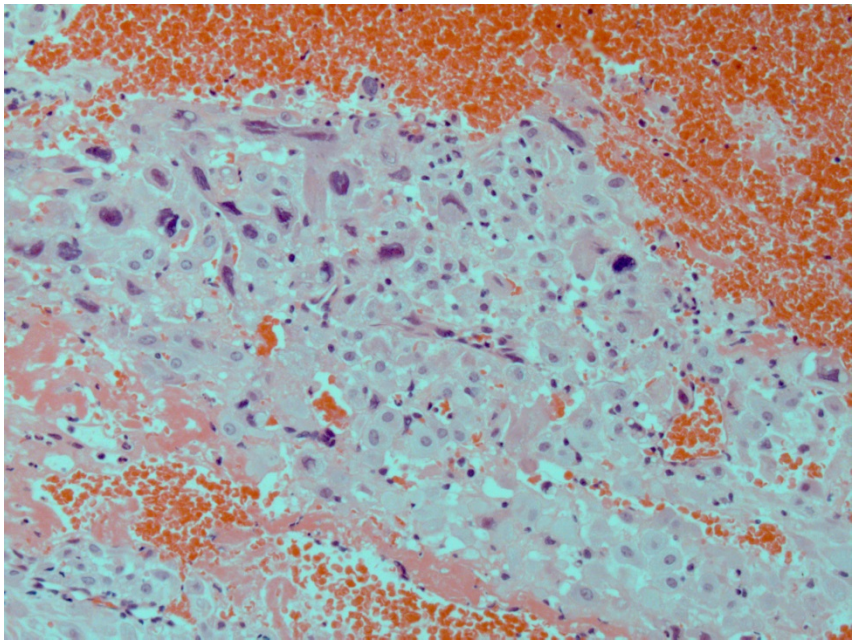






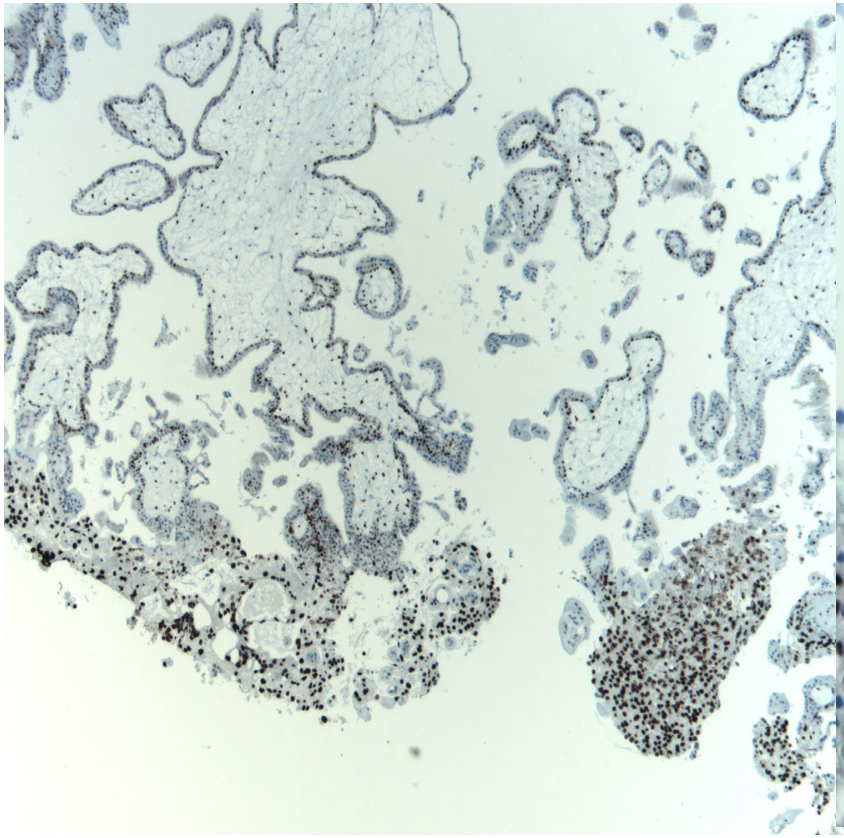
Case 12

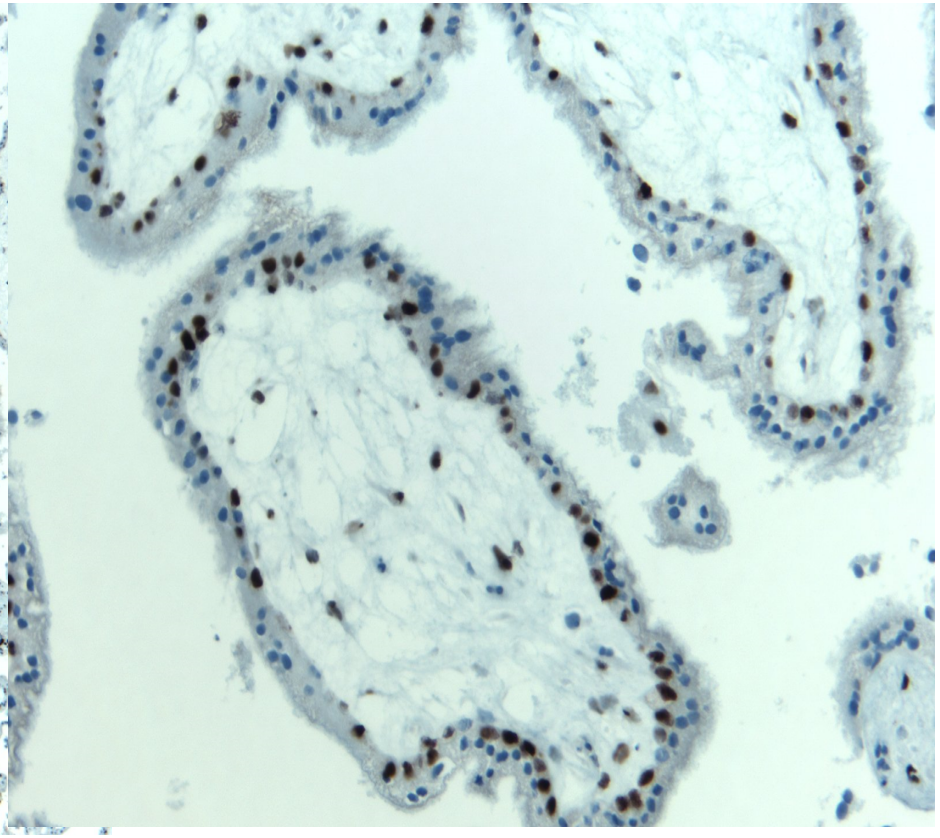




Hydatidiform mole - complete

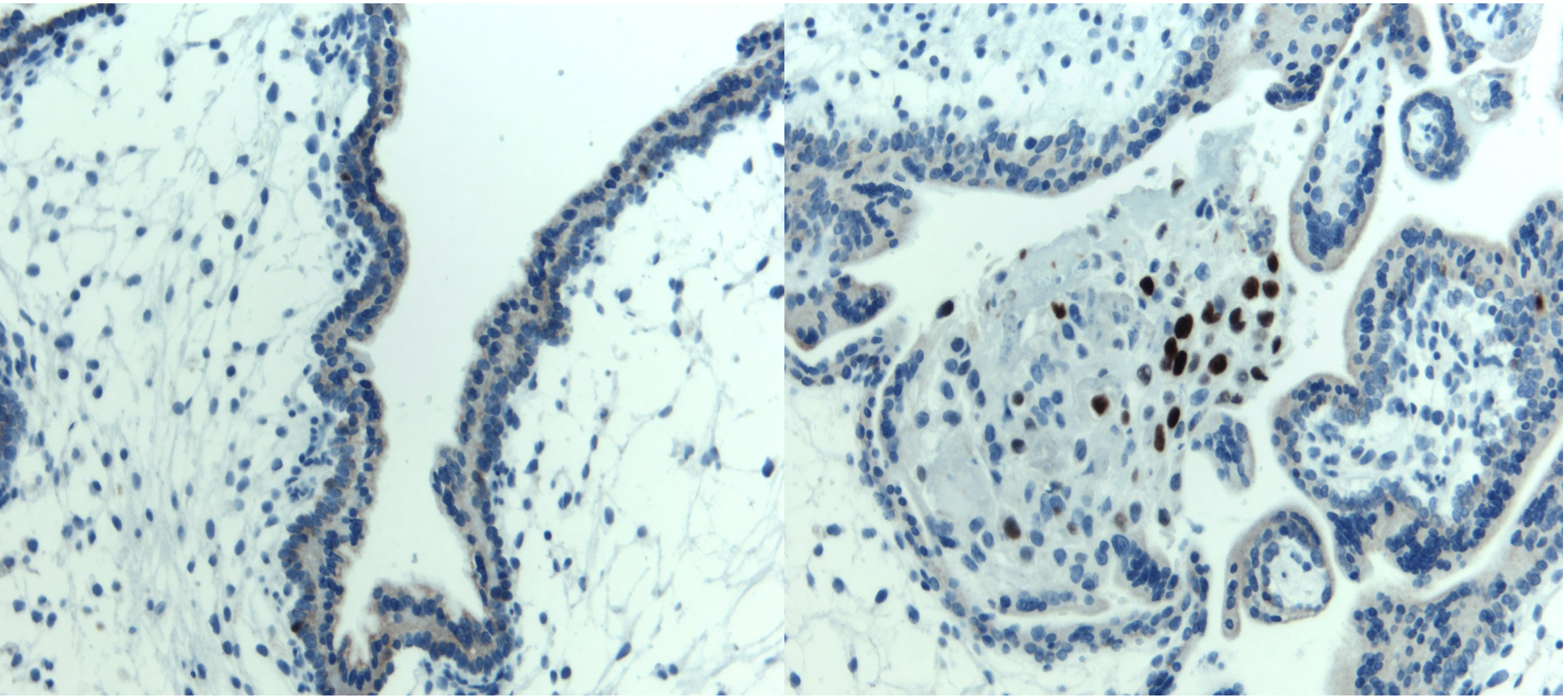
- Diffuse villous hydropic change, cisterns
- Diffuse trophoblastic hyperplasia, circumferential
- Karyorrhectic stromal debris (NOT vascular)
- Cytotrophoblast atypical
- Syncytiotrophoblast lacelike
- Inclusions not as frequent as in PM
- Intervillous trophoblast is hyperplastic and atypical
- Fetal tissues + in <2% of CM
- Early CM: Subtle – club like protrusions, myxoid stroma with karyorrhexis, at least focal circumferential trophoblast hyperplasia
- P57 negative





Intervillous trophoblast is p57 POSITIVE in **all** POCs

Villous cytotrophoblast POSITIVE in non-molar and PHM



CHM: Villous cytotrophoblast and villoous stromal cells NEGATIVE

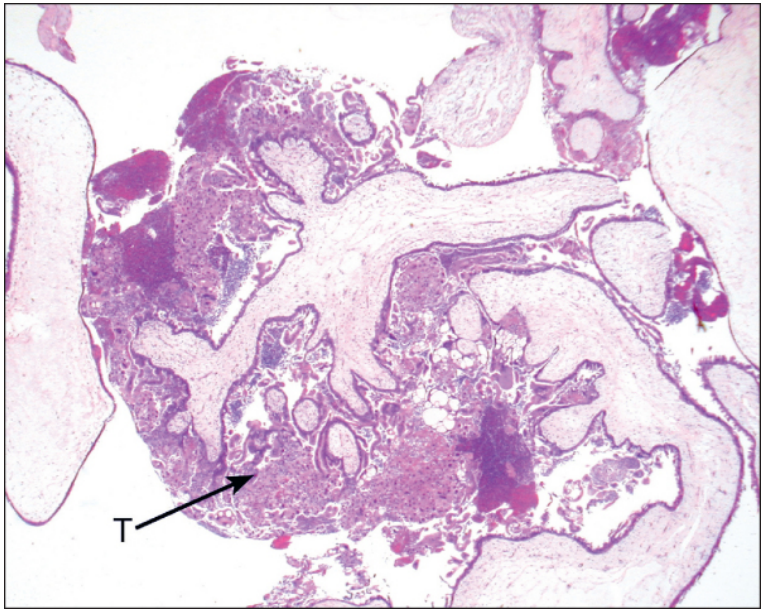
!Intervillous trophoblast will be POSITIVE!

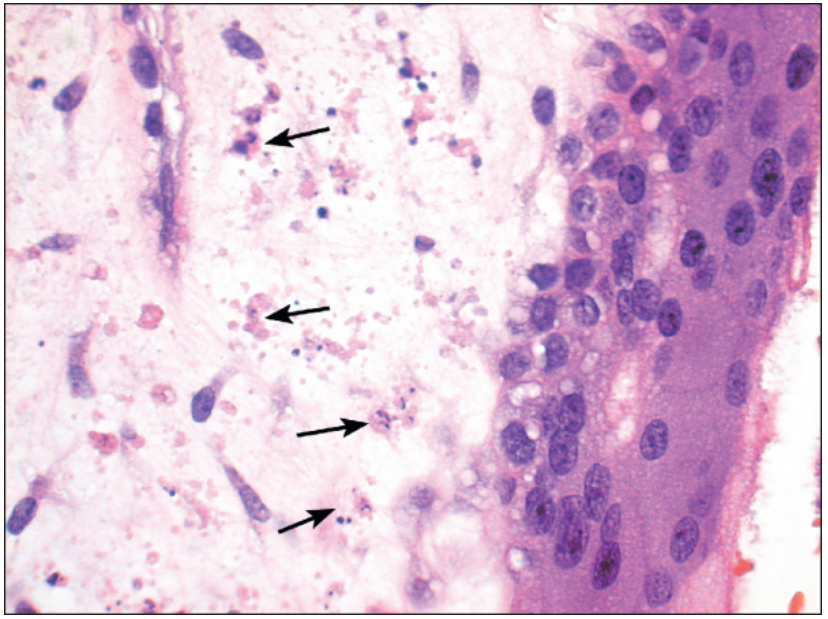
Complete mole – Differential diagnosis

- Partial mole
- Non-molar hydropic change

Revision: Pathology of molar pregnancy; pathology of miscarriage (including early and recurrent - has no role in establishing cause of fetal demise – except molar pregnancy)

