

# **Mucinous tumour**

# Mucinous tumours :

## OMS 2014

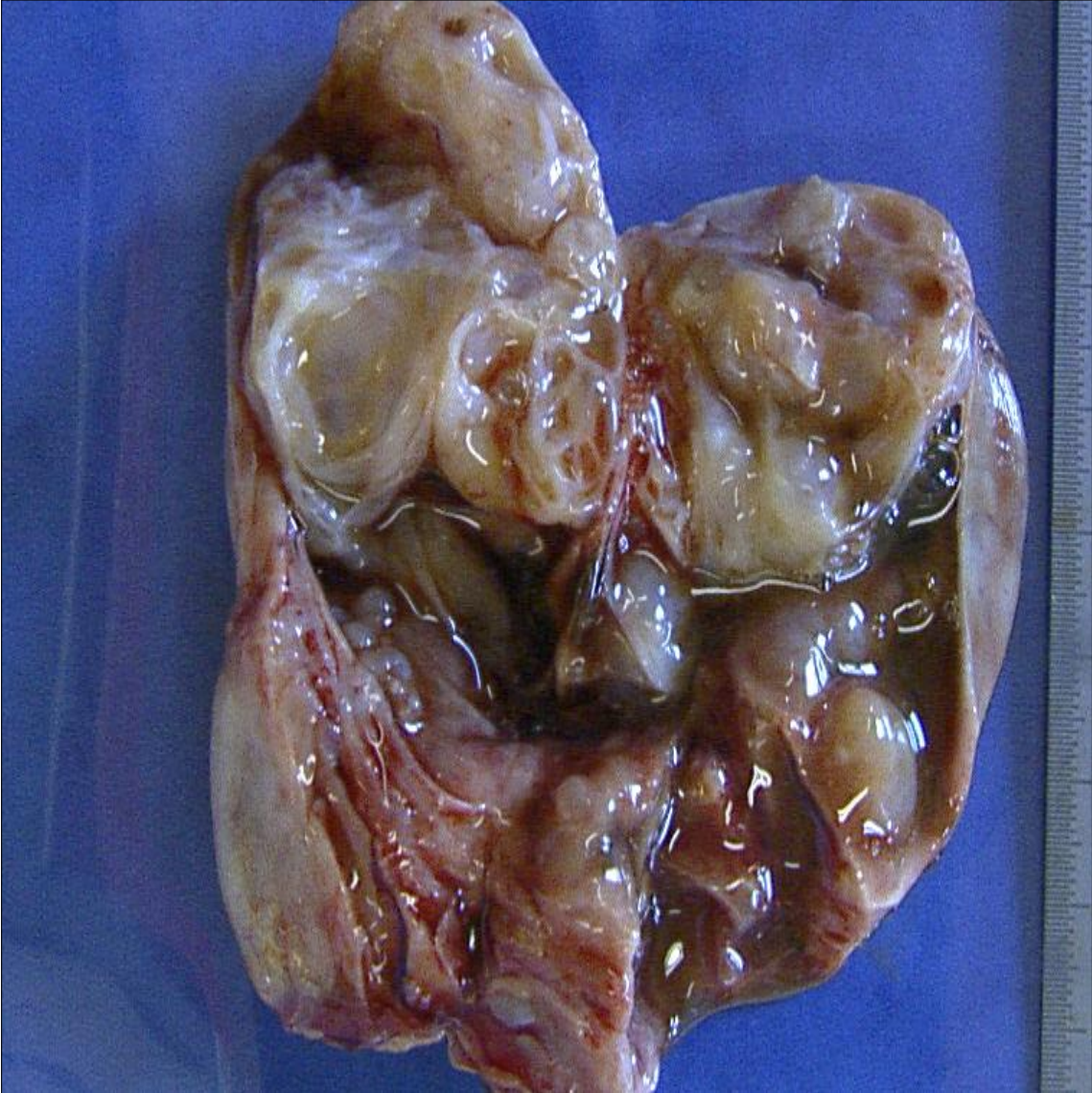
- Mucinous gastro-intestinal type epithelium
- 30% epithelial ovarian tumor
  - benign : 80%
  - malignum : (3 to 4%)
  - borderline : 10%
- TO BE CONSIDERED AS A **RARE TUMOR**
- Differential diagnosis: metastasis
  - Bilateral
  - extended to peritoneum

# MUCINOUS BORDERLINE TUMOUR (BOM)

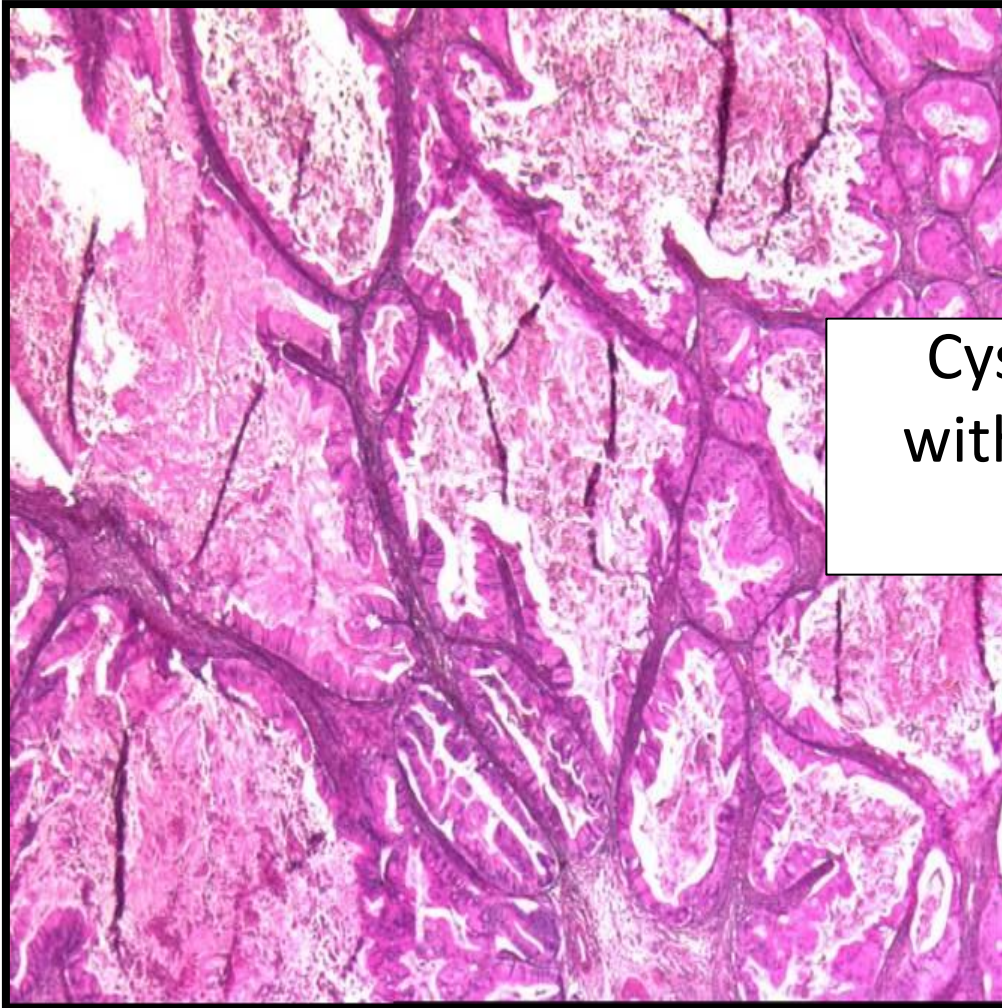
# Mucinous borderline tumour

- Epidemiology
  - Frequency < serous borderline tumor (TOBS)
  - Early stage
  - Age between 40 and 49 y.
- Macroscopy
  - Voluminous multiloculaire tumour
  - Gelatinous content

