

La citologia diagnostica: *le buone pratiche*



Una volta acceso il microscopio...

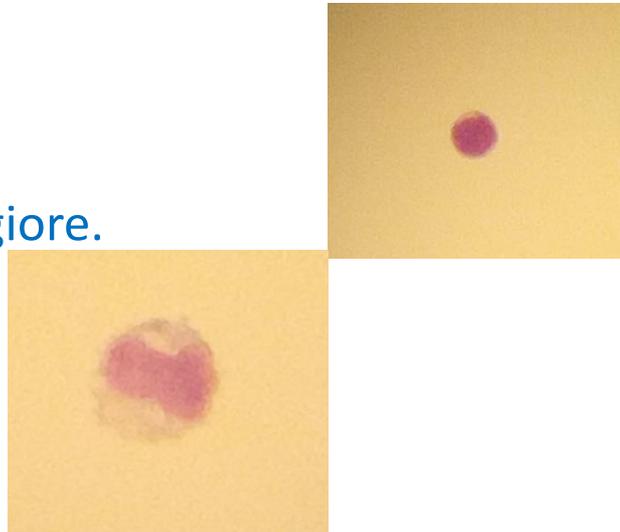
➤ Un giro ad basso ingrandimento

- Cellularità (cellule intatte...)
- Fondo del vetrino...
- Distribuzione
- Rapporti tra cellule o gruppi di cellule
-cerco il punto più “diagnostico” ...

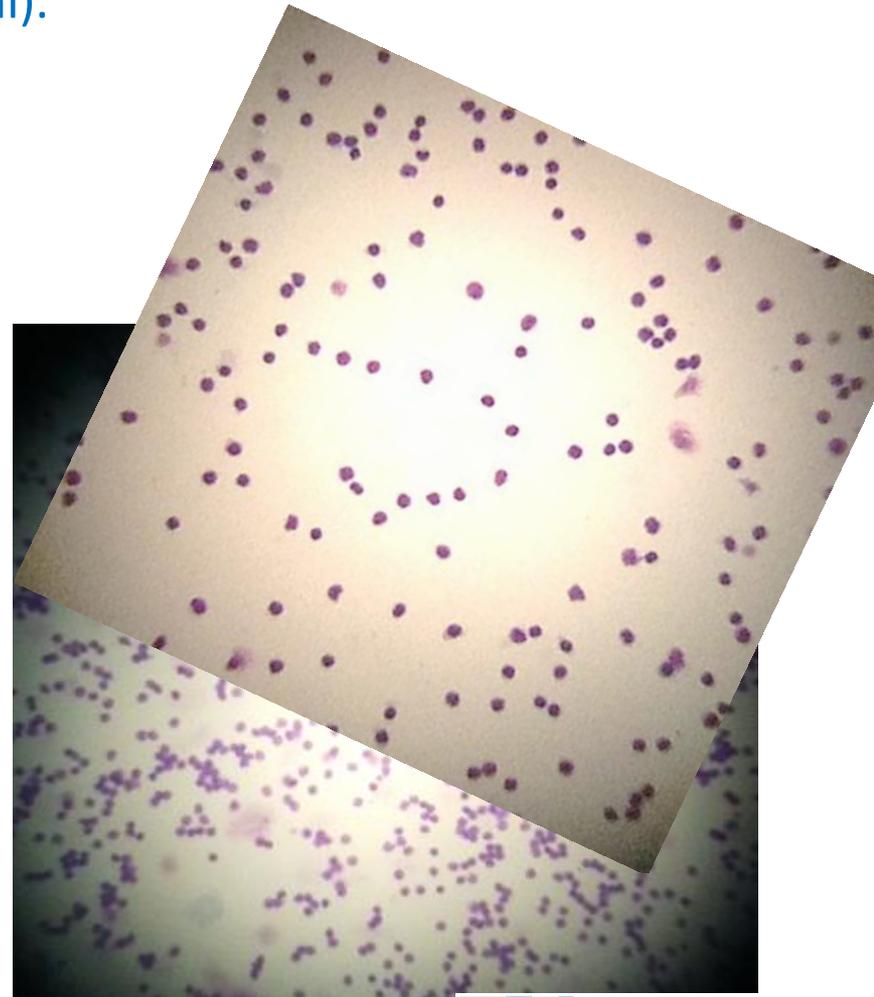
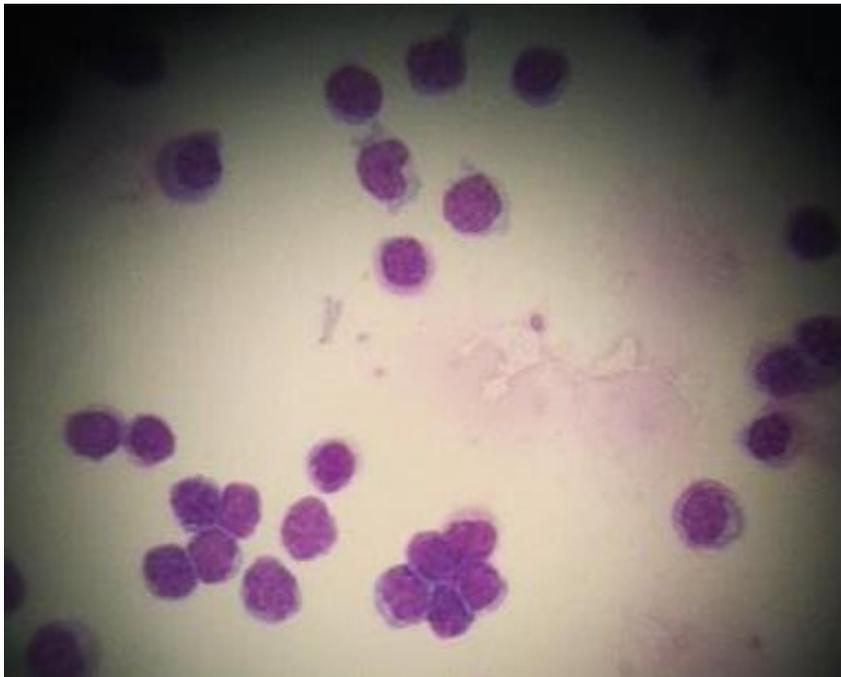
➤ Poi passo ad ingrandimento maggiore