Early complete mole

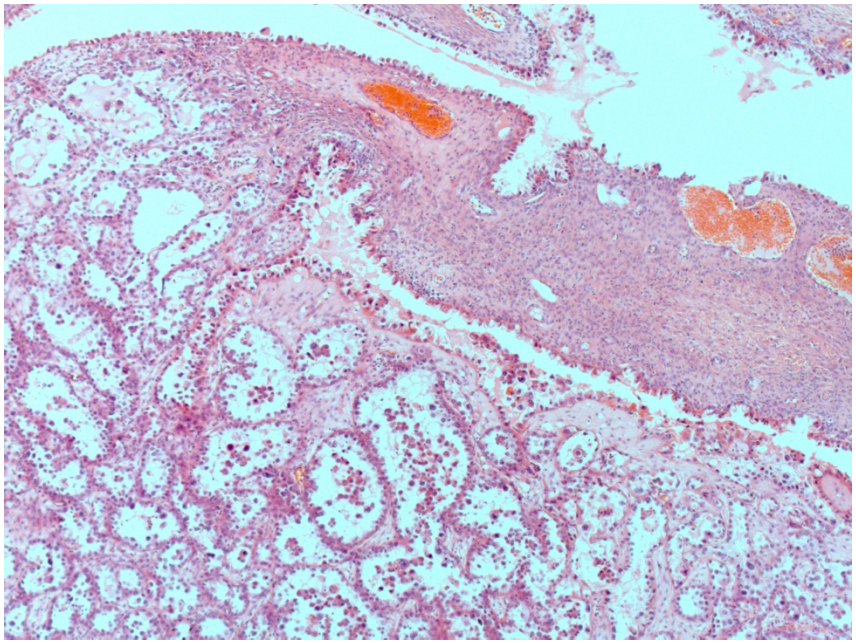


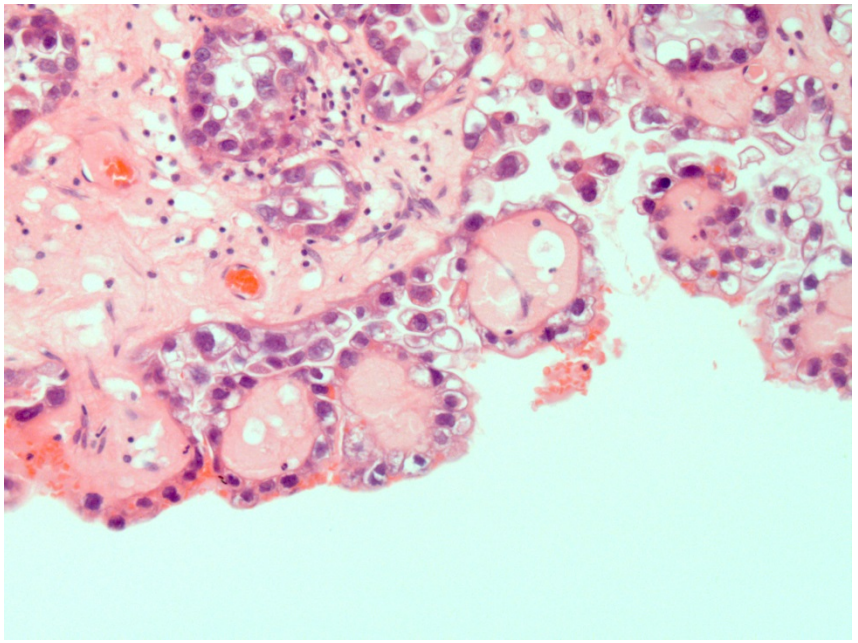


Case 13

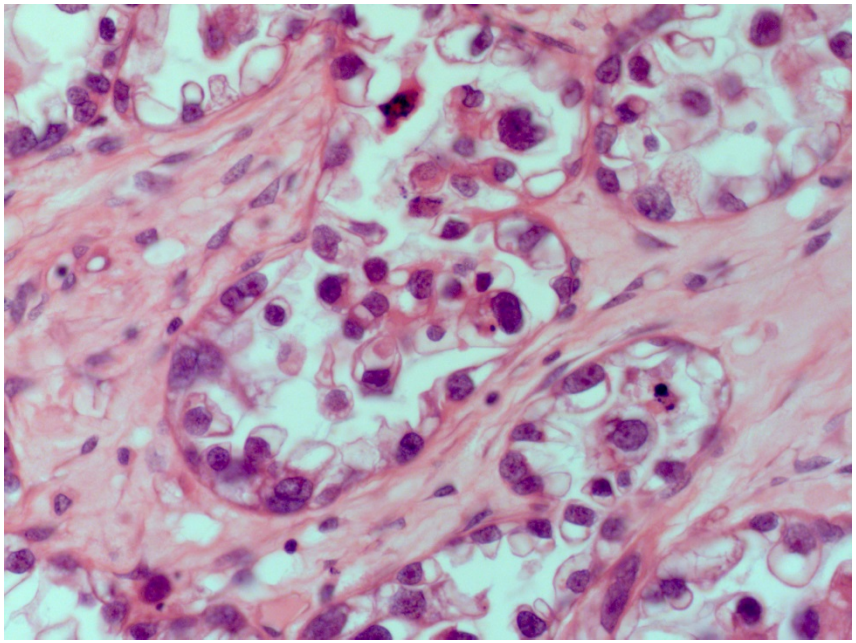
- 09S36075
- 56/F Ovarian mass

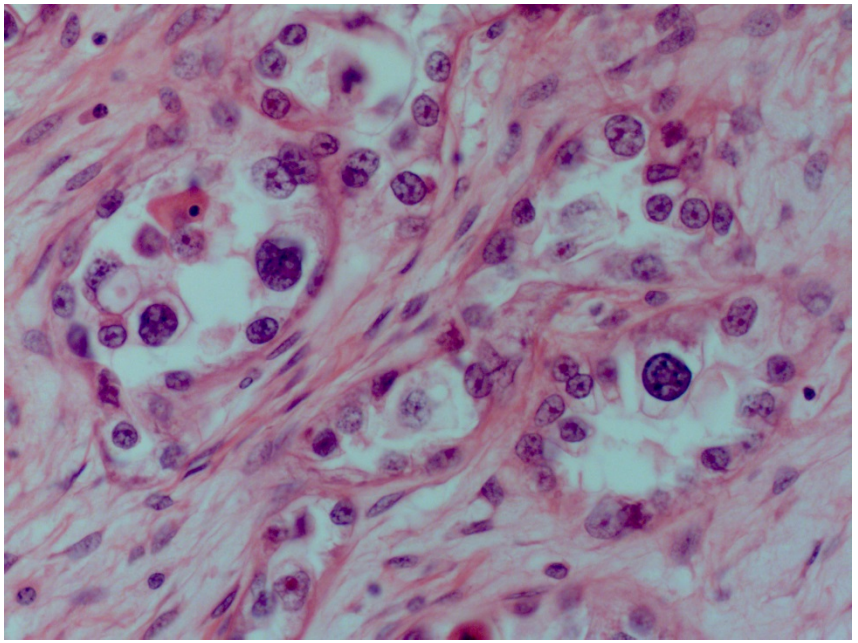
Case 13





Case 13





Clear cell carcinoma

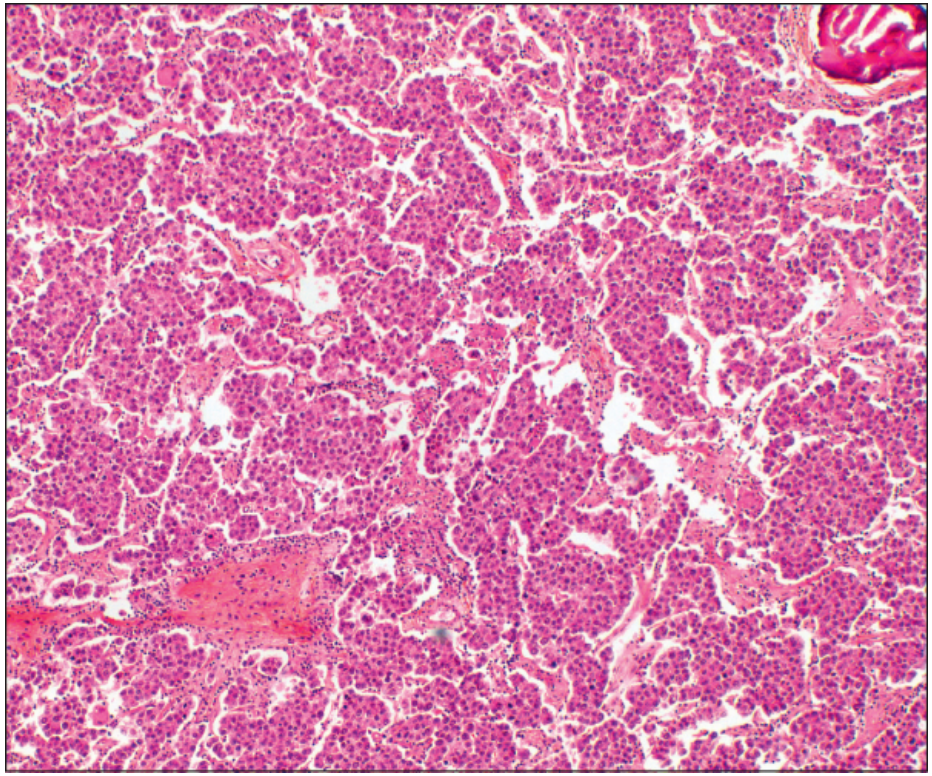
- Variety of architectural patterns: commonly tubulopapillary with hyalinised cores
- Clear cells: polyhedral, distinct cell outlines, eccentric nuclei, glycogen-rich
- Hobnail: bulbous dark nuclei protruding into lumina
- Oxyphilic: eosinophilic cytoplasm
- Others: Cells may be flat and deceptively bland, signet ring, undifferentiated
- Luminal contents: mucin or colloid-like
- Background endometriosis
- New IHC marker: HNF1β

Clear cell carcinoma– Differential diagnosis

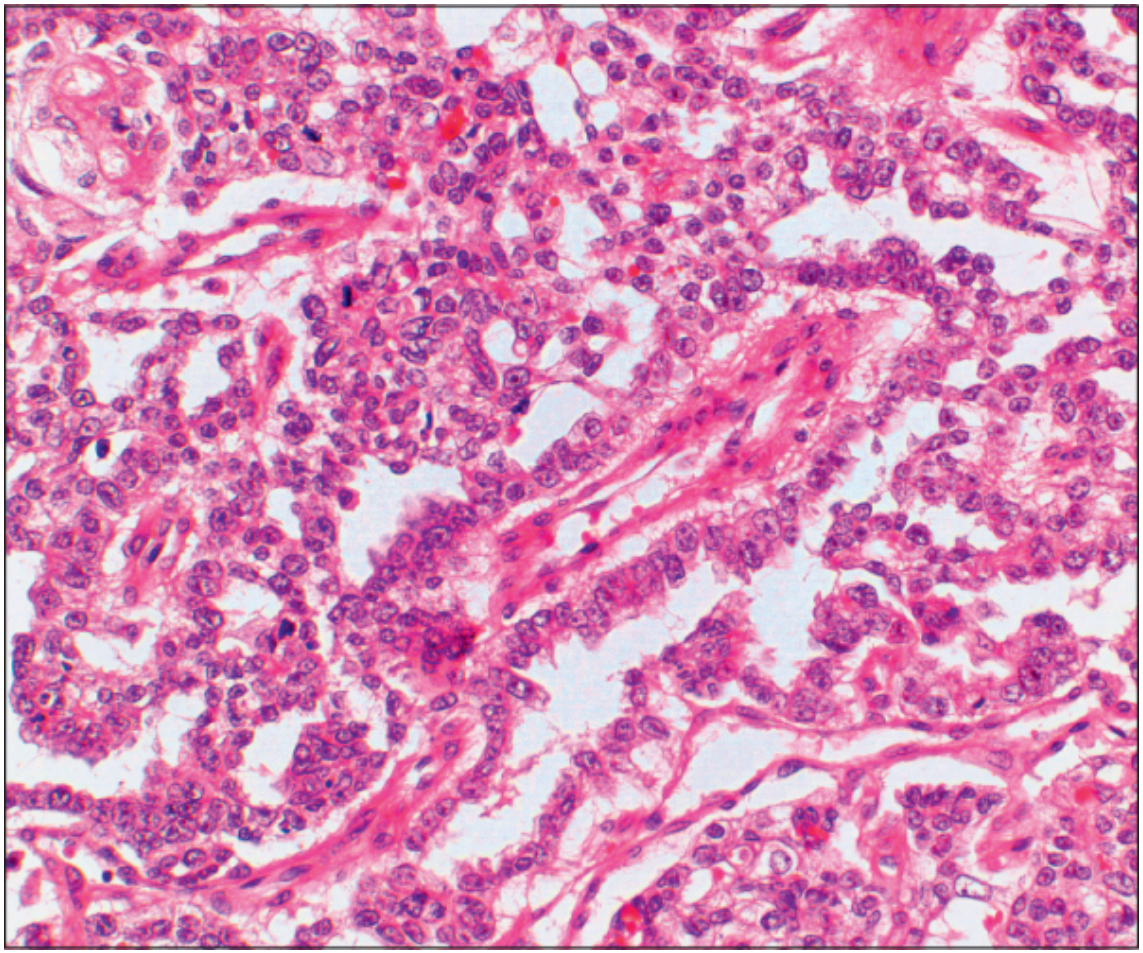
- Other ovarian primaries: endometrioid; YST; dysgerminoma; Brenner; struma ovarii; Sertoli; steroid cell; epithelioid smooth muscle tumours
- Metastatic tumours: other FGT CCC; Melanoma; renal cell ca
- Arias-Stella reaction in endometriosis
- Benign/BL clear cell neoplasms