# Mucinous borderline tumour



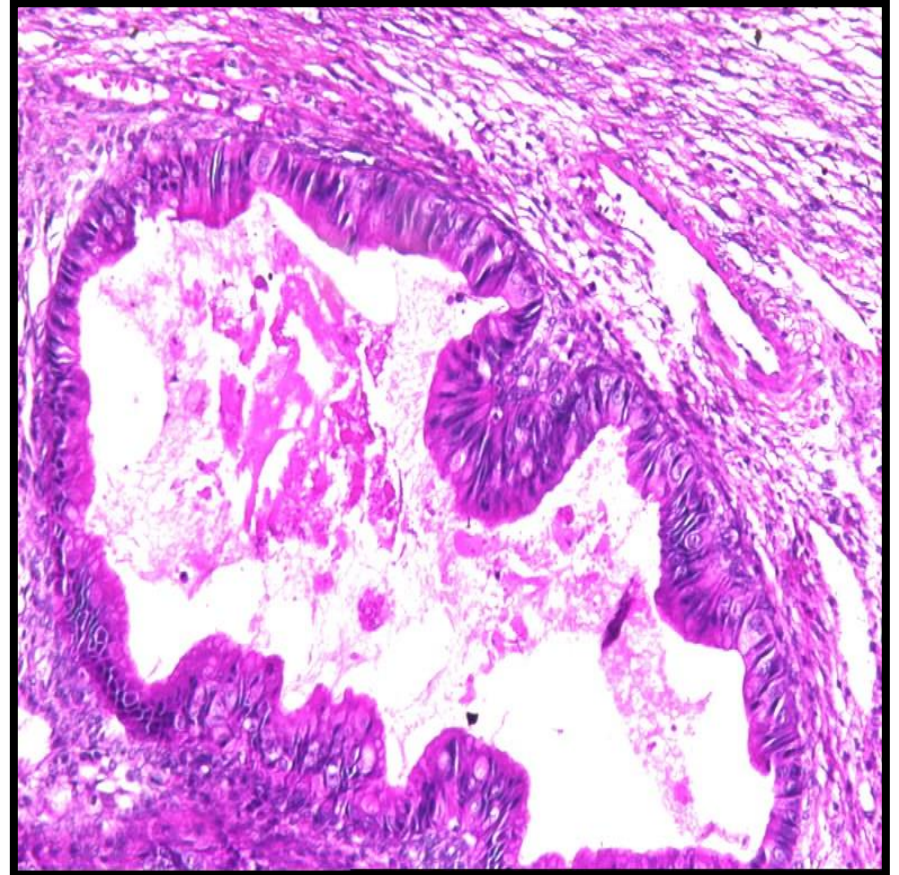
# Mucinous borderline tumour



Cysts and glands lined  
with atypical intestinal  
epithelium

# Mucinous borderline tumour

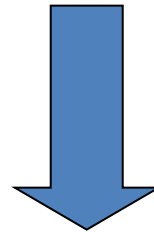
- Goblets cells (or gastric pyloric type)
- Pluristratified epithelium
- Discrete to moderate nuclear atypia
- > 10%
- Number of mitosis : +/-



# **Feature : Mucinous borderline tumour**

**Search :**

**- area of  
intraepithelial carcinoma  
microinvasion**



**Injury Continuum**



# **MUCINOUS TUMOURS**

**« HETEROGENEOUS - CONTINUUM »**

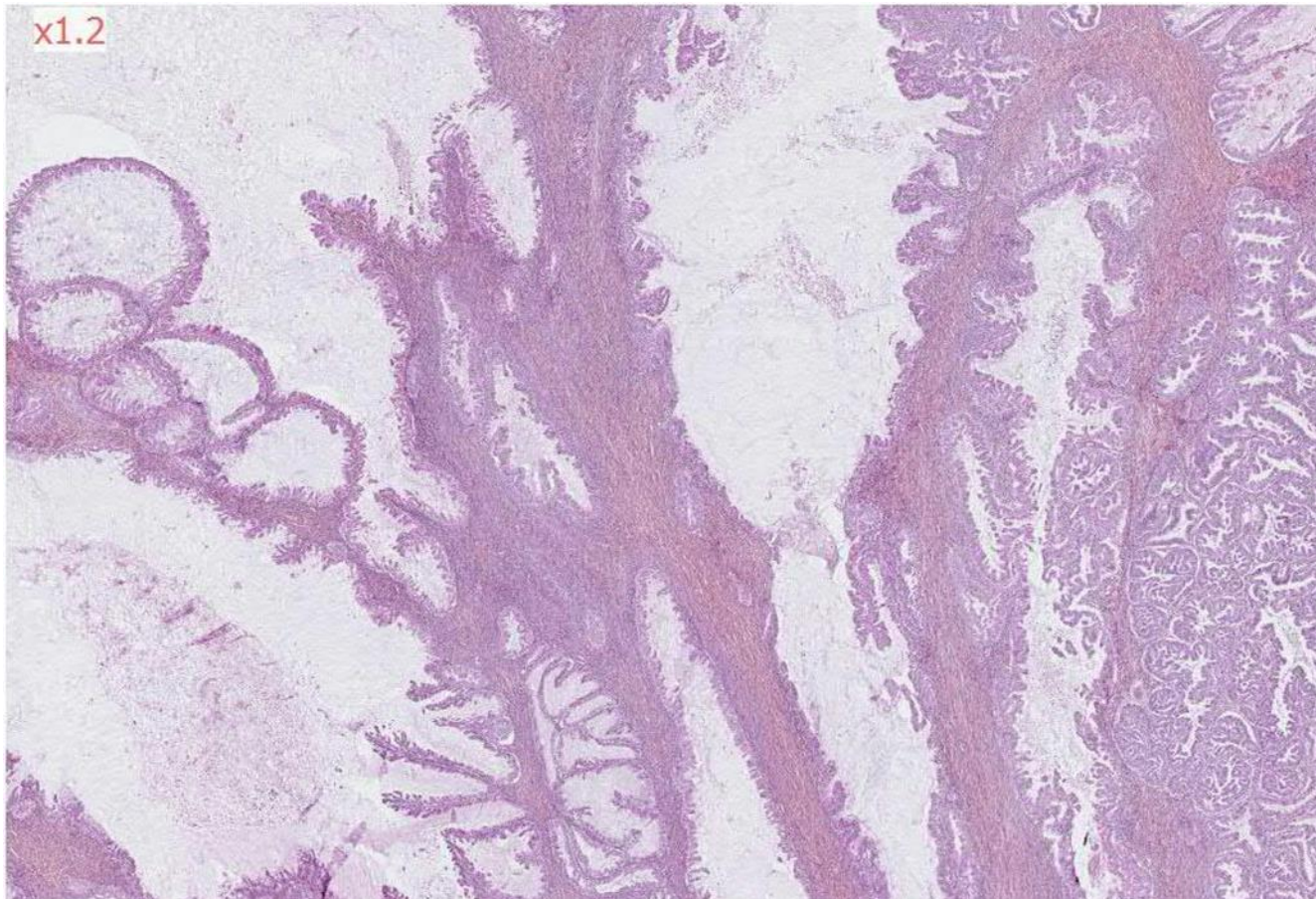
# Mucinous tumours : +++

Heterogeneous :