Liquido cerebrospinale

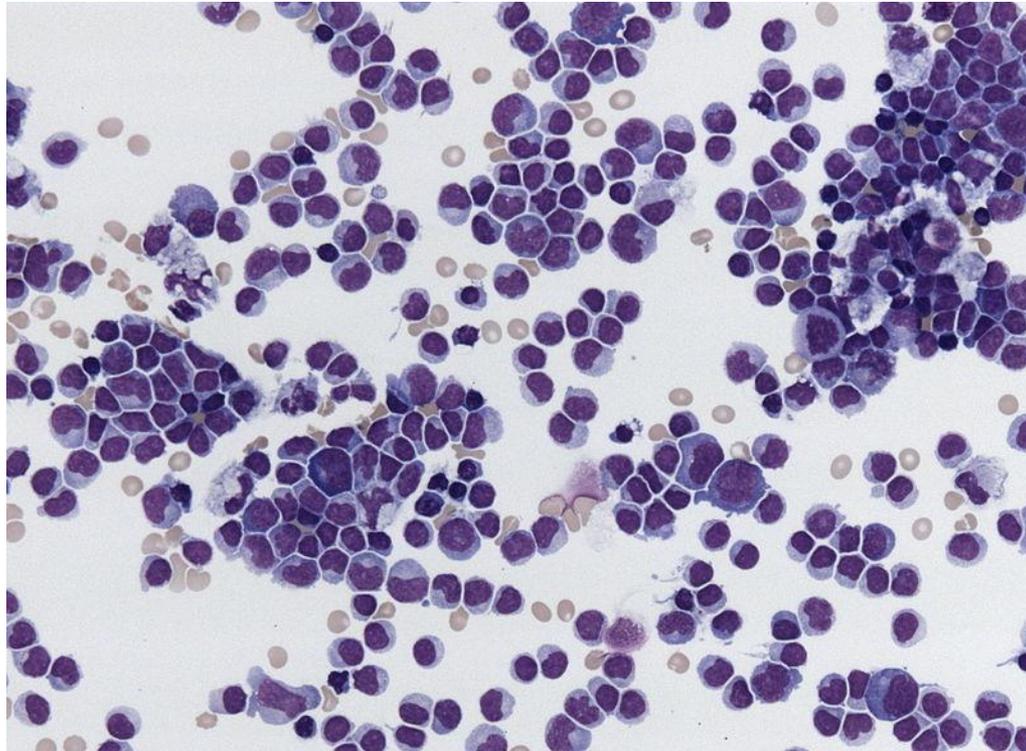
- L'**esame microscopico** del liquor viene effettuato innanzitutto per l'identificazione e il conteggio delle cellule.
- Il liquor normalmente contiene un piccolissimo numero di leucociti, principalmente linfociti e monociti, in rapporto tra loro del 70:30 per cento.
- Nei giovani tuttavia il numero dei monociti può essere maggiore.