Revision: Synchronous tumours of FGT

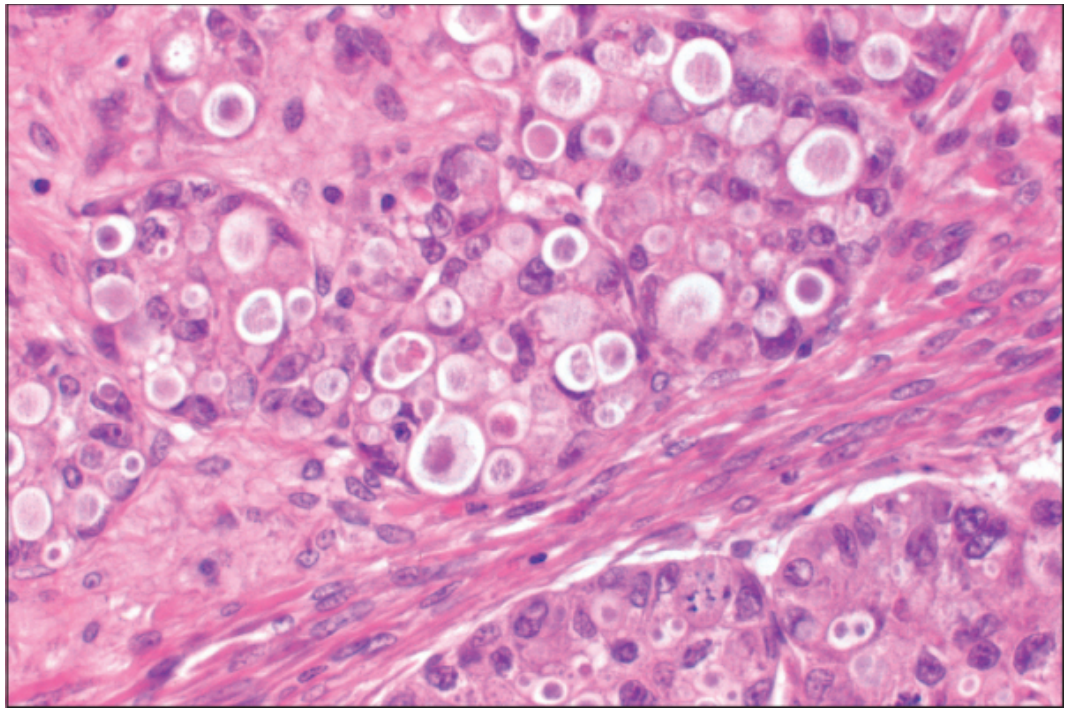
Dysgerminoma



Yolk sac tumour



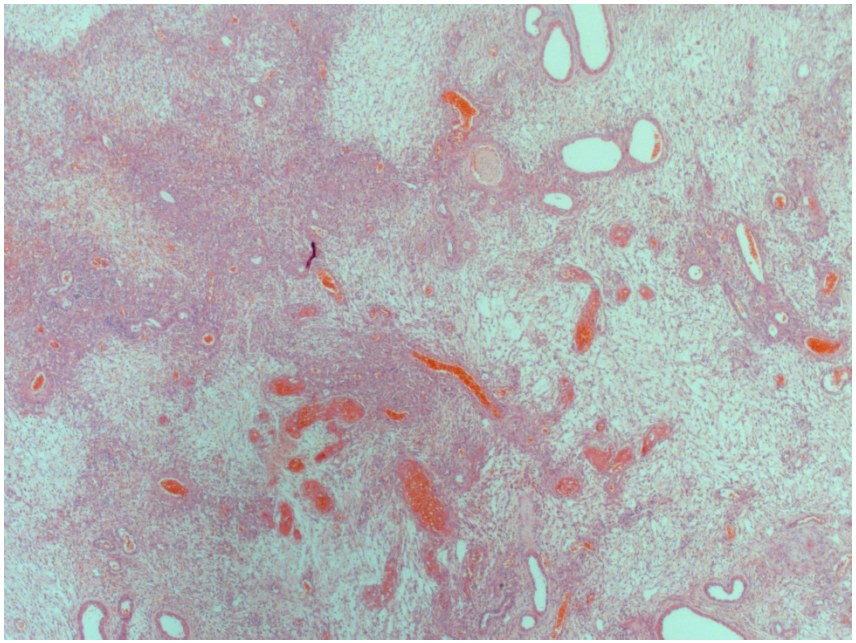
CCC with signet ring morphology

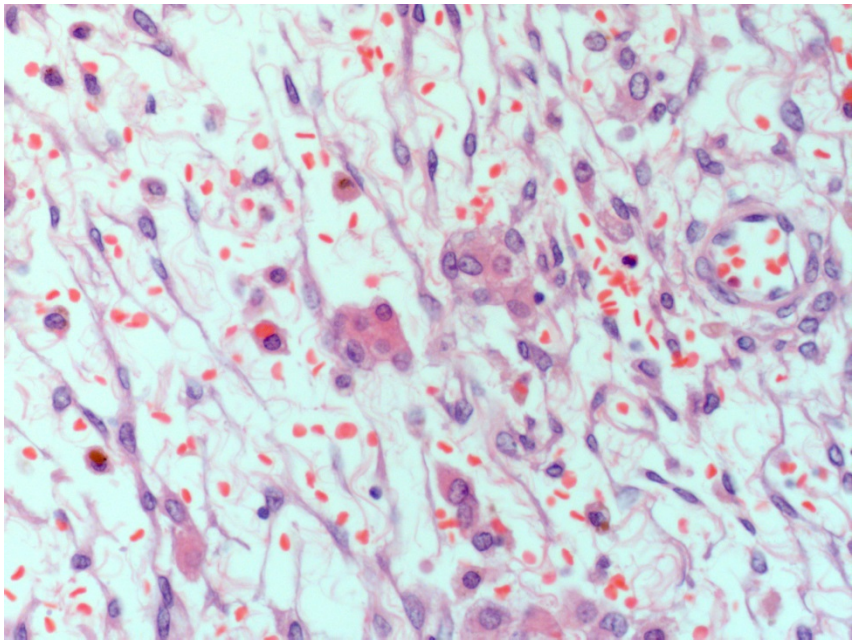


Case 14

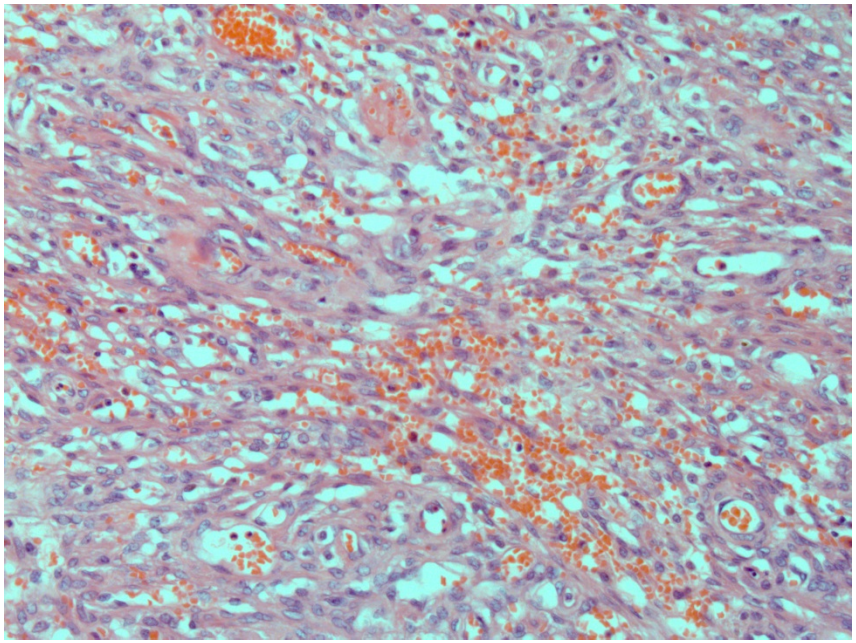
- 09S35285
- 36/F Torsion of right ovary

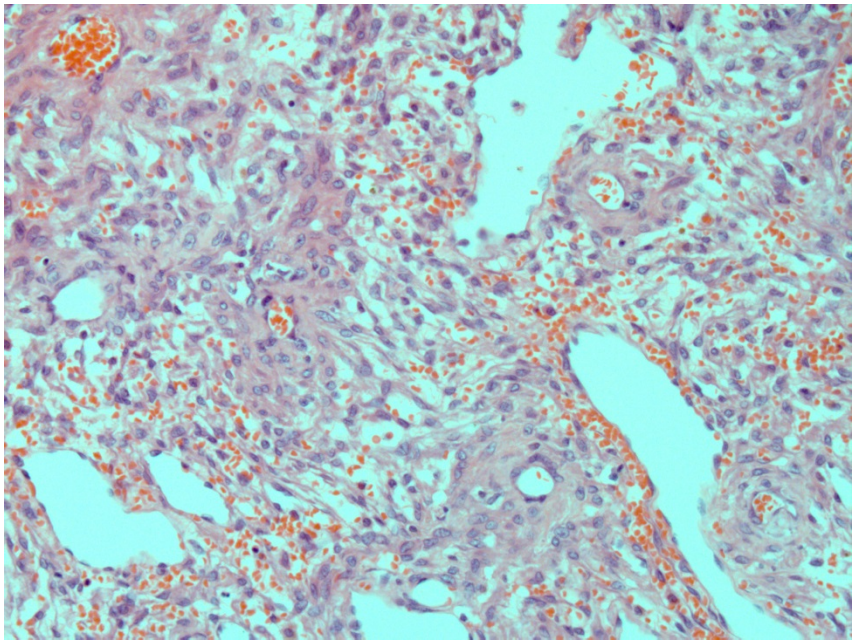
Case 14



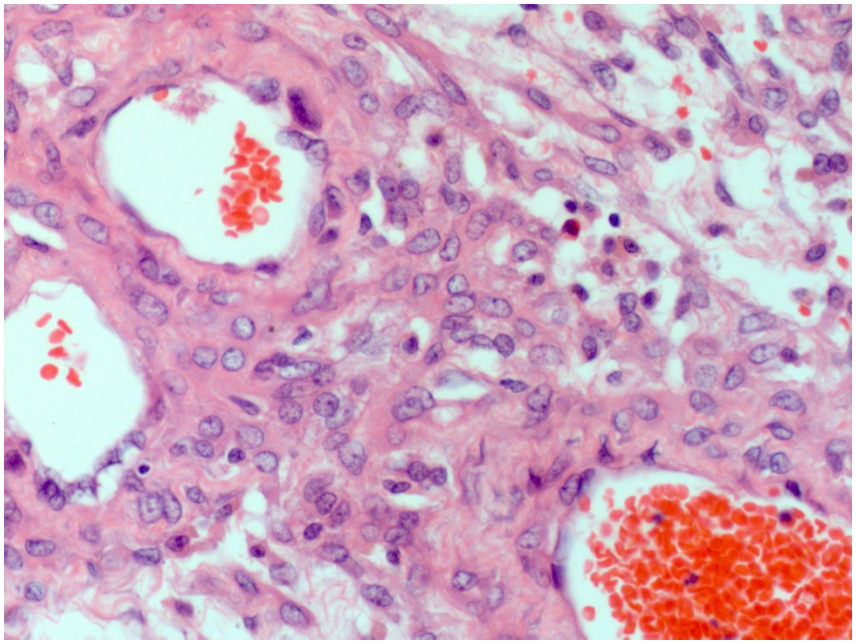


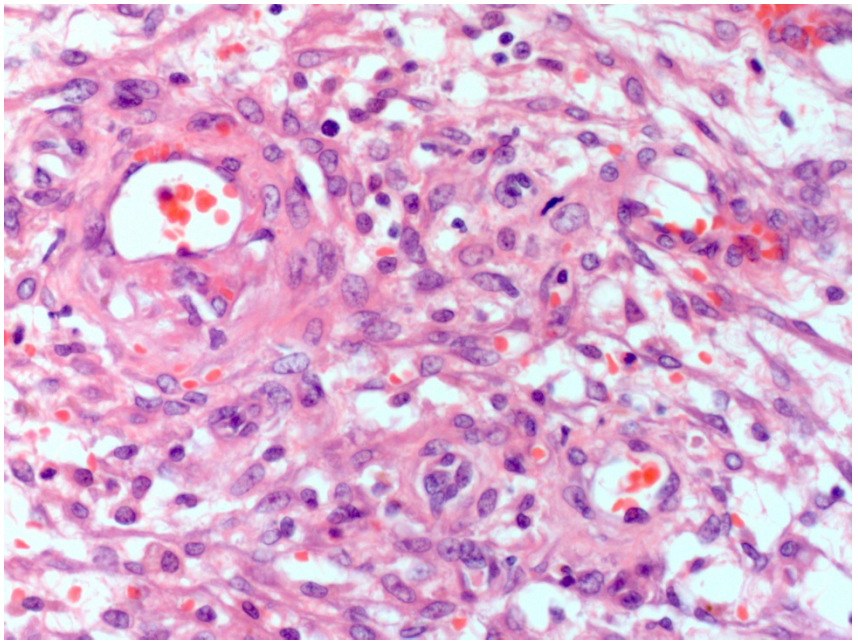
Case 14





Case 14





Sclerosing Stromal Tumour

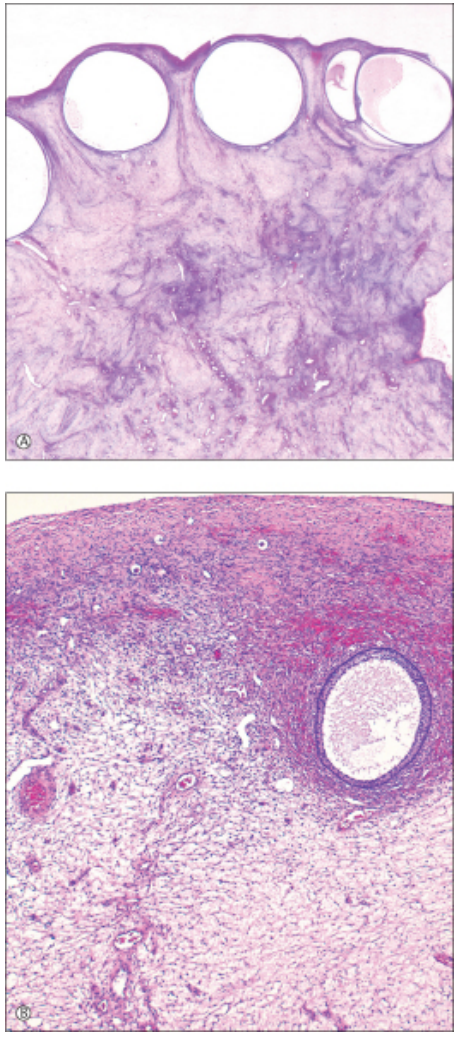
- Unilateral, discrete, sharply demarcated
- Pseudolobular pattern
- Cellular areas alternating with paucicellular densely collagenous or oedematous areas
- Sclerosis variable
- Prominent thin-walled vessels, hemangiopericytomatous pattern
- Cellular areas have disorganised mixture of stromal cells, vacuolated cells, luteinised cells

Sclerosing Stromal Tumour – Differential diagnosis

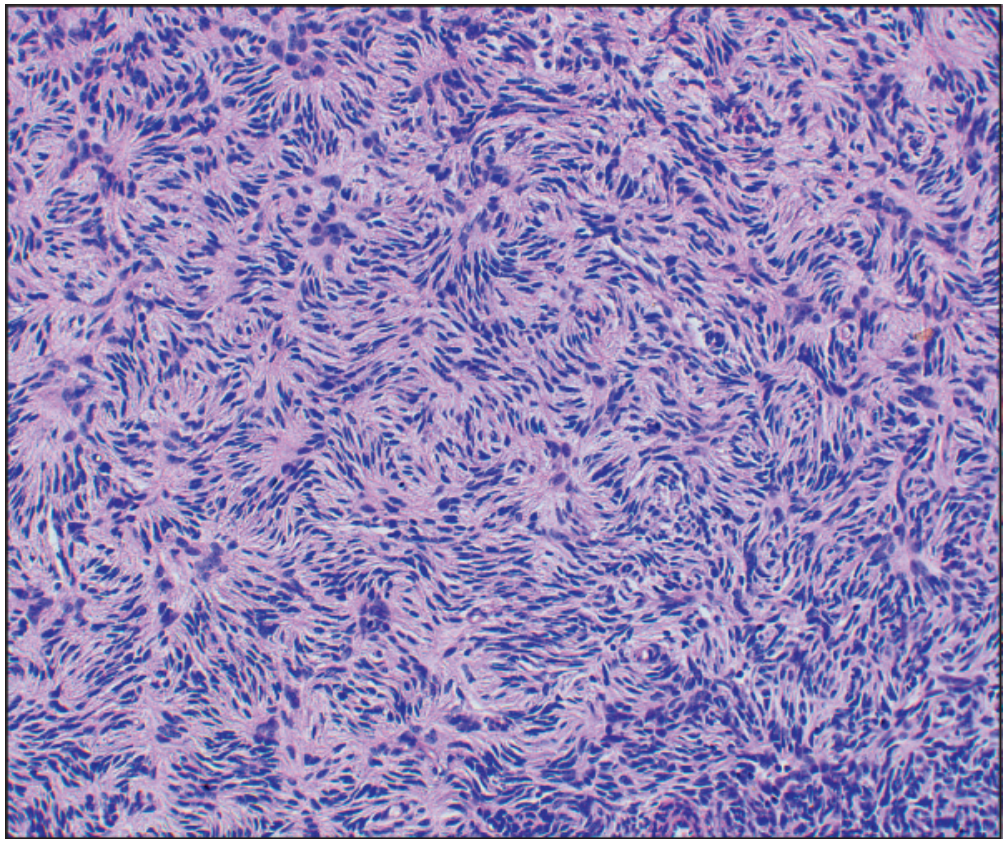
- Fibroma, thecoma
- Krukenberg tumour
- Hemangiopericytoma