**Cystadenoma**

**BOM**

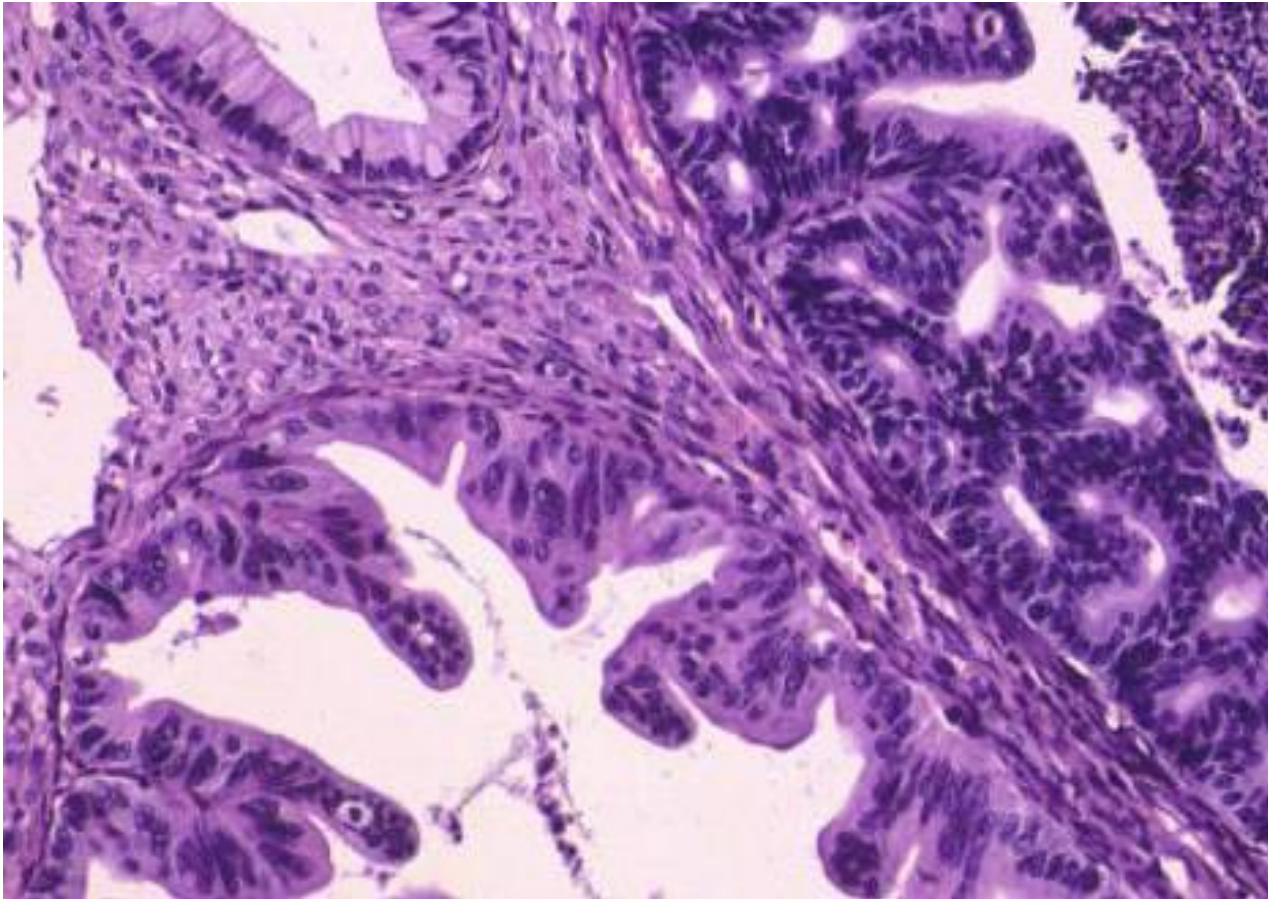
**Carcinoma**



# Mucinous tumours : +++

Continuum :

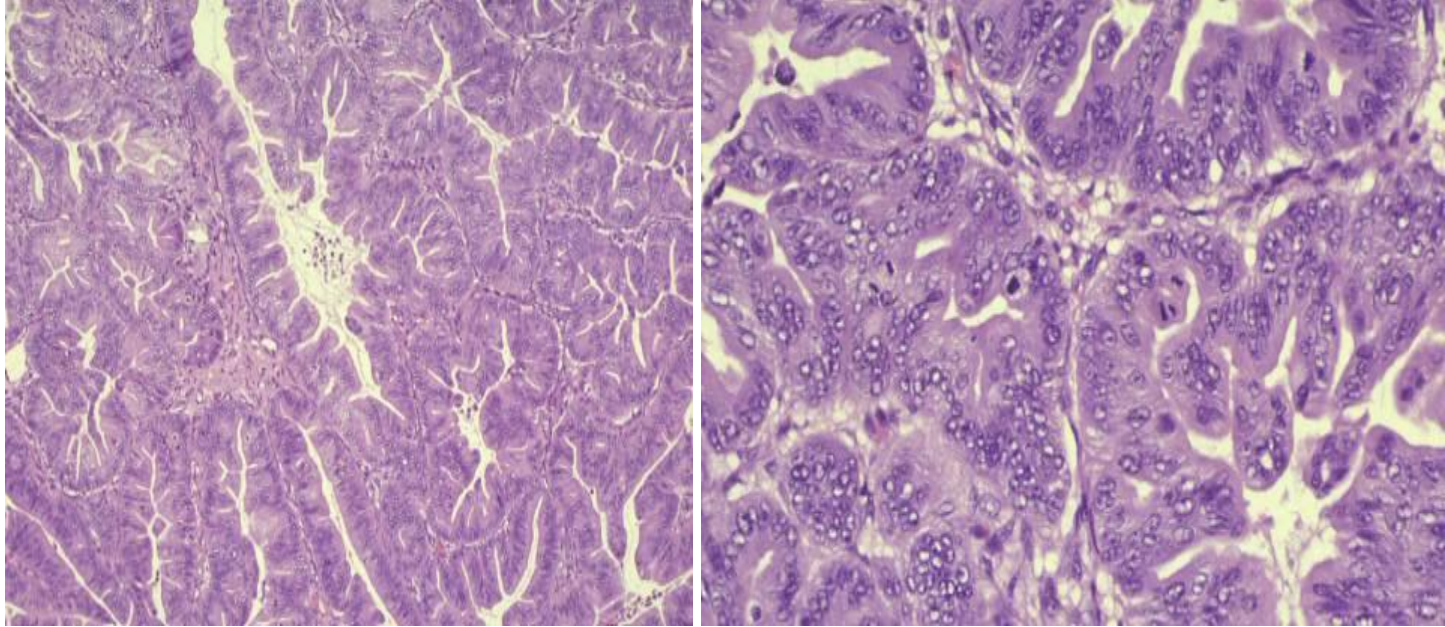
**Cystadenoma** → **BOM** → **Carcinoma**



# Mucinous tumours : +++

Sampling +++

Intraepithelial carcinoma



# Intraepithelial carcinoma

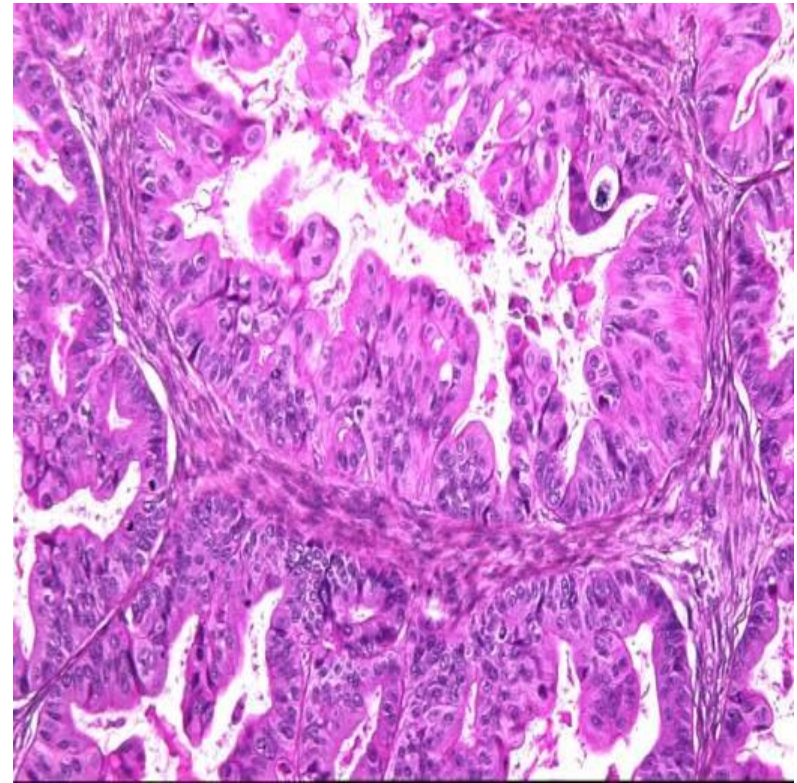
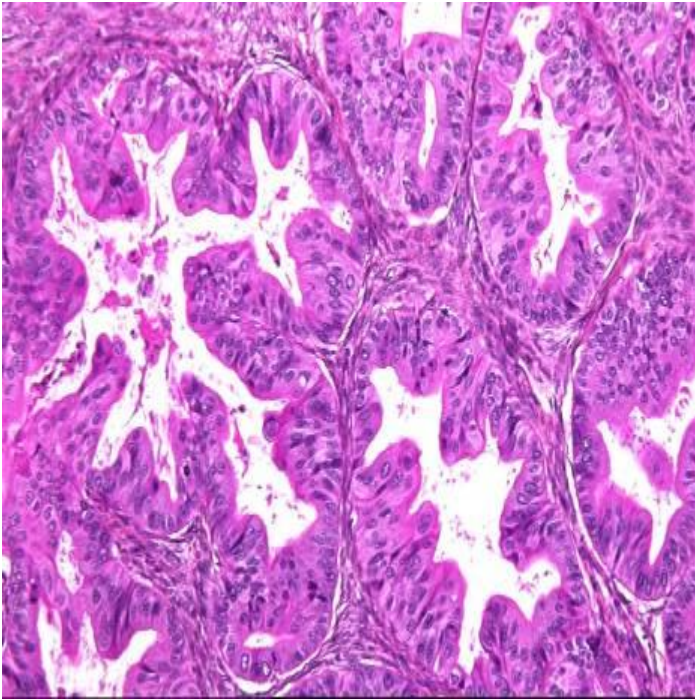
- **Définition of Hart and Norris**
  - Epithelial lining  $> 4$   
Or
  - Cribriform and/or cribriform pattern