Revision: Ovarian sex-cord stromal tumours

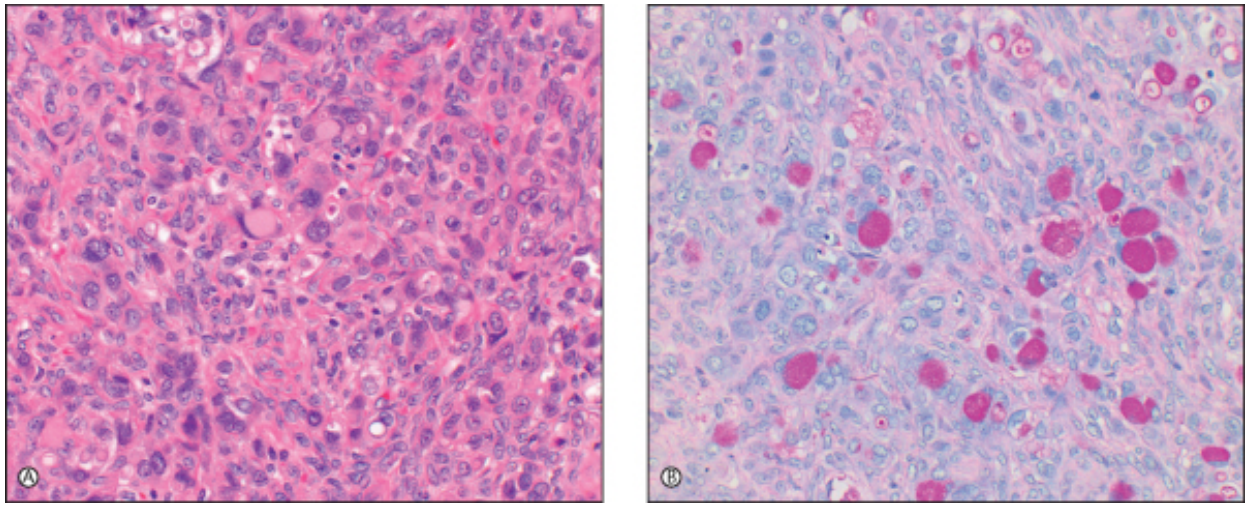
Massive ovarian oedema



Ovarian fibroma



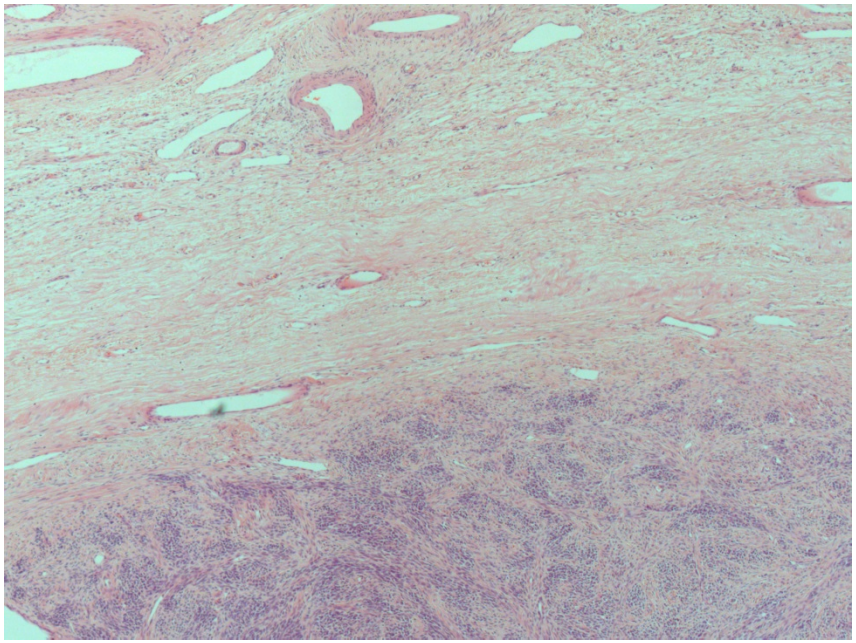
Krukenberg tumour

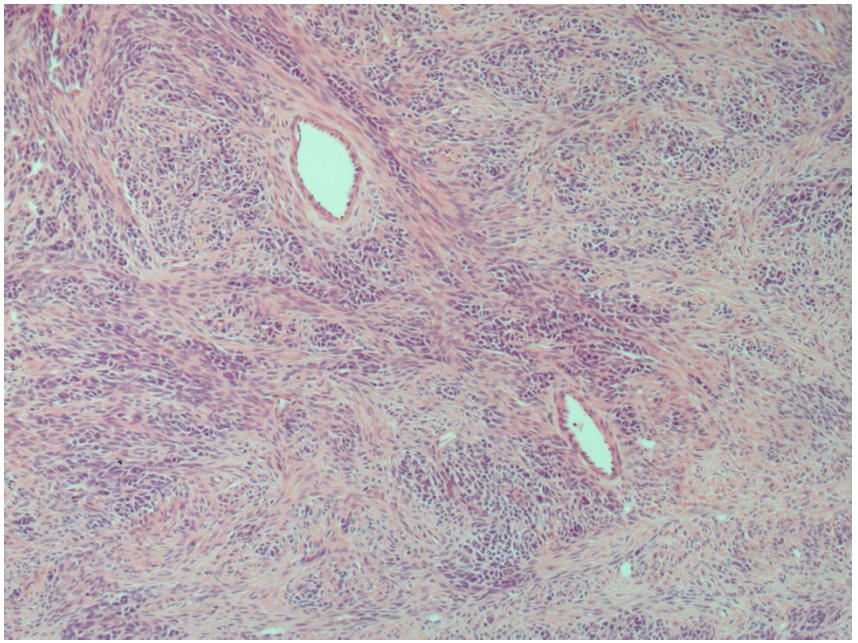


Case 15

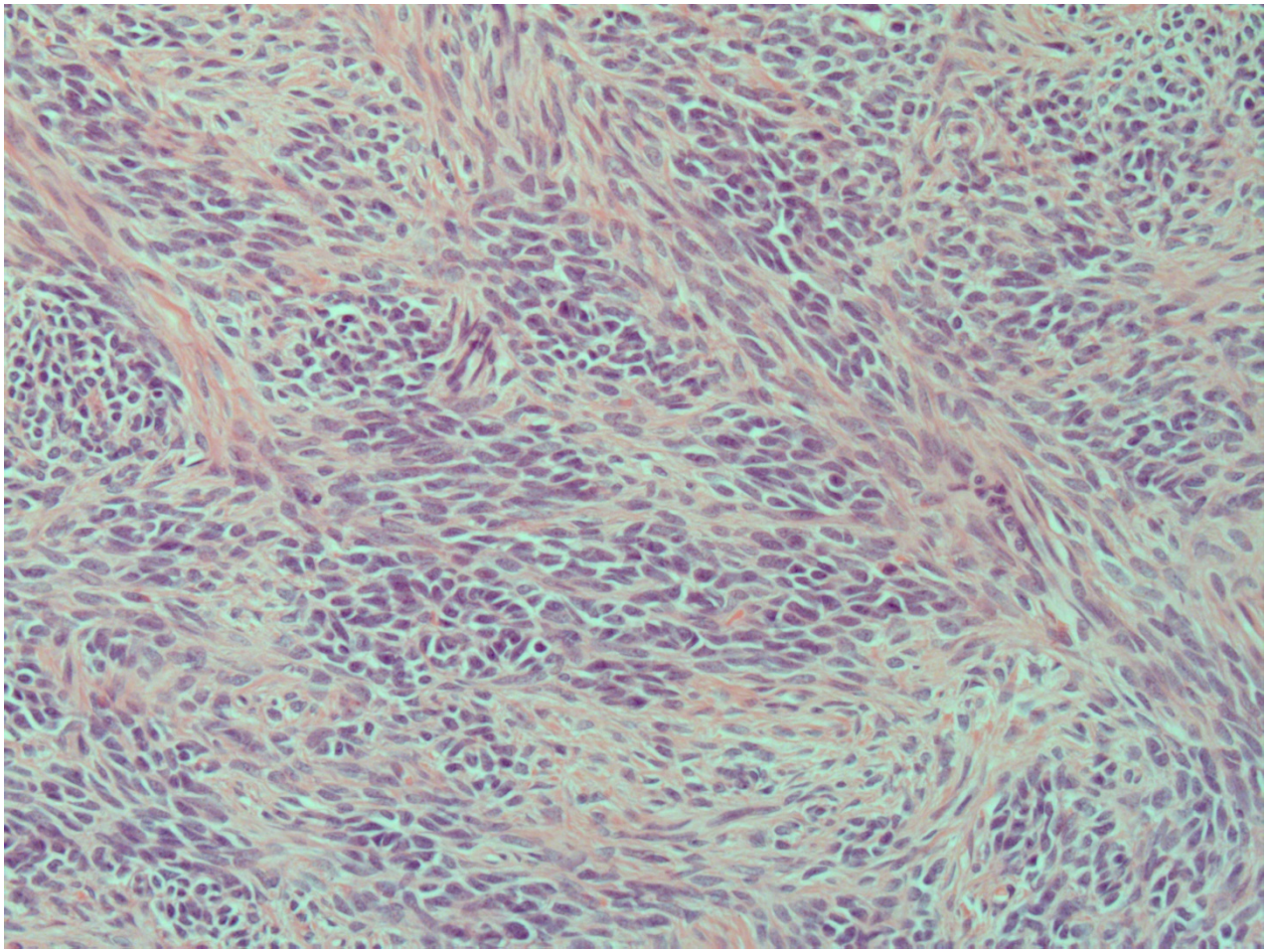
- 09S31420
- 33/F Complex right ovarian mass with raised CA125

Case 15

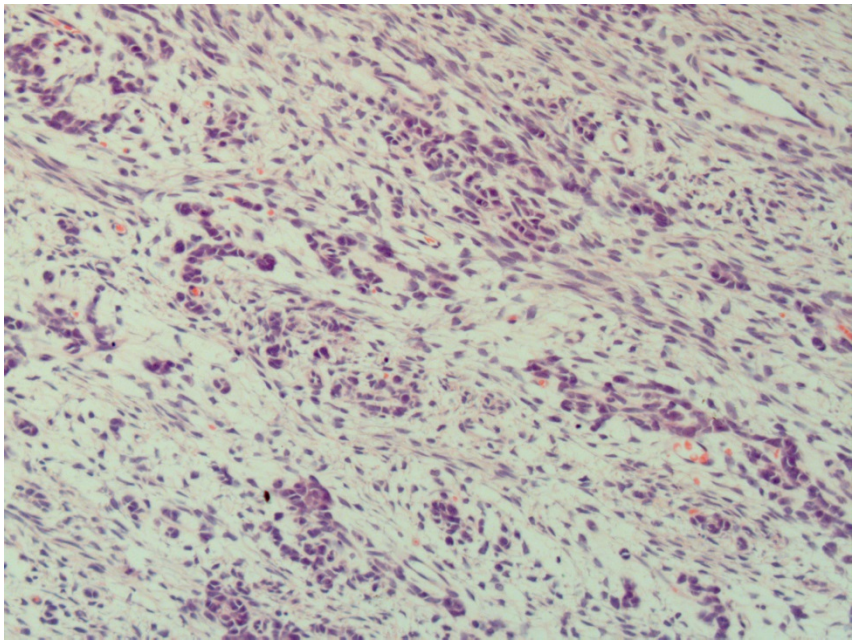


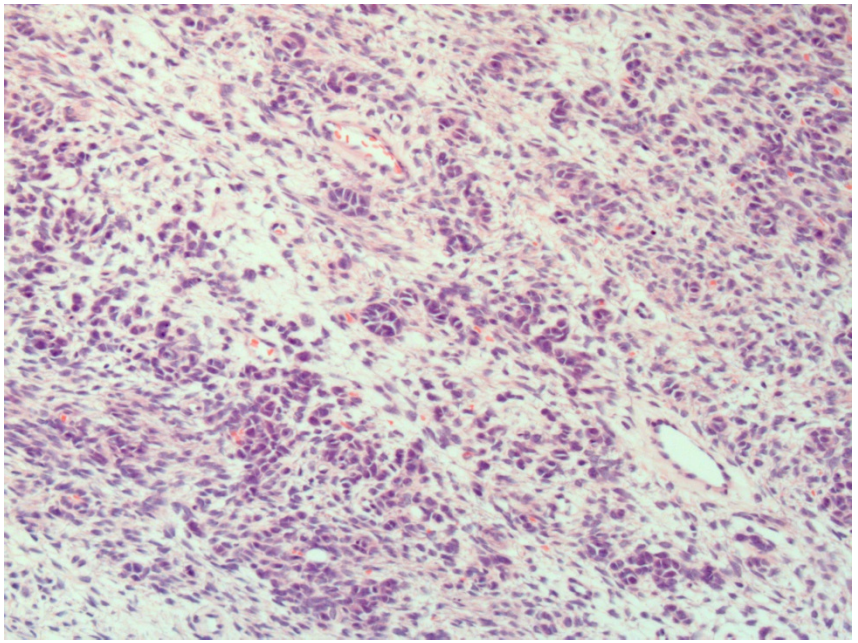


Case 15

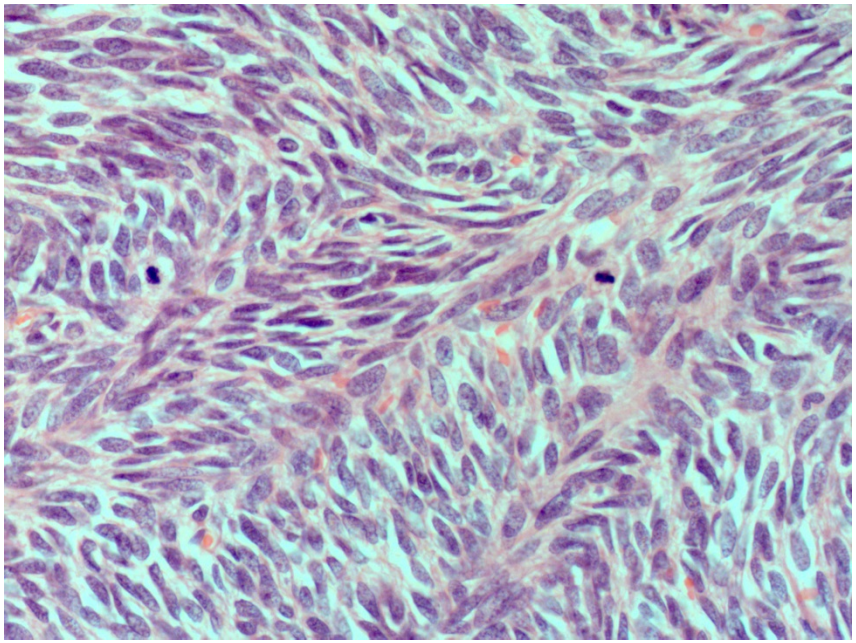


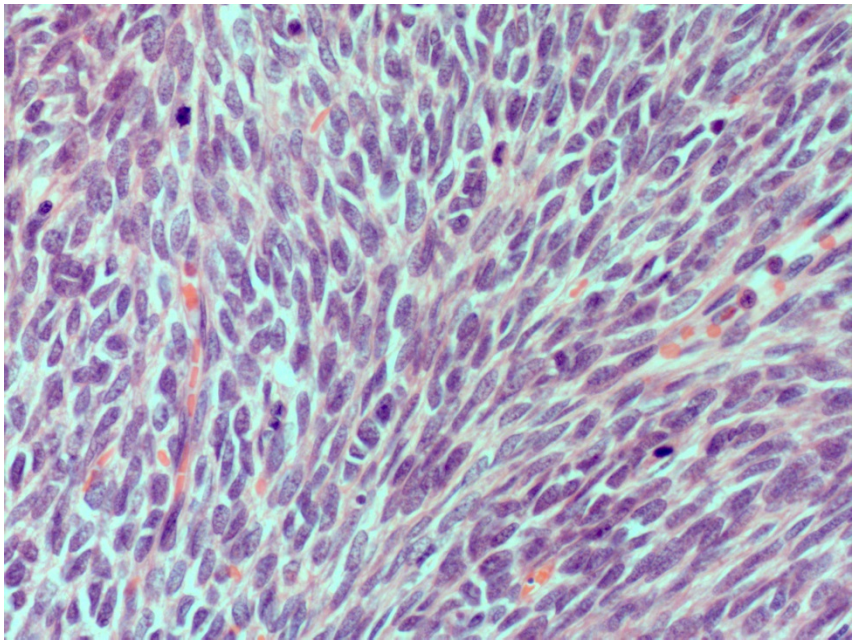
Case 15





Case 15





Mitotically active cellular fibroma

- Cellular proliferation of spindle cells
- Variable lipidisation
- >4 mf/10 hpf
- Minor component o sex-cord elements
- Pseudocysts
- Necrosis
- NO/MILD/FOCAL MODERATE CYTOLOGICAL ATYPIA