**And severe atypia**

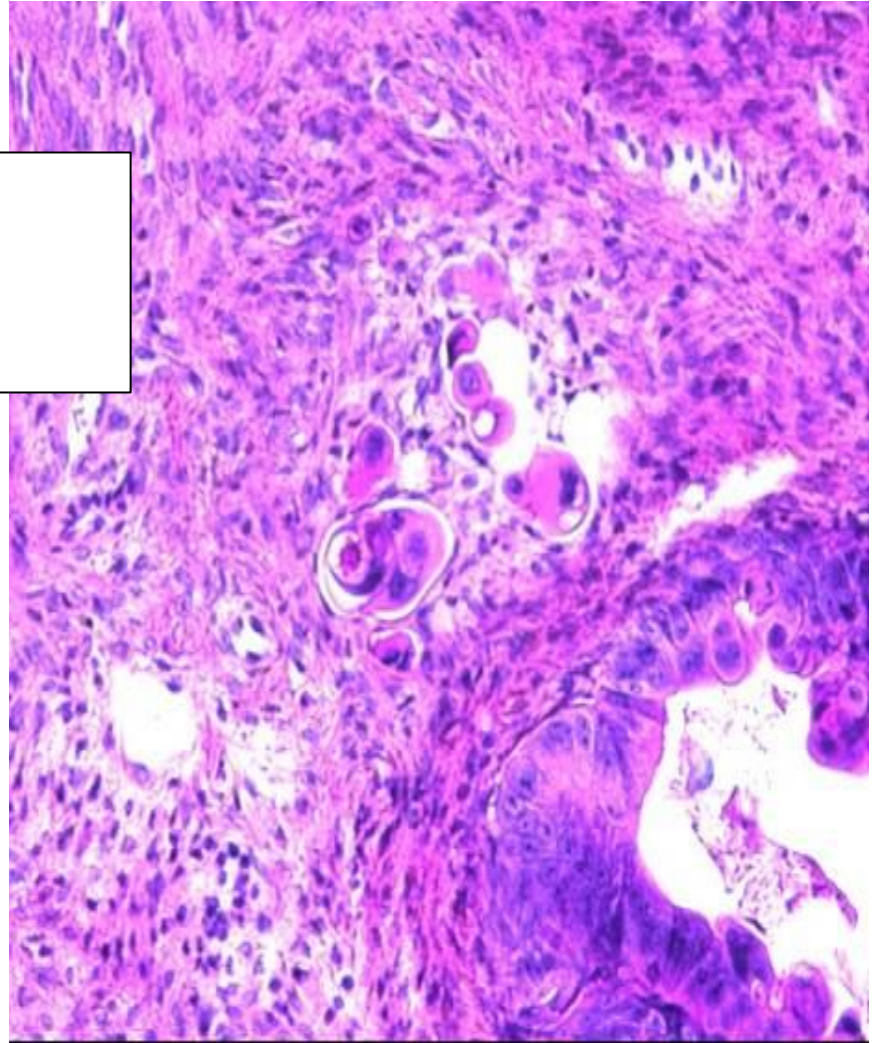
Pronostic value ? **NO**

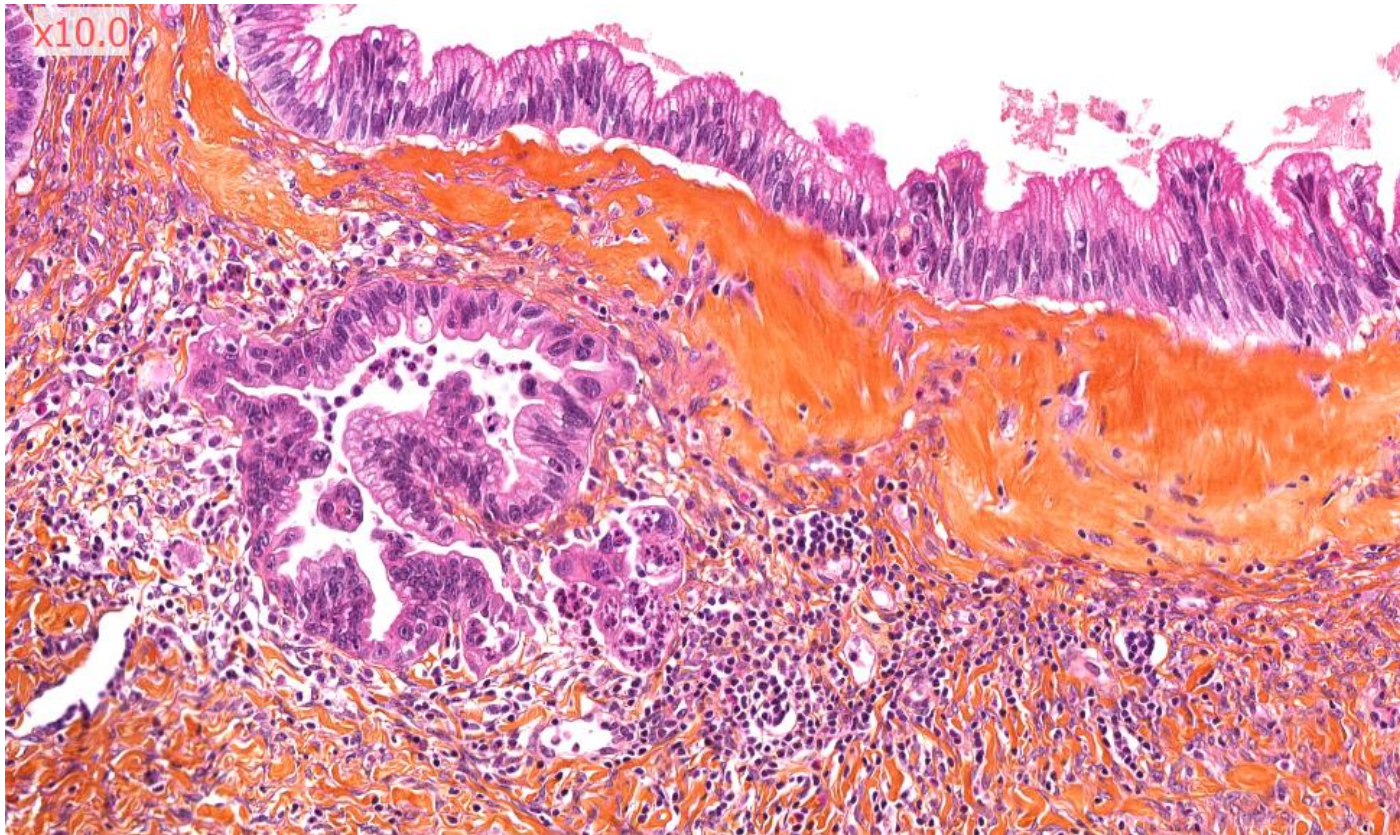
Rodriguez and Prat 2002

# Intraepithelial carcinoma



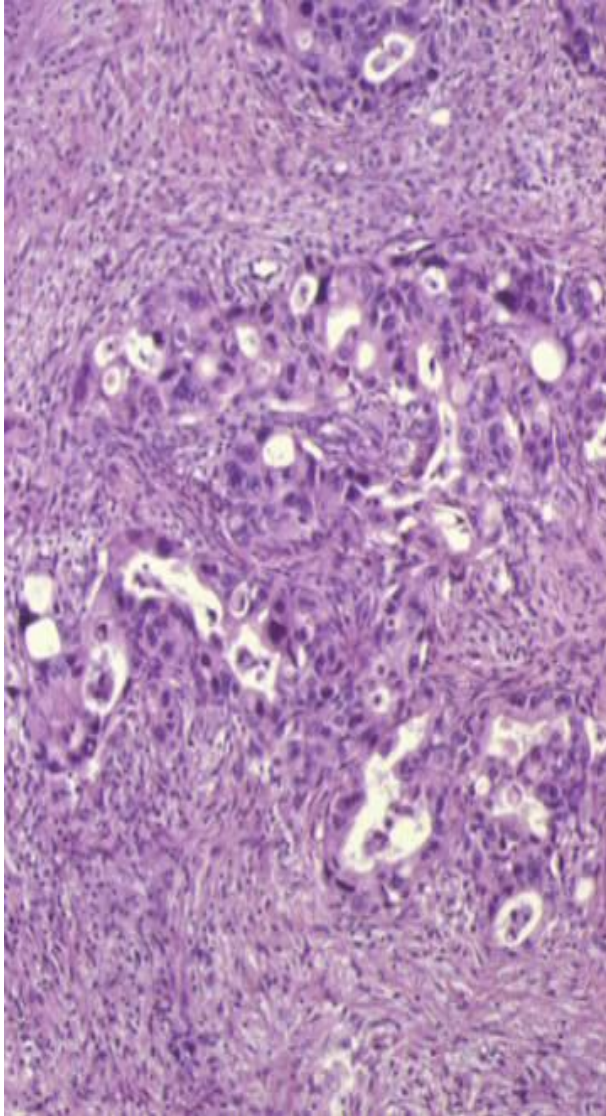
Sampling+++ :  
microinvasion





Borderline Mucinous Tumour  
BOM / microinvasion (<5mm (OMS 2014))





## Microinvasion

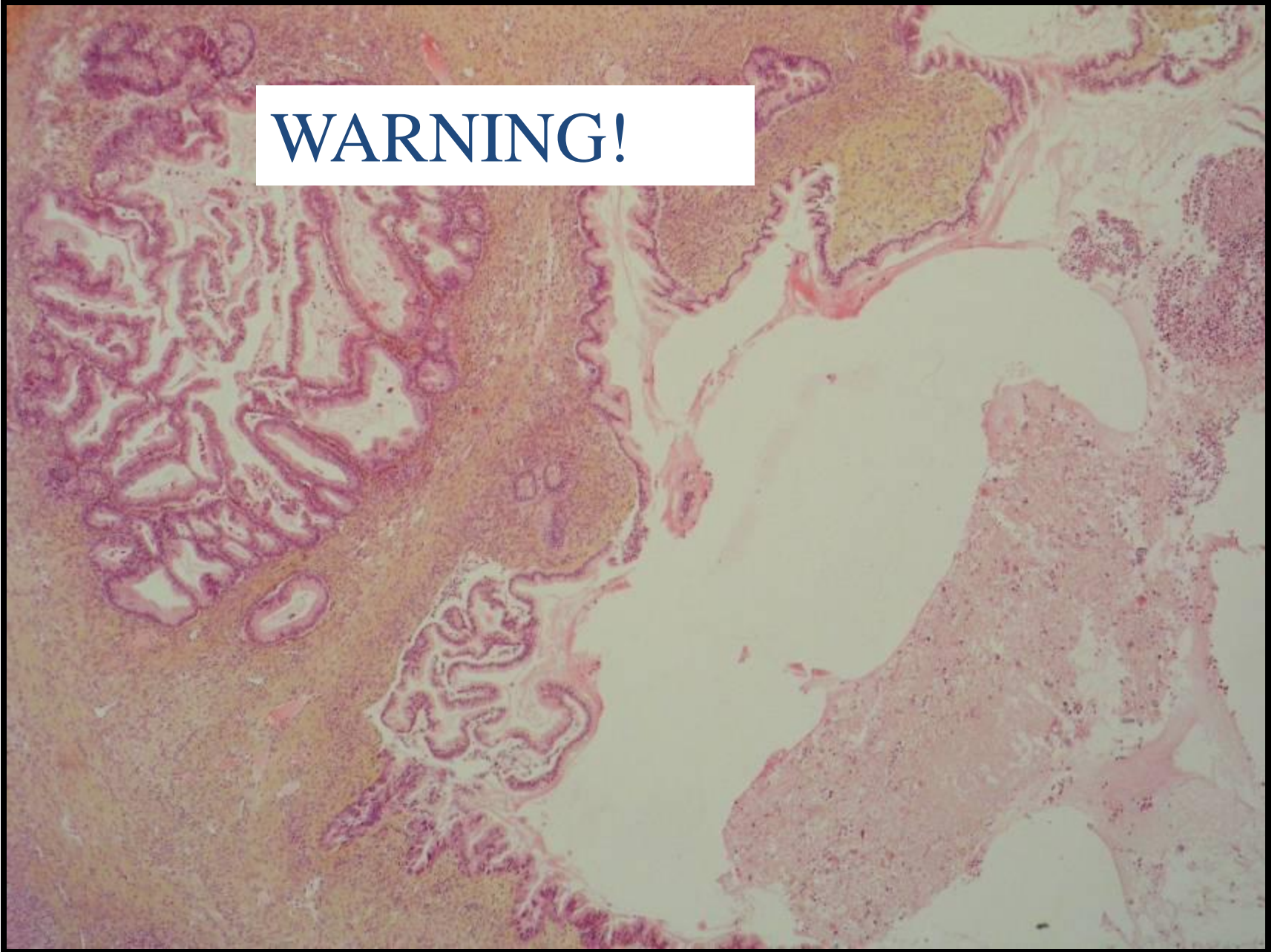
- One or more foci measuring less than 5 mm.

- OMS 2014

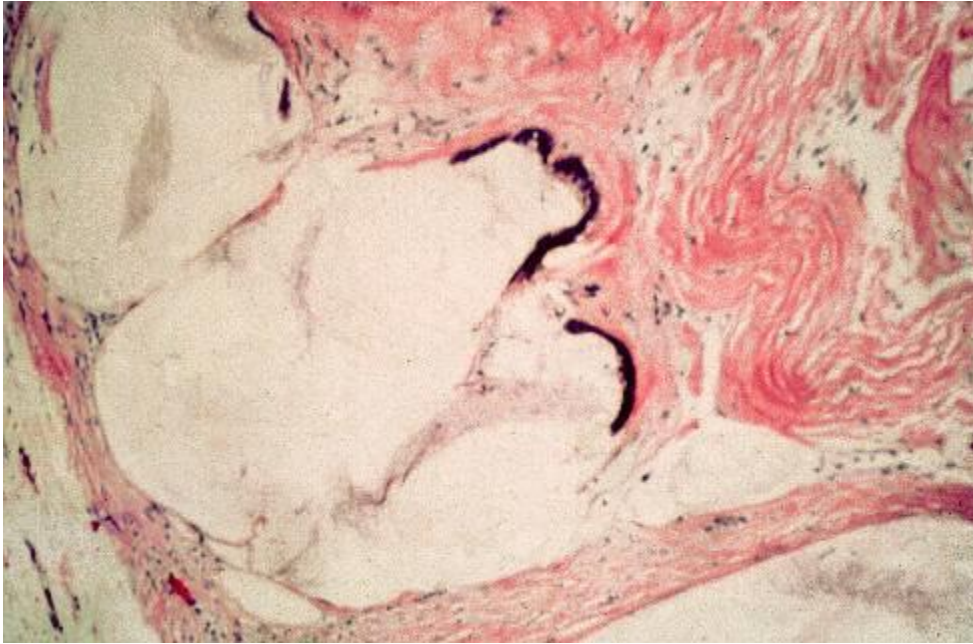
If the size  $>$  5 mm

→ **Invasive carcinoma**

**WARNING!**



# WARNING!

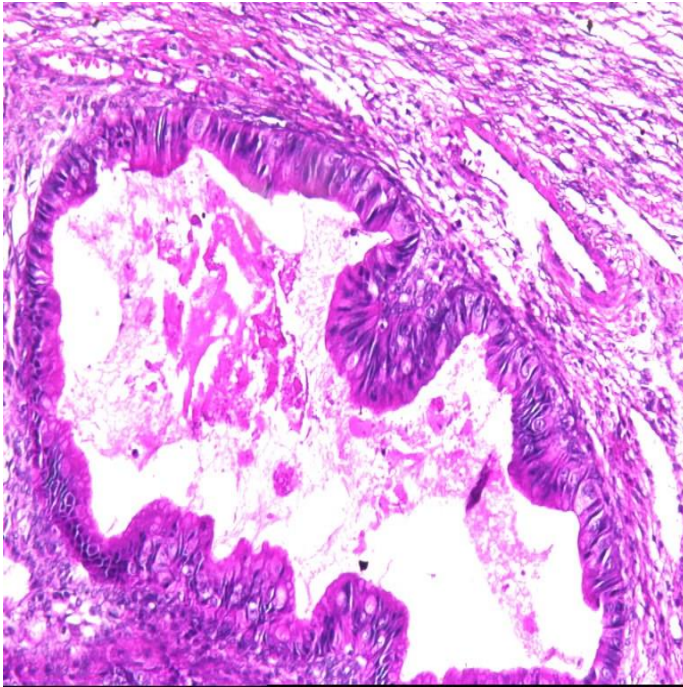


The presence of mucin in the stroma  
**should not be interpreted** as stromal invasion