Mitotically active cellular fibroma – Differential diagnosis

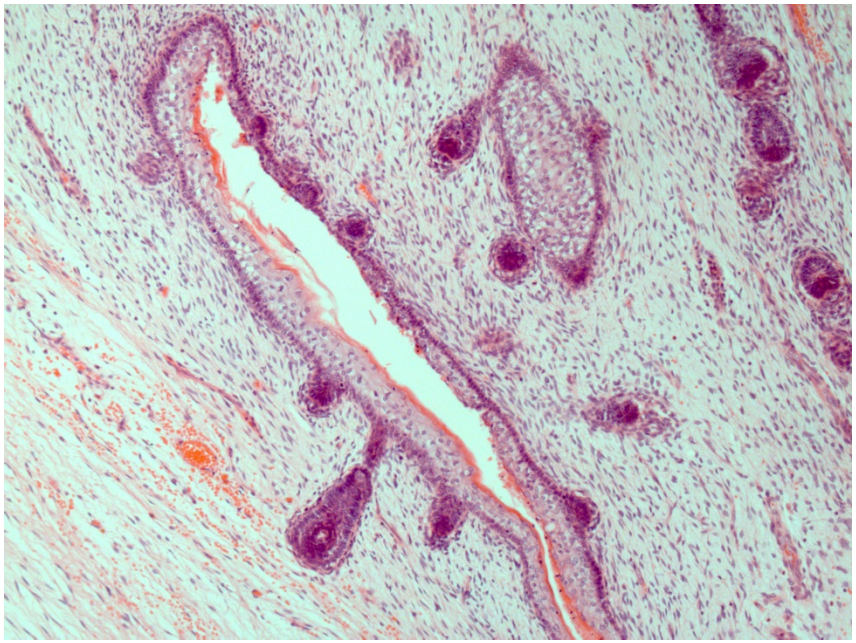
- Fibrosarcoma

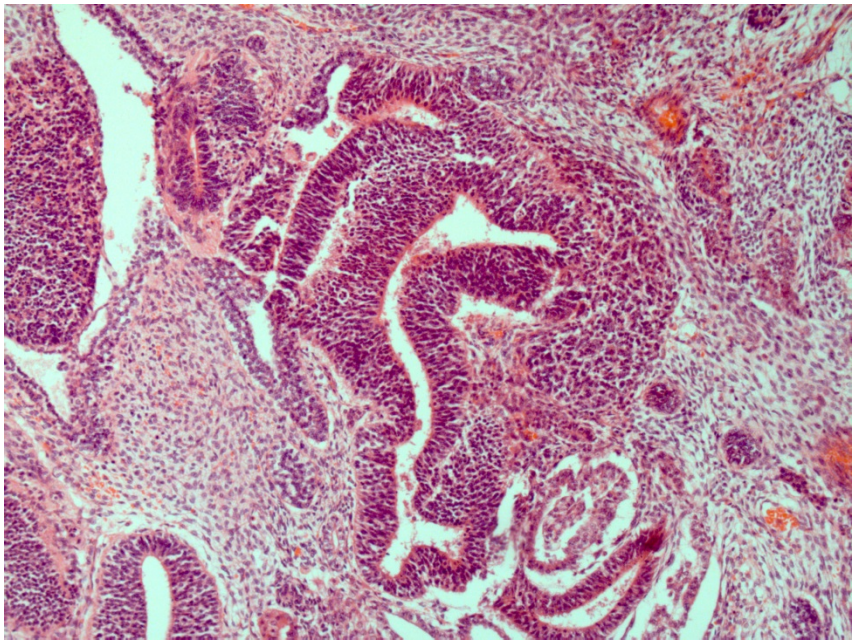
Revision: Diagnostic features of MACF

Case 16

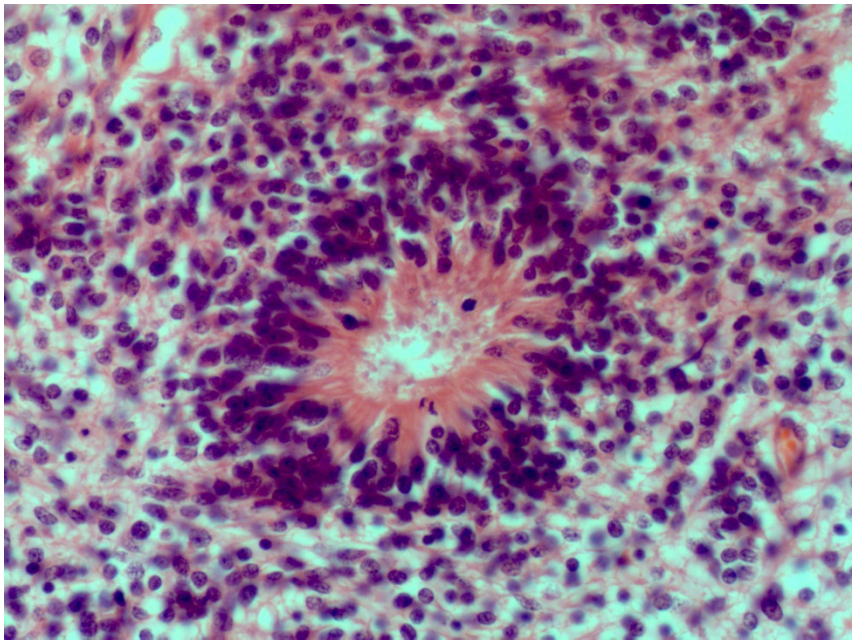
- 09S30787
- 31/F Complex right ovarian mass with raised CA125 and AFP

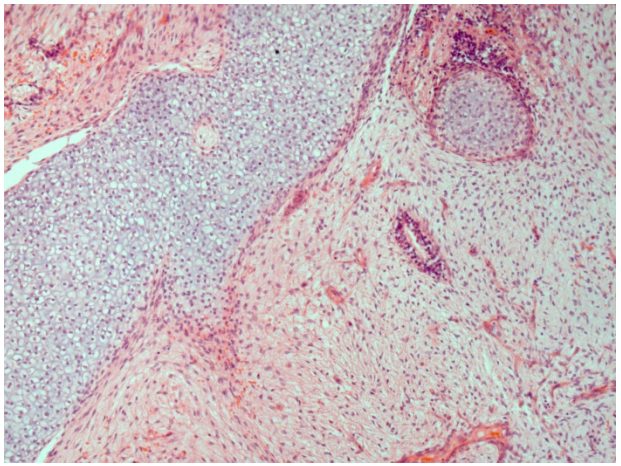
Case 16

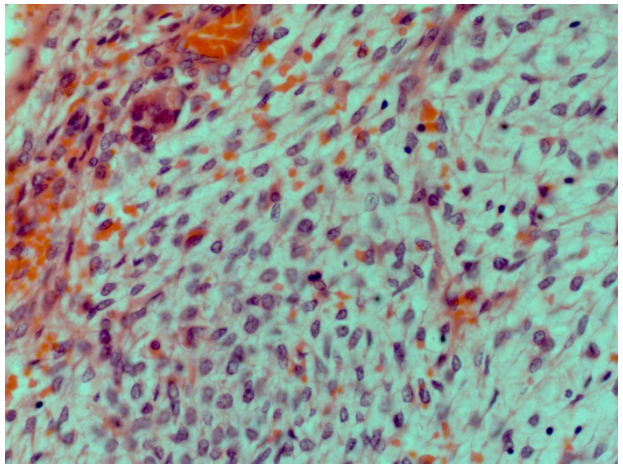




Case 16







Immature teratoma

- Diagnostic feature: Presence of embryonic-appearing tissue - usually neuroectodermal as tubules, rosettes; cellular and mitotically active glial tissue
- Other immature tissues: cartilage, skeletal muscle, epithelial, hepatic

Grading of Immature Teratoma

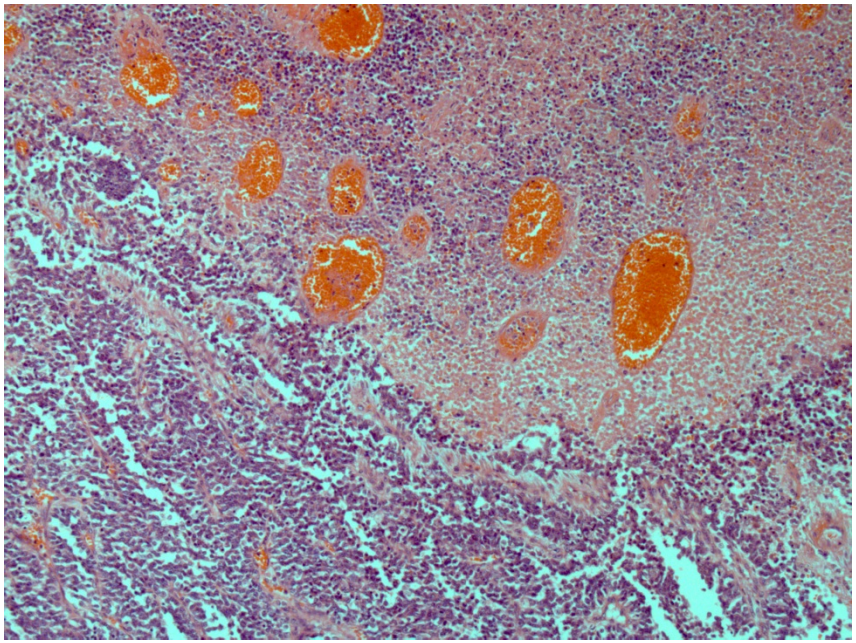
- Grade 1: rare foci <1 per lpf in any one slide
- Grade 2: 2 or 3 foci per lpf in any one slide
- Grade 3: >4 foci per lpf in one slide

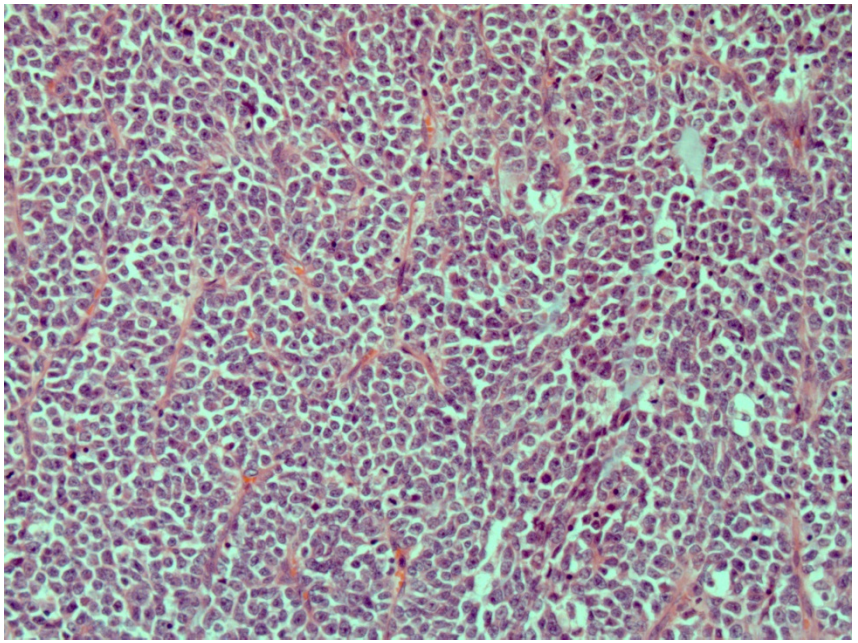
Revision: Peritoneal gliomatosis and growing teratoma syndrome

Case 17

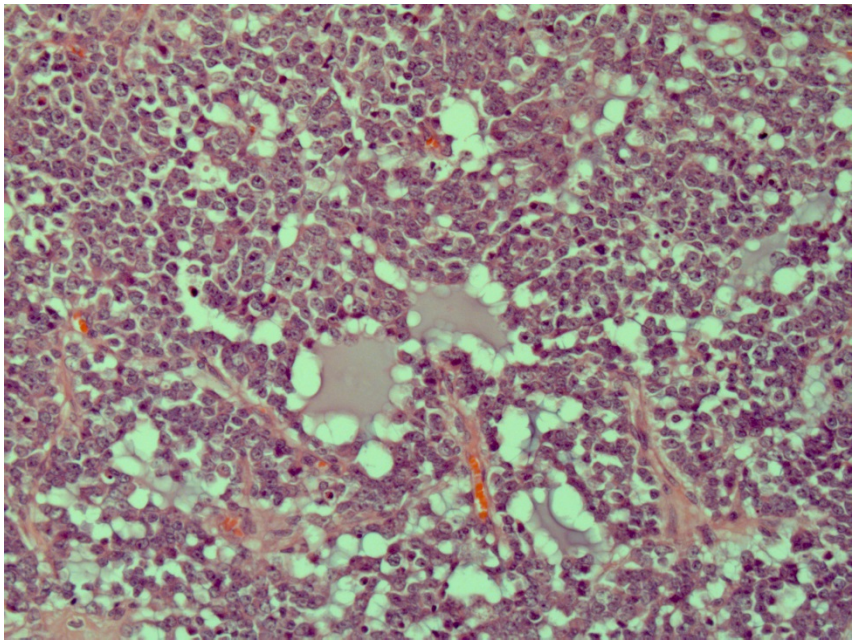
- 06S14449
- 36/F 6 months post TAH + BSO for granulosa cell tumour ovary Stage 1A. Now pelvic recurrence

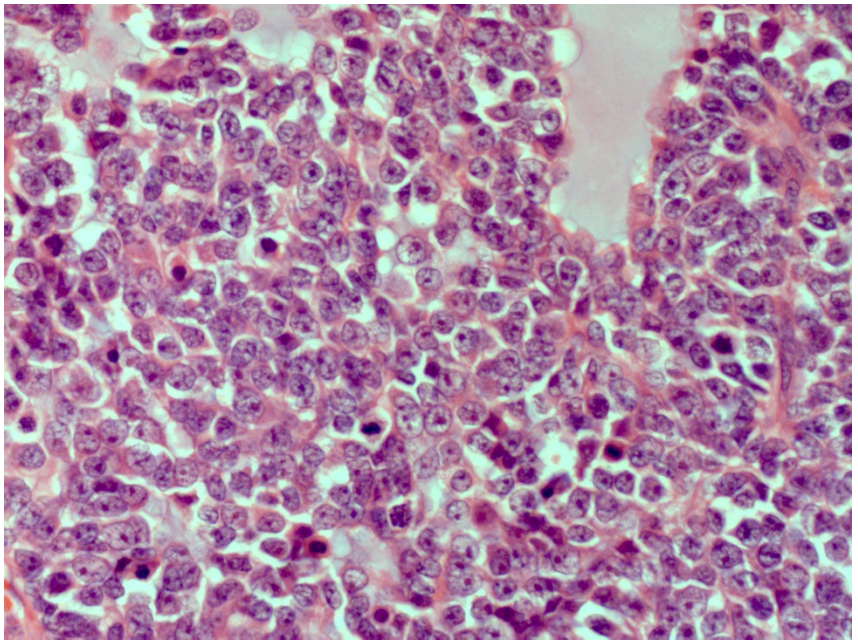
Case 17



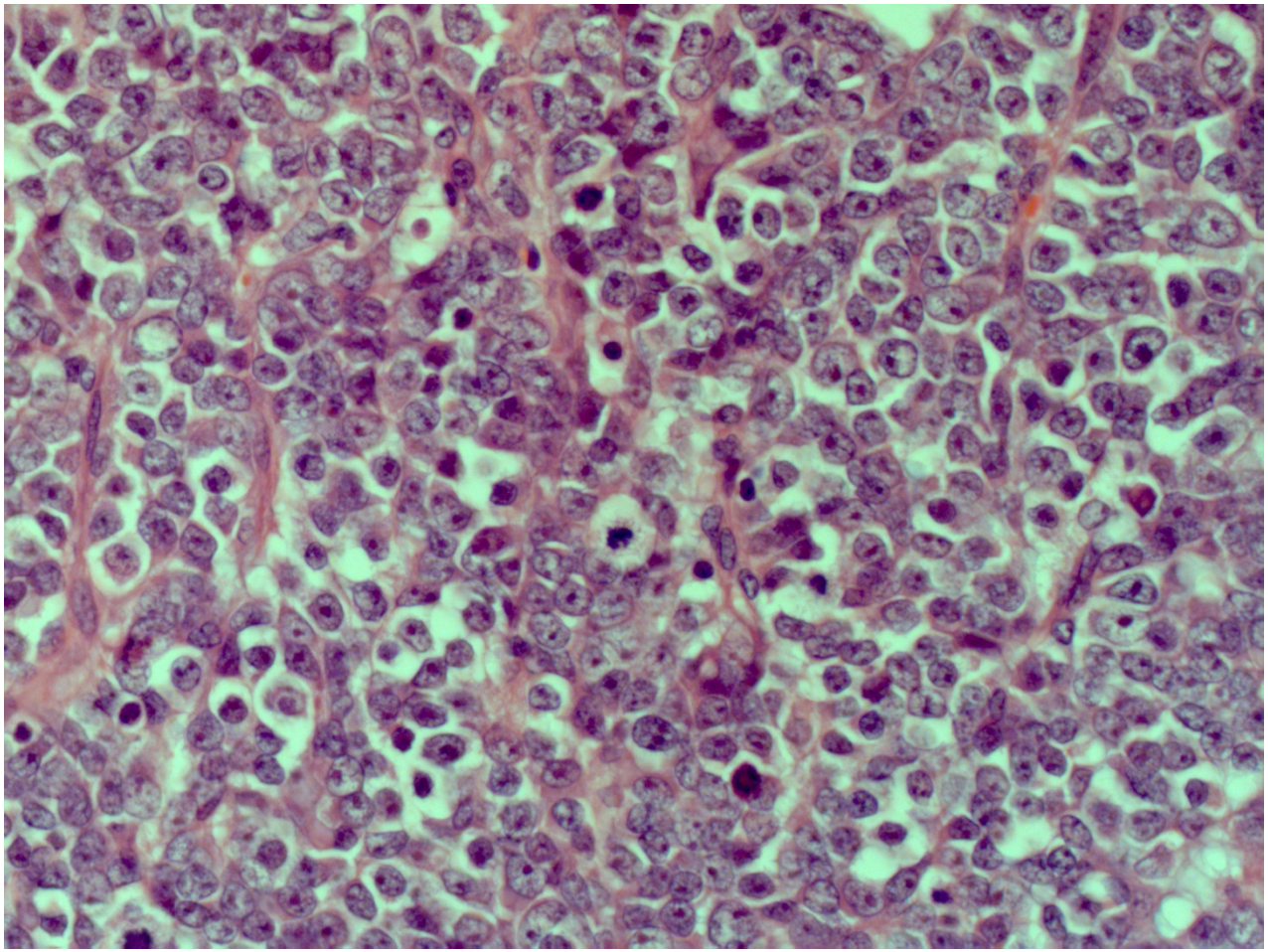


Case 17





Case 17



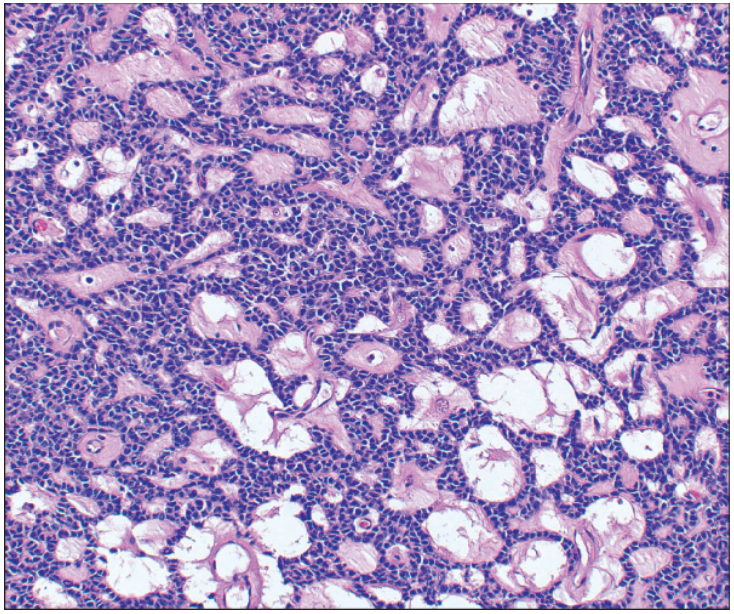
Small cell carcinoma of ovary (hypercalcemic type)

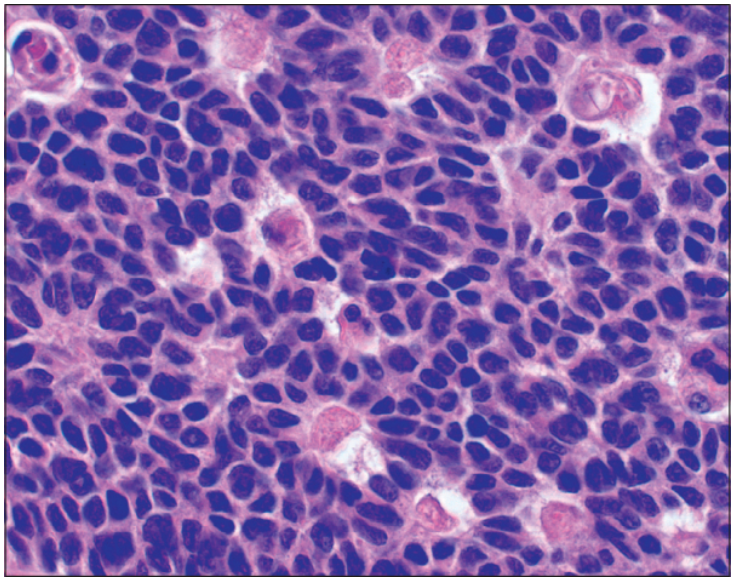
- Solid architecture, sheets of malignant cells
- Variably sized follicle like spaces typical
- Tumour cells small, round, scanty cytoplasm, hyperchromatic nuclei, single small nucleoli
- Frequent mitotic figures
- Large cells seen focally but may predominate
- Minor foci of the following may occur: spindle cells, mucinous epithelium, clear cells
- Vascular invasion ++
- IHC: CK, EMA, WT1, CD10, p53 positive
- 2/3rd of cases have hypercalcaemia
- SMARCA4 mutation (2014; SCCHT may be hereditary)

Small cell carcinoma of hypercalcemic type– Differential diagnosis

- Granulosa cell tumour
- Lymphoma
- Small cell ca of pulmonary type
- Dysgerminoma
- Melanoma
- Primitive round cell tumours eg PNET
- Undifferentiated/ poorly differentiated ca

Granulosa cell tumour

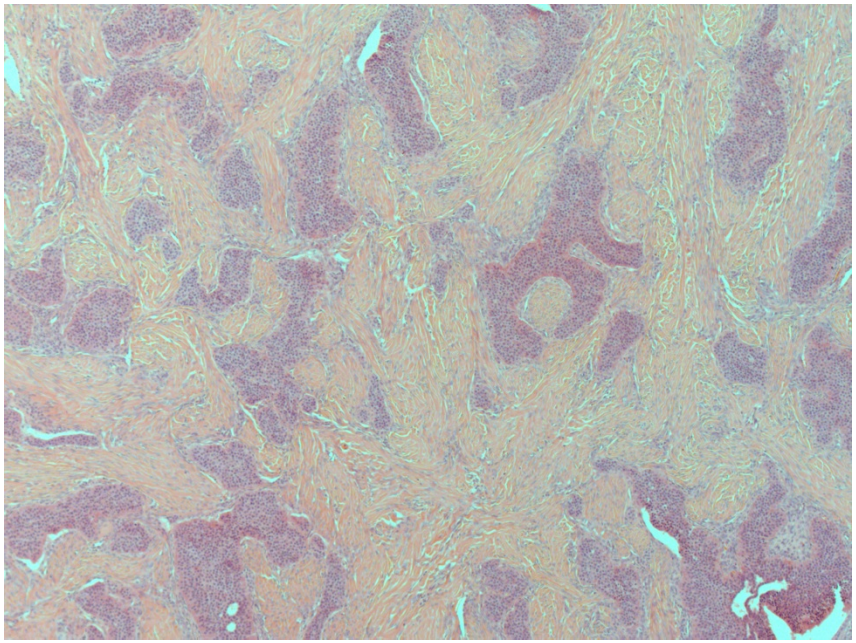


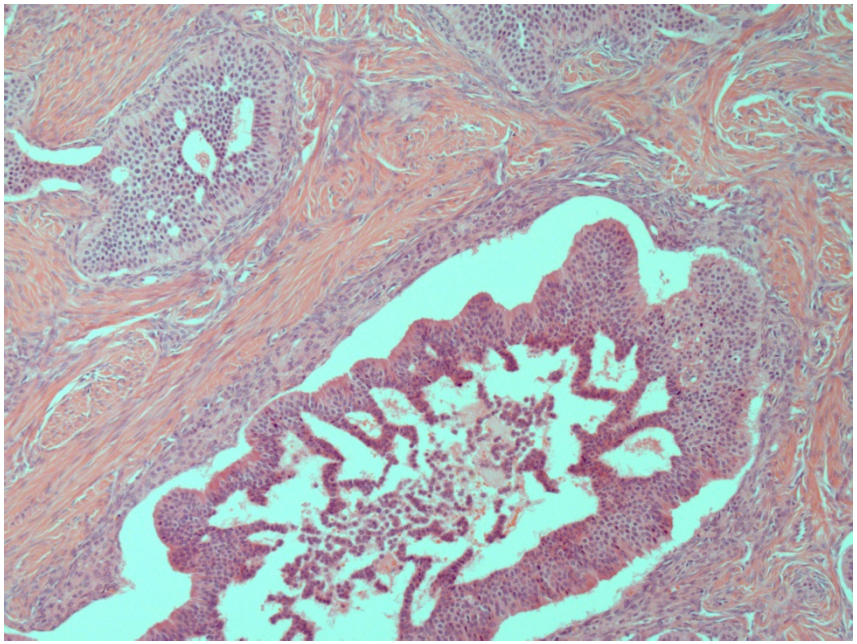


Case 18

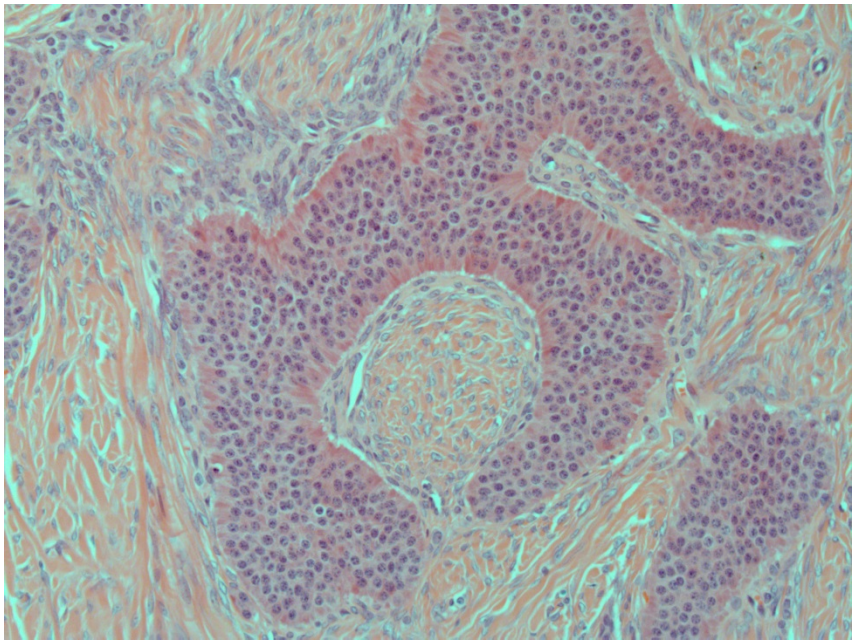
- 08S35916
- 50/F Ovarian mass. Normal CA125. Low RMI

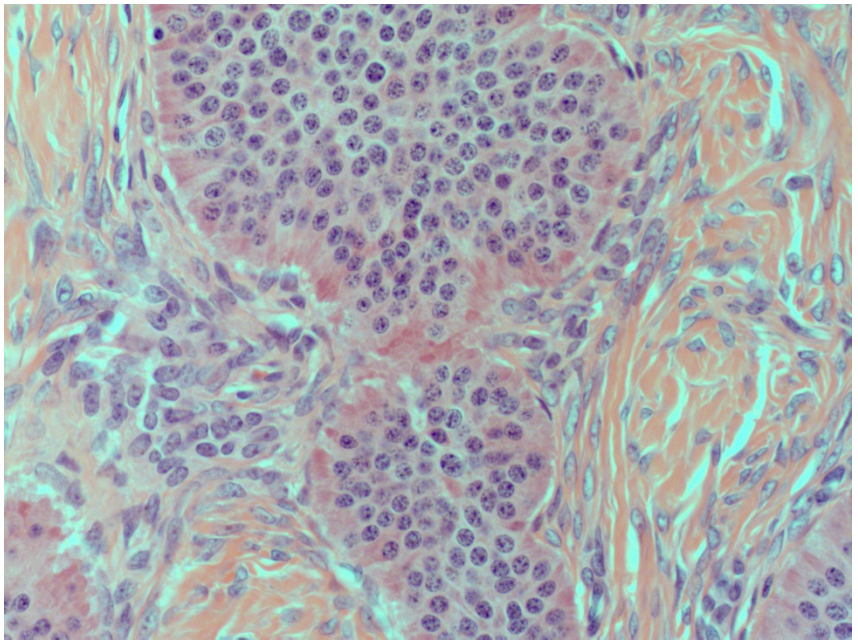
Case 18





Case 18





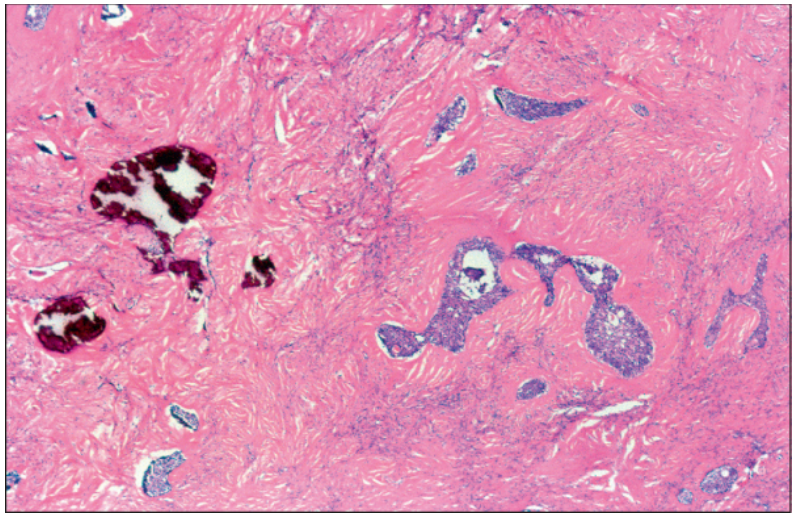
Insular carcinoid

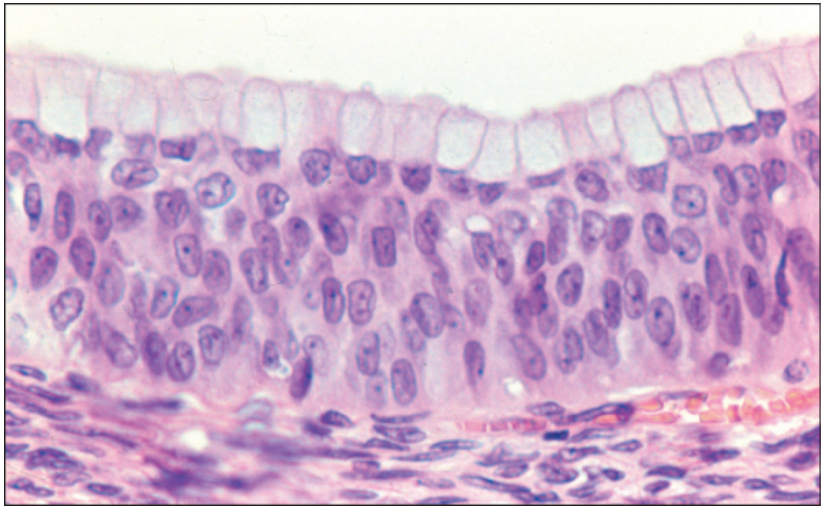
- Discrete cellular nests with variable numbers of acini
- Separated by fibrous stroma
- Tumours cells have moderate amount of eosinophilic cytoplasm, red-brown argentaffin granules, sometimes oxyphilic
- Nuclei round and uniform, finely stippled chromatin
- Mitosis rare or absent
- Positive for neuroendocrine markers