# Mucinous borderline tumours

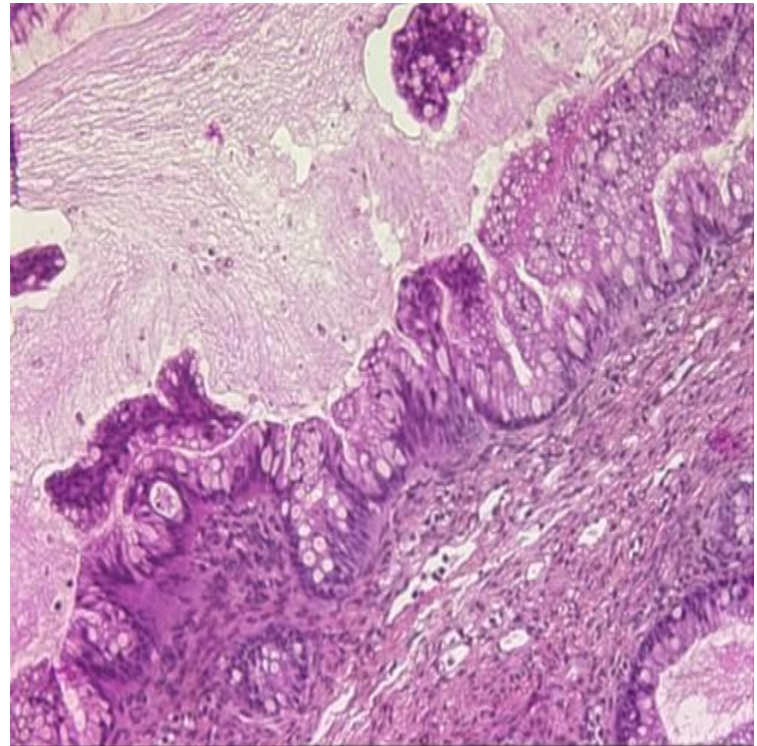
- Sampling ++++
- If tumour is
  - Bilateral +++
  - Extended in the peritoneum
    - **Metastasis**
- Peritoneum pseudomyxoma
  - **Appendix tumour?**

# Mucinous borderline tumours



## IHC

CK20 and CDX2 +/-  
RE, RP, WT1 negative  
CK7+, PAX8+ (60%)



# Prognosis : Mucinous Borderline Tumours

- FIGO Stage +++++
- Sampling +++
  - microinvasive and intraepithelial carcinoma : no signification
- Chirurgical treatment
  - Annexe/ cystectomy
- Age
  - < 40 years
    - Local relapse in borderline form especially if elevated stage and conservative TT
  - > 40 years
    - Less relapse but in invasive carcinoma

# Prognosis : Mucinous Borderline Tumours

- Overall Survival > 95%
- TOBM/TOBS
  - At equal stage better prognosis than TOBS
  - Relapse rate less important
  - But in invasive form : where ?
    - Peritoneum
    - Annex if cystectomy

**Uzan C**, Nikpayam M, Ribassin-Majed L, Gouy S, Bendifallah S, Cortez A, et al.

Influence of histological subtypes on the risk of an invasive recurrence in a large series of stage I borderline ovarian tumor including 191 conservative treatments.

**Ann Oncol Off J Eur Soc Med Oncol ESMO. juill 2014;25(7):1312-1319.**

Article de C UZAn

# Mucinous Borderline Tumours

	TOBM	TOBS
<b>Age (average)</b>	44.6 y	46.9 y
<b>Uni/bilateral</b>	Unilateral	Unilateral (75%) or bilateral (25%)
<b>Size</b>	14 cm, multilocular	9 cm, unilocular
<b>Stage</b>	> 90% FIGO I	> 80% FIGO I <20% FIGO II or more
<b>If relapses, proportion of invasive relapses</b>	>50%	10%
<b>Genetic profile</b>	Mutations <i>KRAS</i>	Mutations <i>BRAF</i> or <i>KRAS</i>



# Mucinous Borderline Tumours

## Conclusion

- Heterogeneous tumours
  - Sampling +++
  - Eliminate :
    - Invasive carcinoma
    - Metastasis
- Good prognosis