Insular carcinoid– Differential diagnosis

- Metastatic carcinoid tumour
- Granulosa cell tumour with microfollicular pattern
- Brenner tumour

Brenner tumour

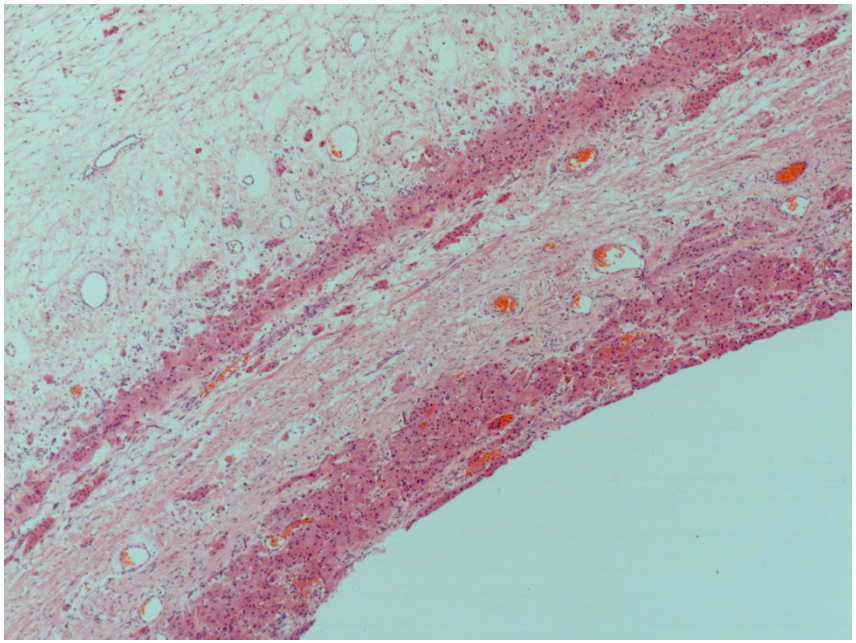


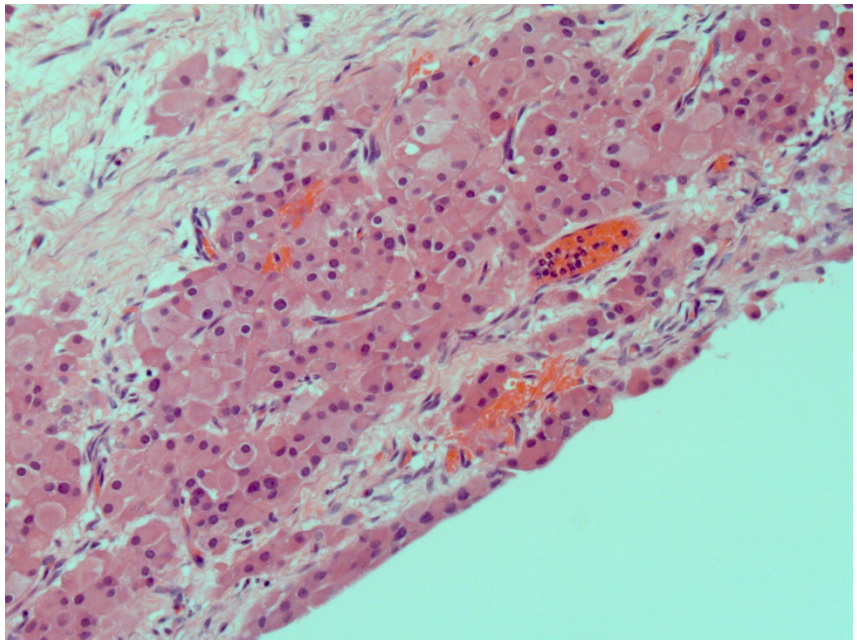


Case 19

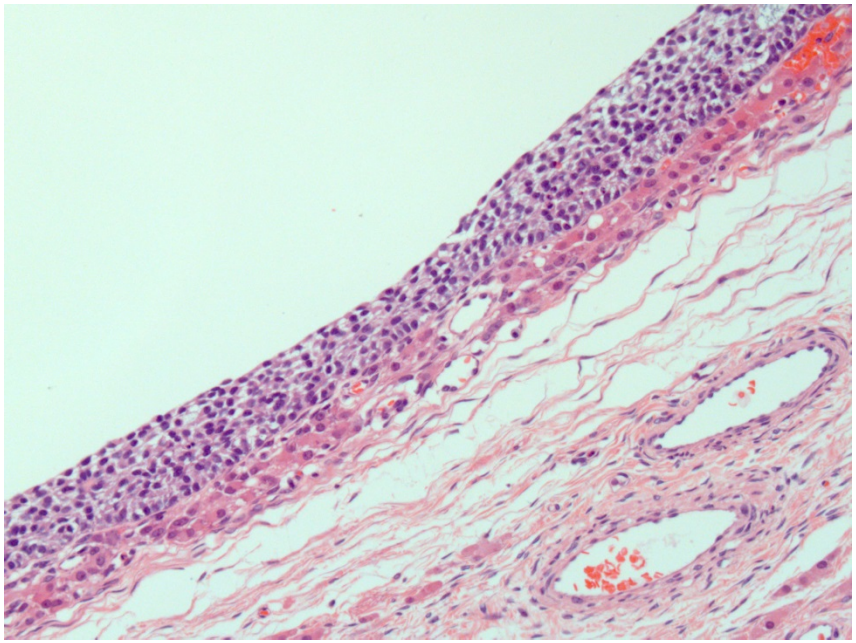
- 07S27230
- 27/F Right ovarian cyst found at LSCS, 12cm diameter

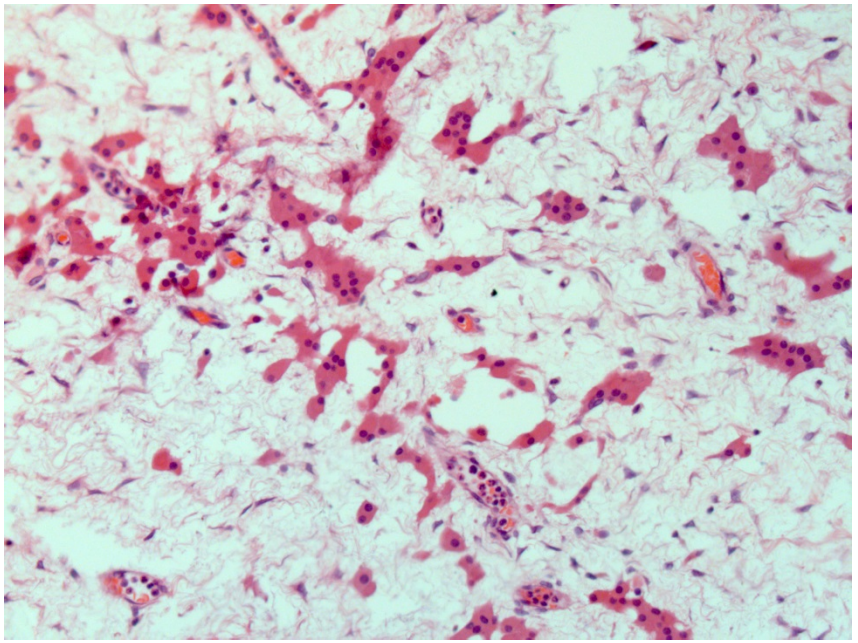
Case 19





Case 19

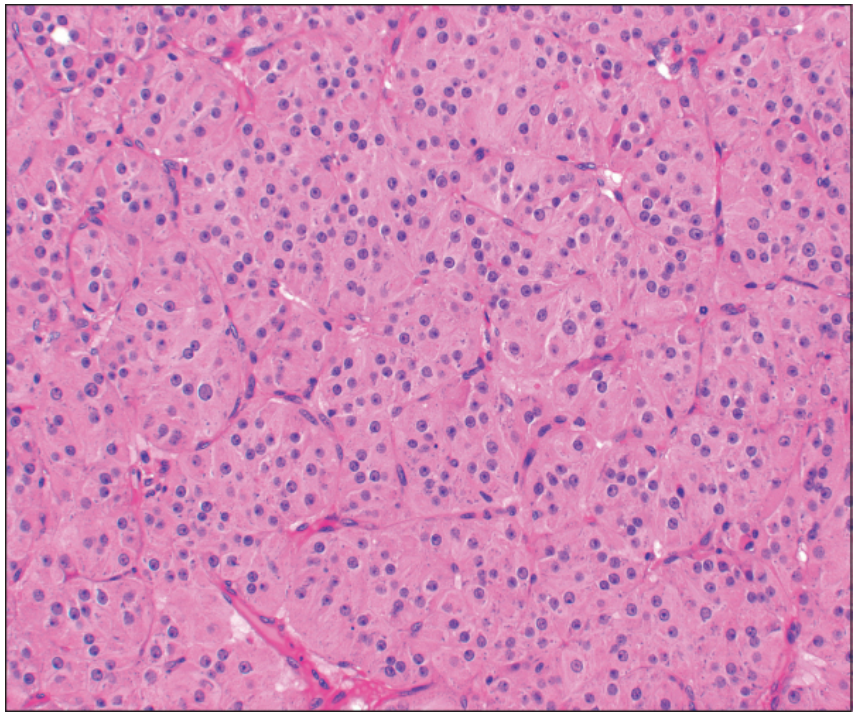




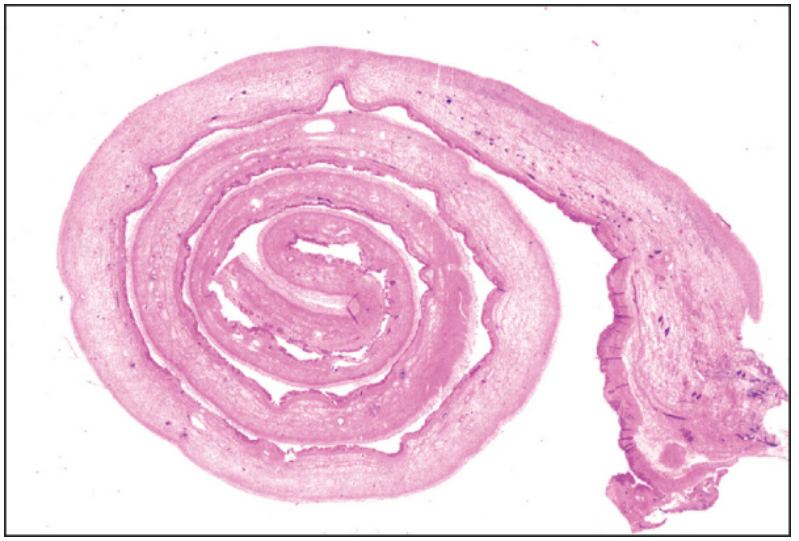
Hyperreactio luteinalis

- Associated with increased HCG levels: GTD, multiple gestation, normal singleton pregnancy, ovarian hyperstimulation (after ovulation in women who conceive)
- Removal necessitated by cyst complication or virilisation; or because of clinical suspicion
- Bilateral, multiple thin-walled cysts causing ovarian enlargement
- Multiple large luteinised follicles; oedema of stroma; groups of luteinised stromal cells

Tumour like conditions of pregnancy



Pregnancy luteoma

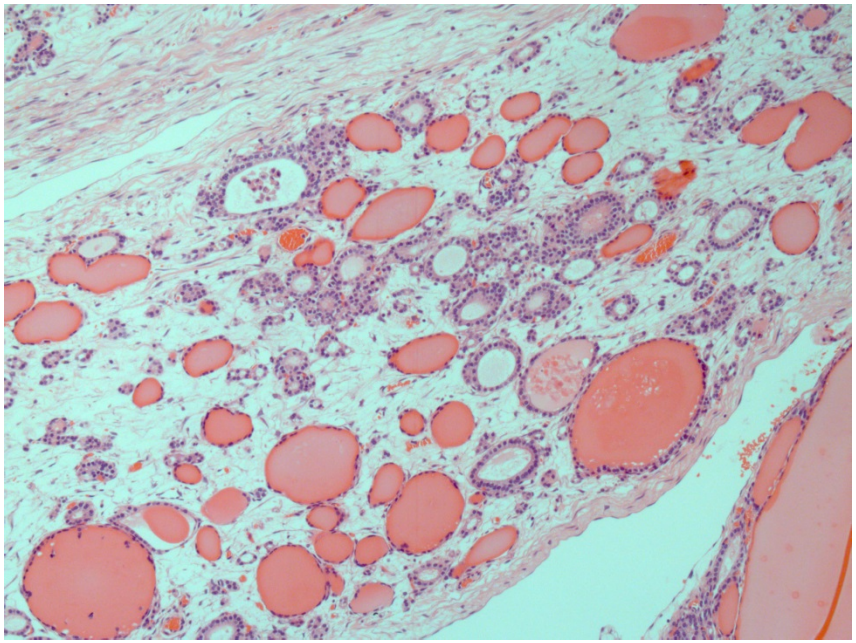


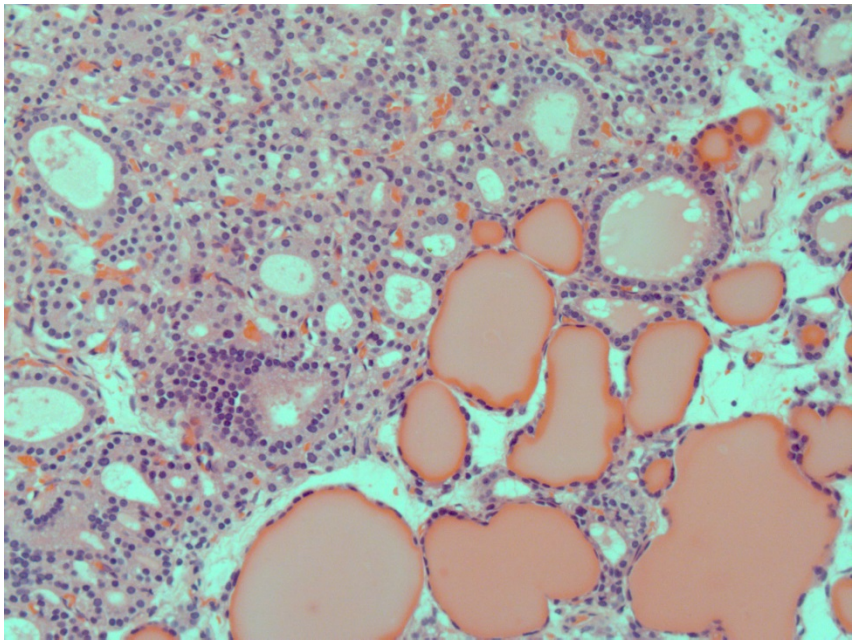
Giant solitary luteinised follicular cyst of pregnancy and puerperium

Case 20

- 10S10059
- 55/F Ovarian mass. CA-125 44. Normal germ cell markers

Case 20





Struma ovarii

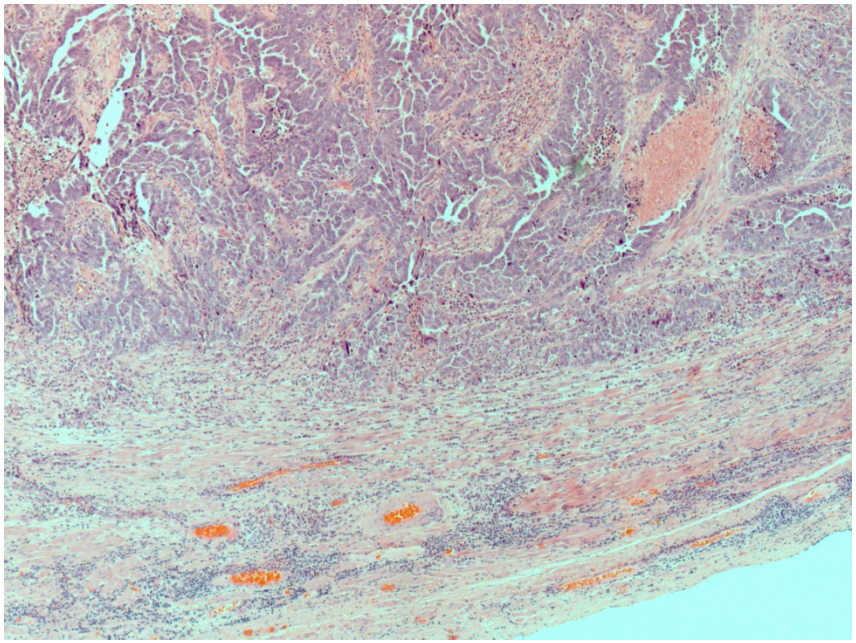
- Mature thyroid tissue, sometimes resembles follicular adenoma
- No or very mild atypia
- Malignancy:
  - Papillary carcinoma
  - Follicular carcinoma
  - Non-specific adenocarcinoma resembling endometrioid

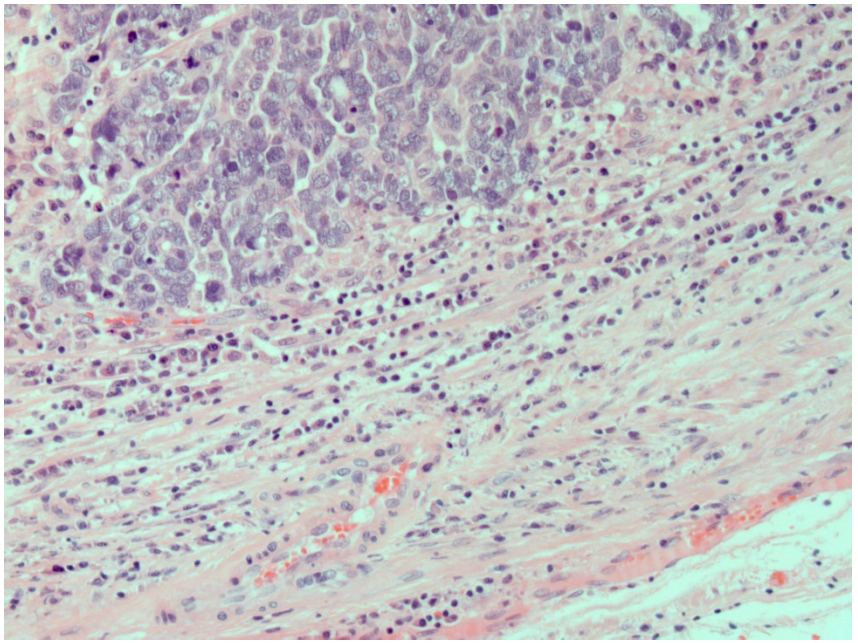
Struma ovarii – Differential diagnosis

- Cystadenoma
- Clear cell carcinoma
- Endometrioid carcinoma
- Other tumours can be simulated in presence of clear cell or oxyphilic change

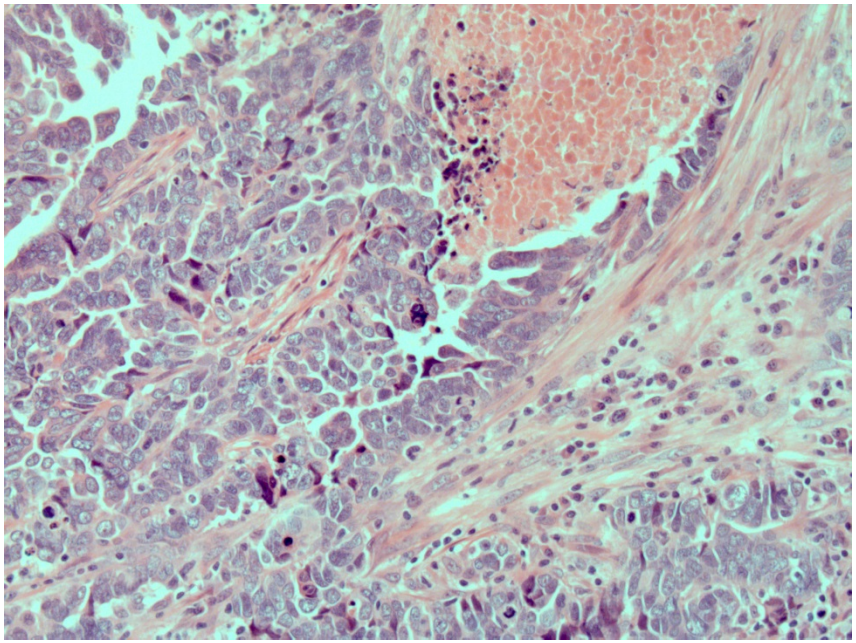
Case 21

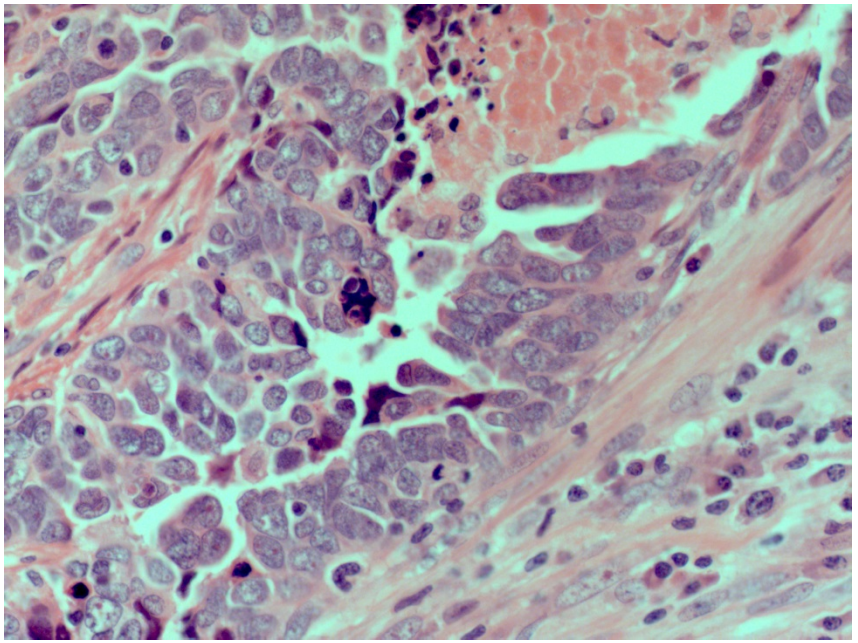
Case 21



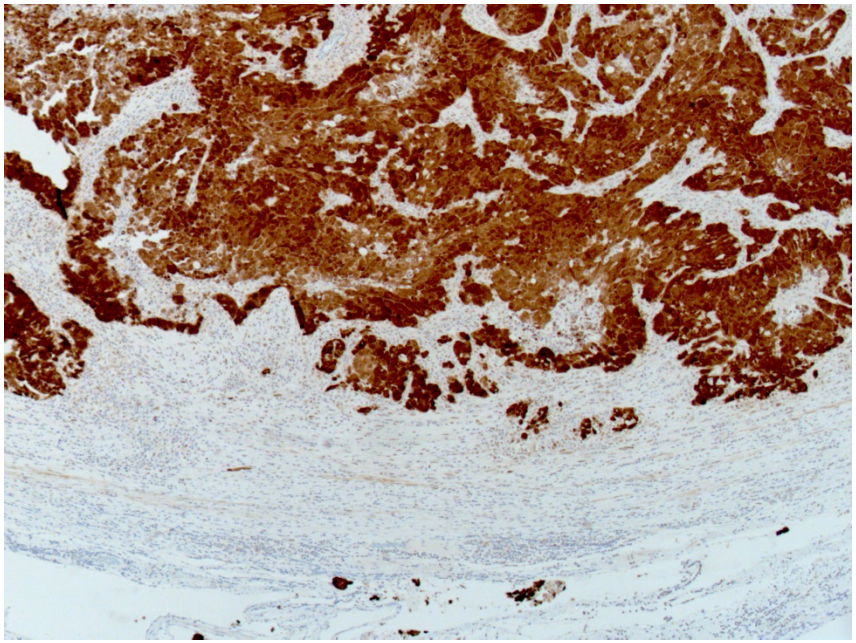


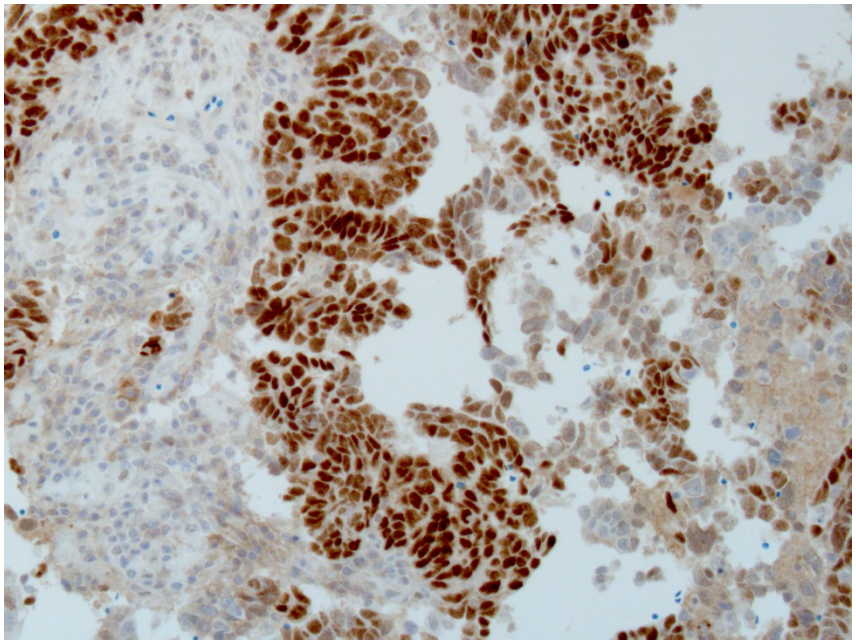
Case 21





Case 21





Primary high grade serous carcinoma of Fallopian tube

- Papillary architecture
- High grade adenocarcinoma cells of serous type
- Psammoma bodies
- Invasion

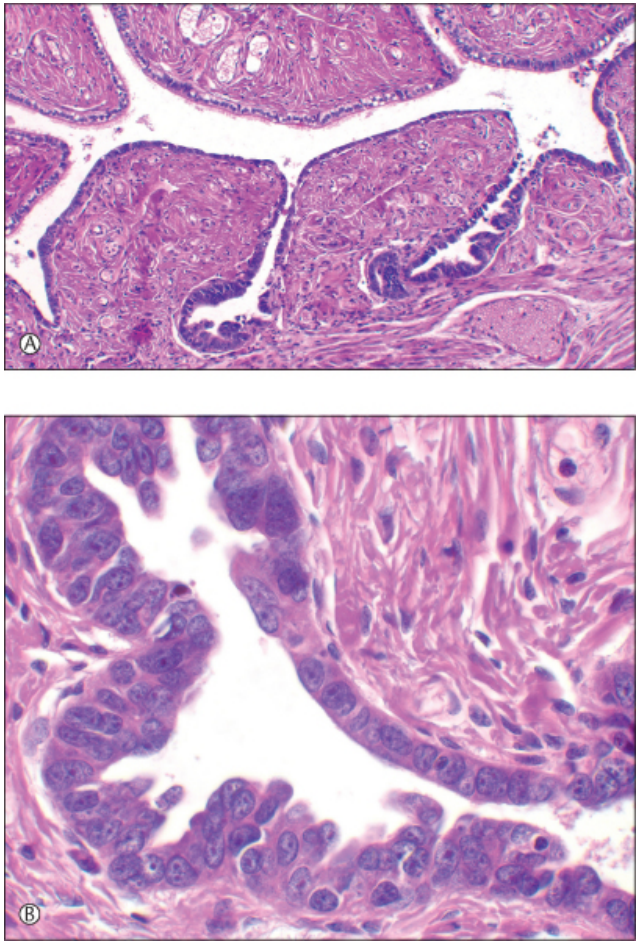
Primary high grade serous carcinoma of Fallopian tube

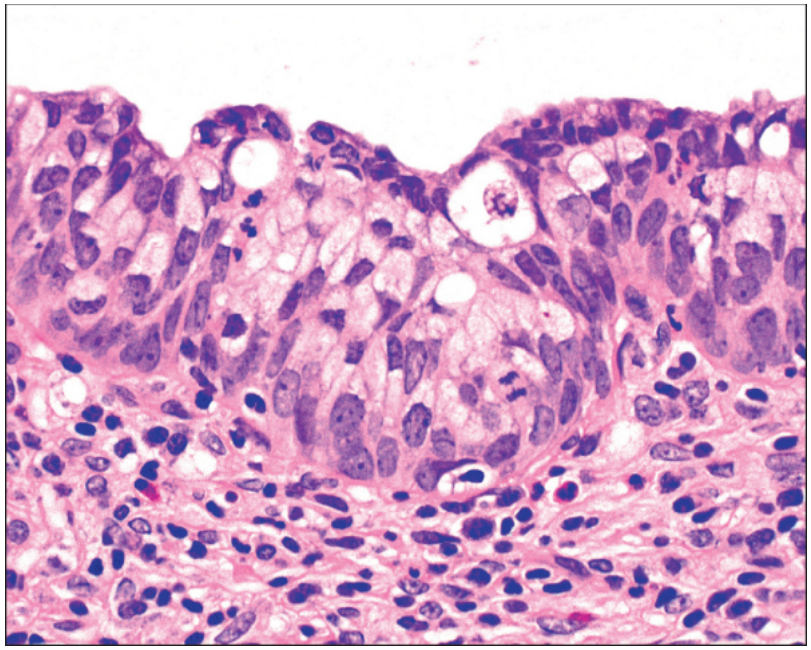
DD: Secondary involvement from ovarian or endometrial primary

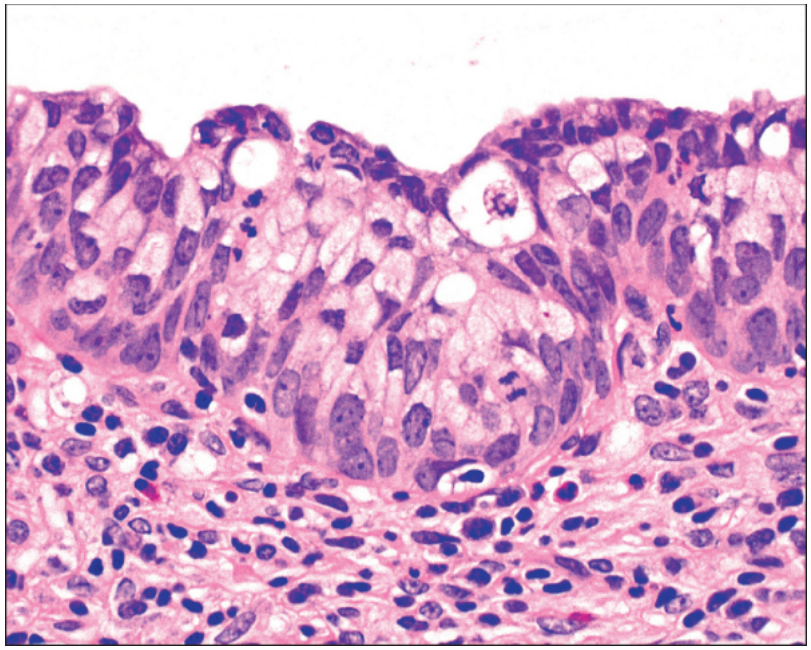
Revision: IMPORTANT

- ***Classification of serous carcinoma (LG vs HG, dual origin)***
- ***Concept of tubal origin of serous neoplasia (Crum)***

Intraepithelial carcinoma of FT







SMILE….

And good luck!