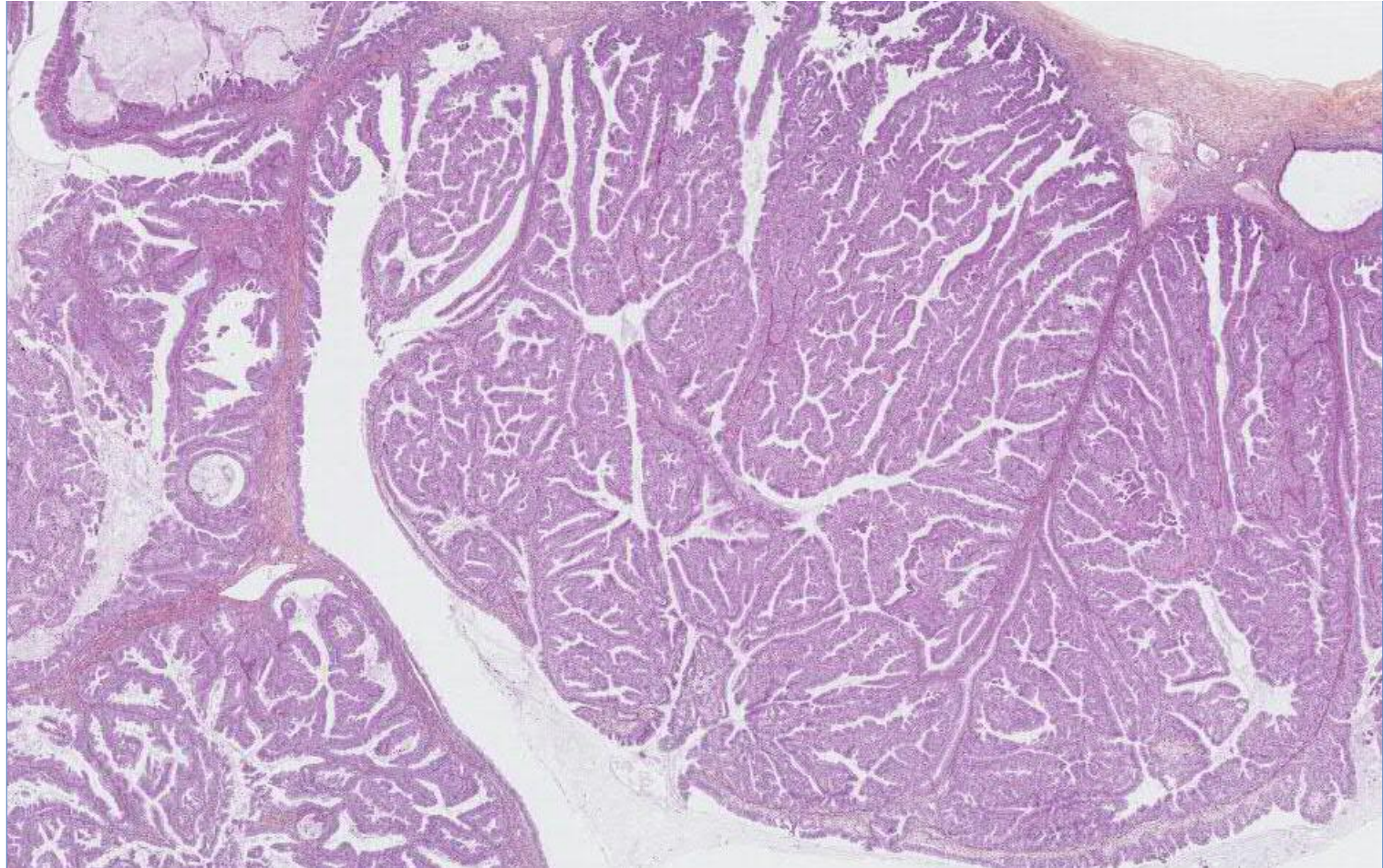
# **Mucinous Ovarian Carcinoma (MOC)**

# Mucinous Ovarian Carcinoma (MOC)

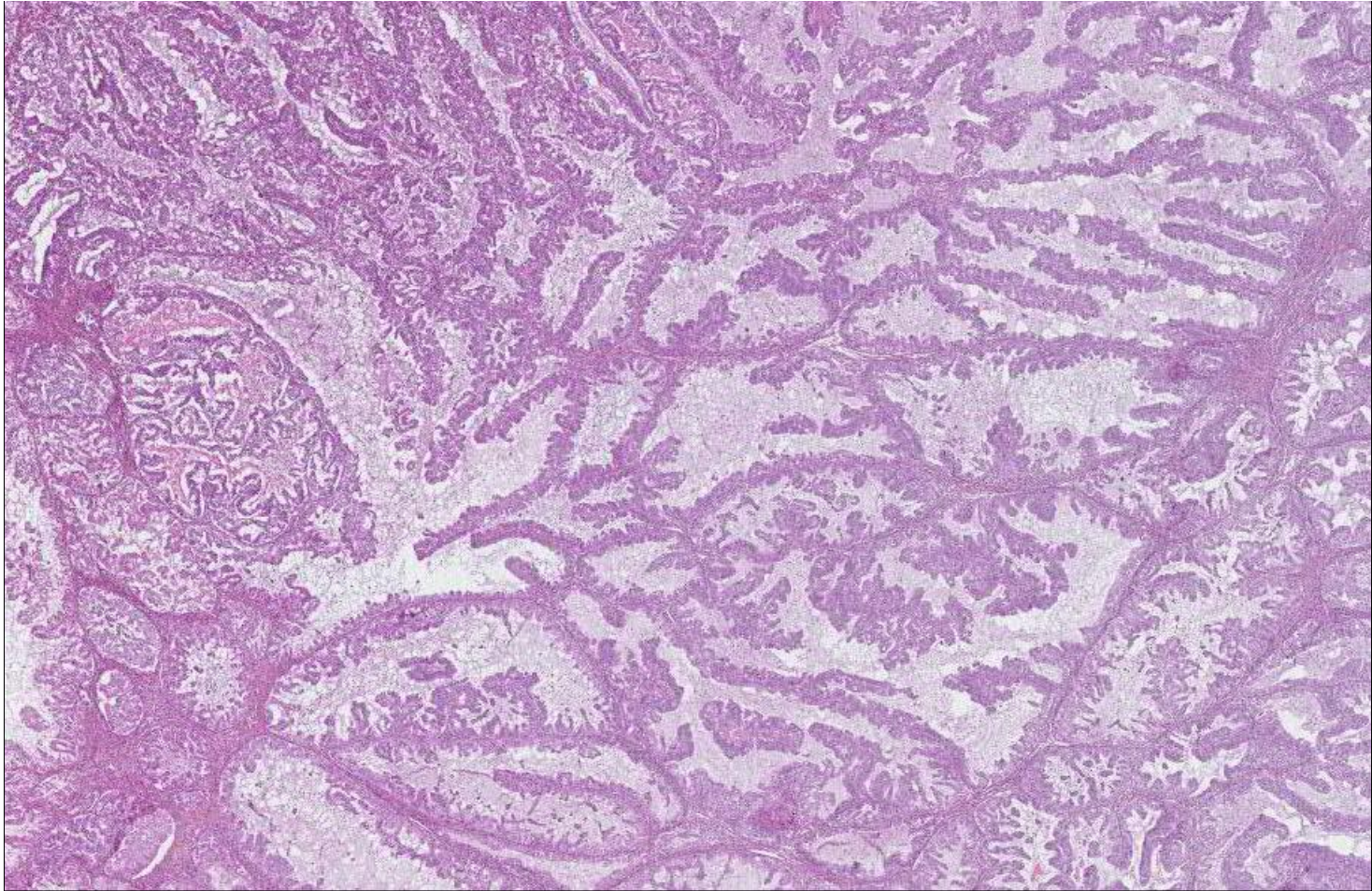
- Two histological patterns
  - « Expansile »
  - « Infiltrative »
- Sampling ++++ 

Their diagnosis requires a rigorous sampling with 2 blocks per cm of tumor.

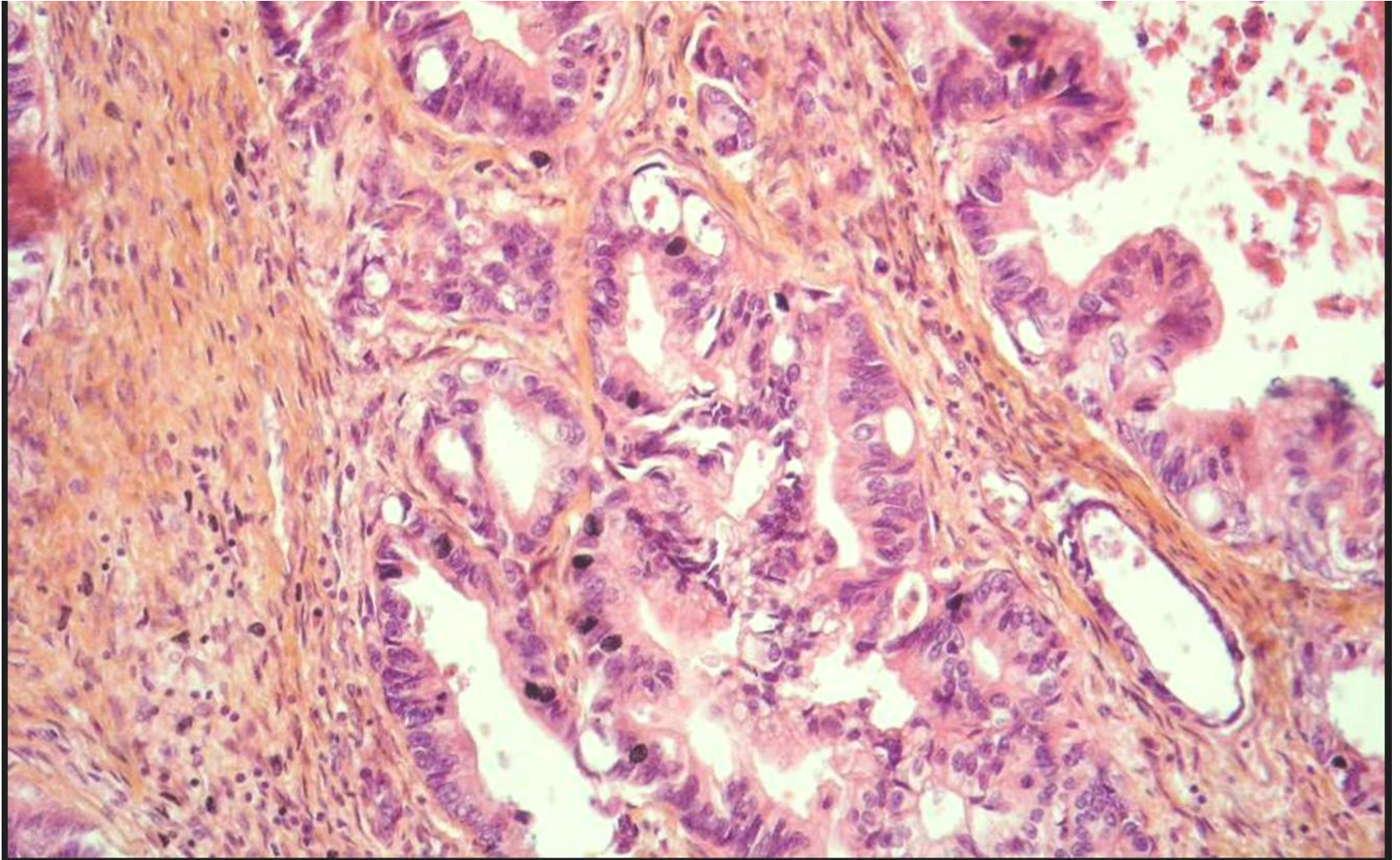
# Mucinous Ovarian Carcinoma (MOC)



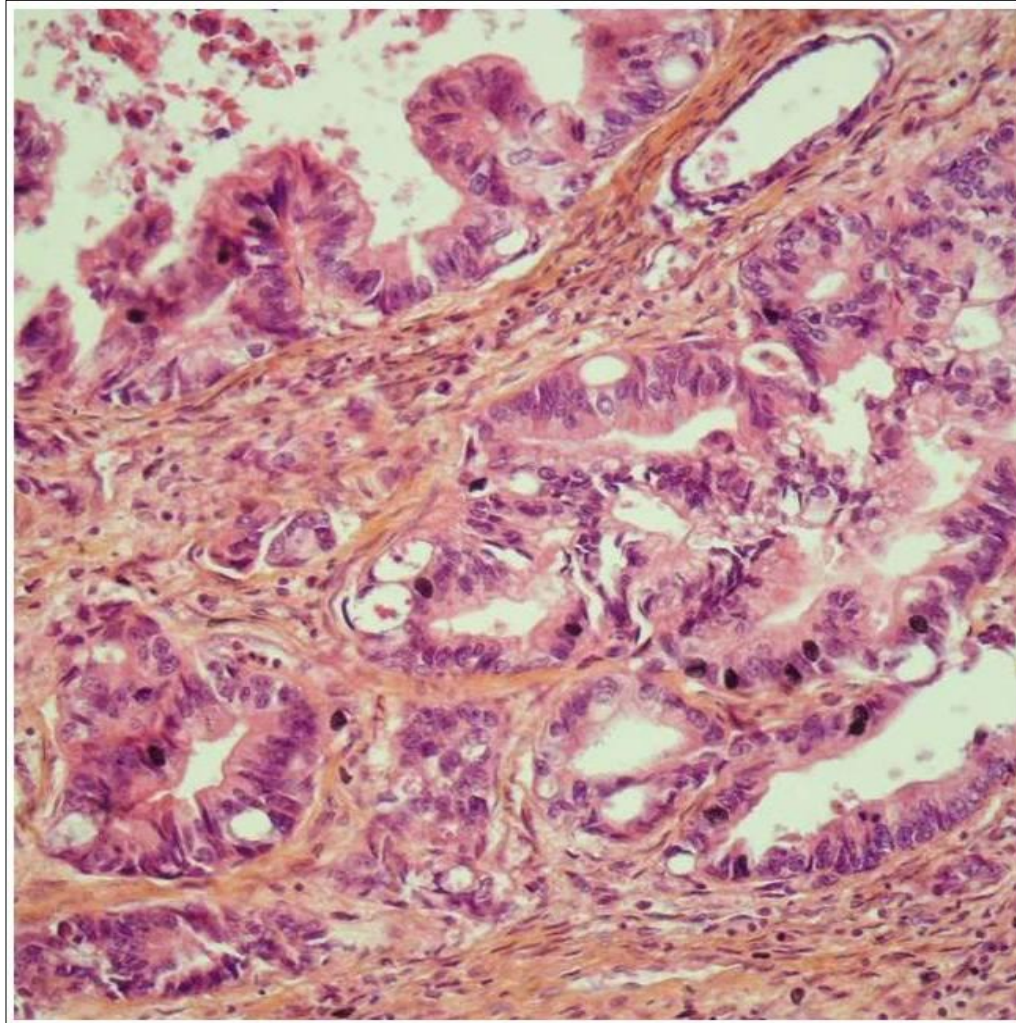
# Mucinous Ovarian Carcinoma (MOC)



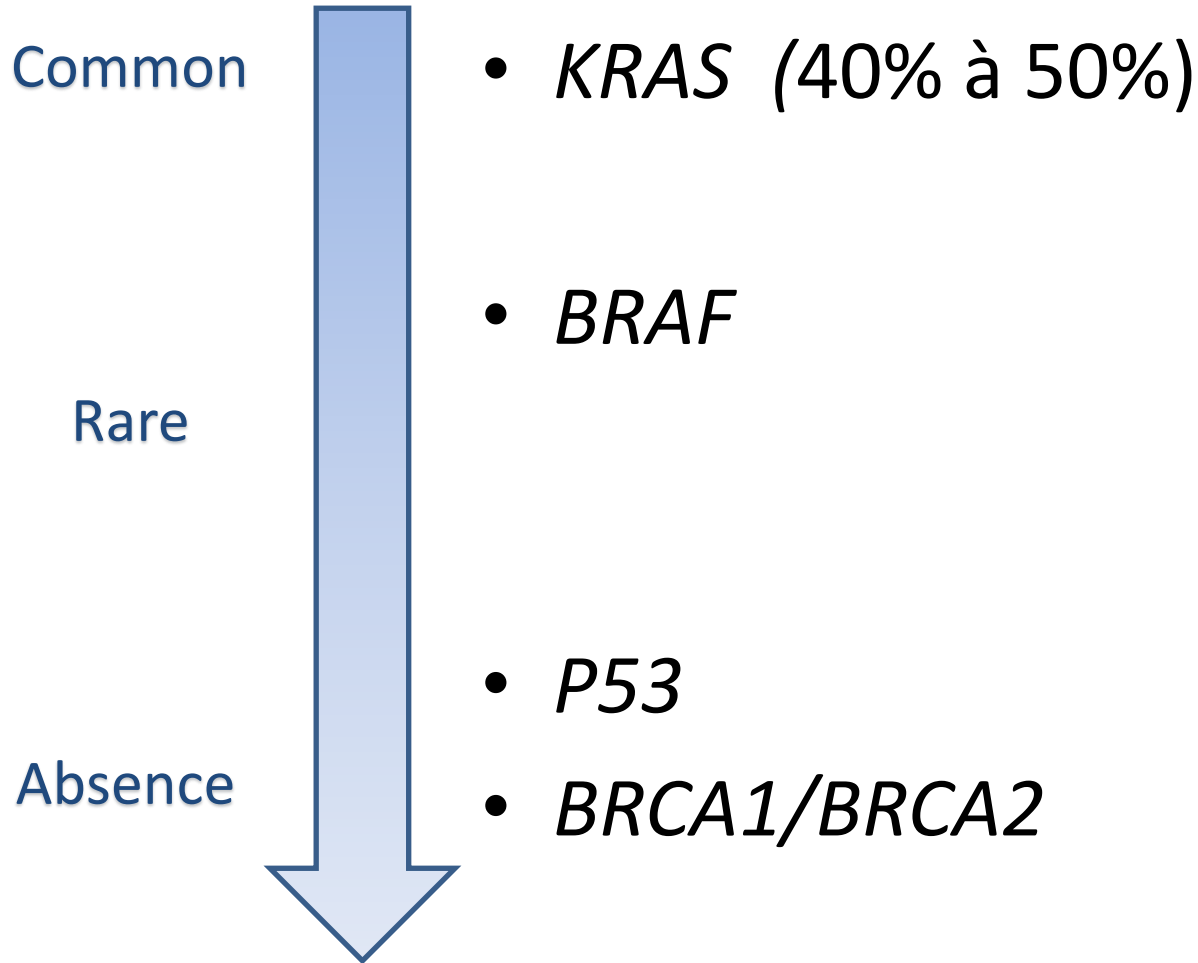
# Mucinous Ovarian Carcinoma (MOC)



# Mucinous Ovarian Carcinoma (MOC)



# MOC Genetic Profile : mutation





# Mucinous Ovarian Carcinoma (MOC)

- ***HER2* Amplification**
  - 15% : Carcinoma
  - 6% : BL tumour
- ***HER2 amplification* and *KRAS* mutations**  
are mutually exclusive
- **Mucinous carcinoma :**
  - If : *KRAS* Mutation - Her2 Mutation -
  - Bad prognosis

# Prognosis criteria : Mucinous Ovarian carcinoma

- **Stage**
  - The majority of the carcinoma is stage I
- **Stage I : prognosis criteria**
  - Capsule
    - Respected : yes/no
  - Pattern
    - Expansile has a better prognosis than infiltrative

# Mucinous carcinoma

- Rare
- Heterogeneous tumours
- Sampling++++
- If tumour is
  - Bilateral +++
  - Extended in the peritoneum
    - **Metastasis**
- If stage I
  - Goog prognosis
  - Infiltrative pattern+++
- If stage > 1
  - chemoresistance