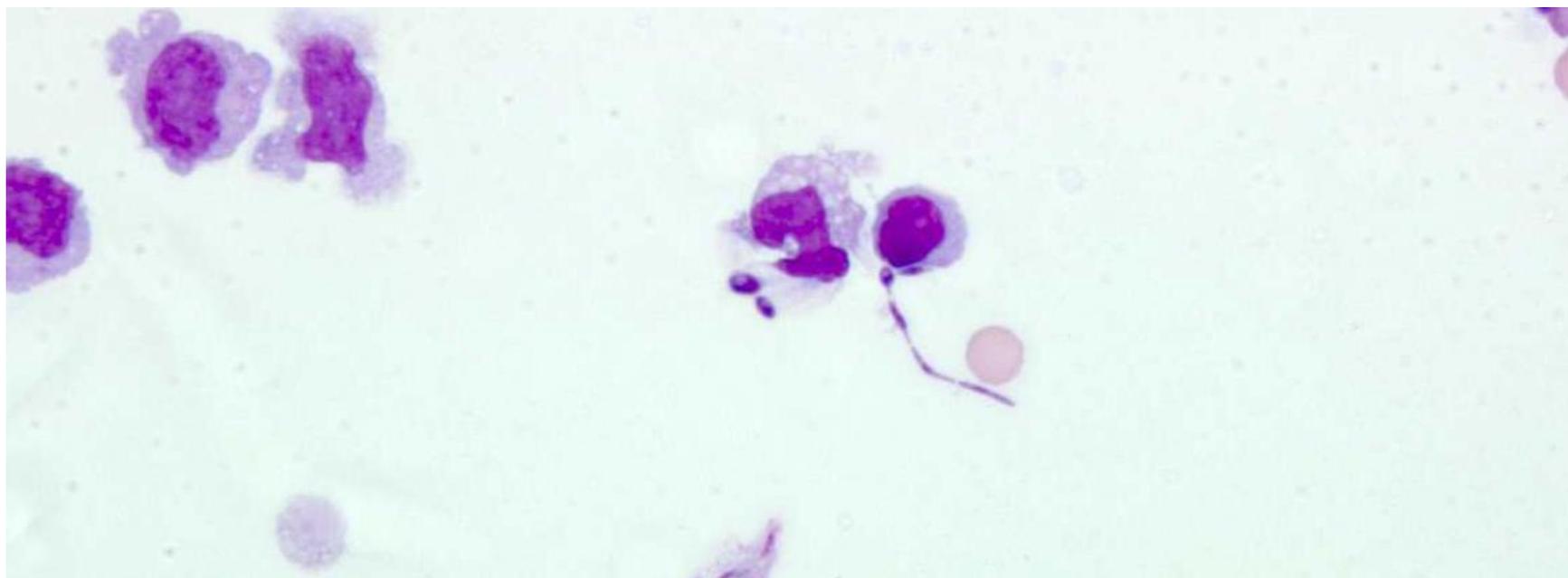
L'aumento del numero dei leucociti nel liquido cerebrospinale prende il nome di **pleiocitosi** ed è causato dalla presenza di processi patologici (infiammazione, emorragie, tumori o traumi).



meningoencefalite

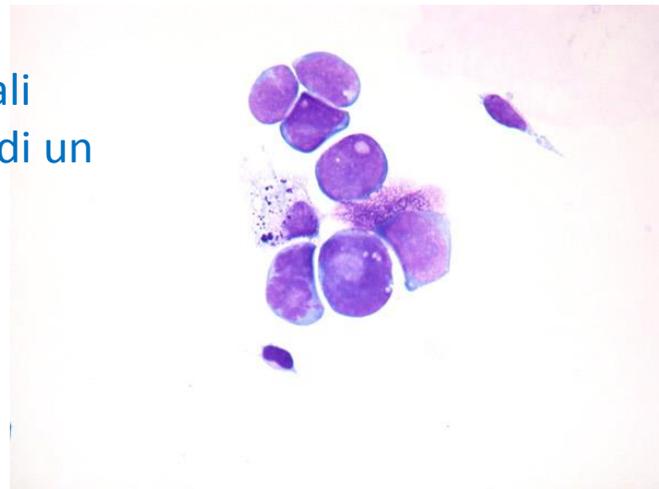


Spore e ife fungine in paziente immunosopresso



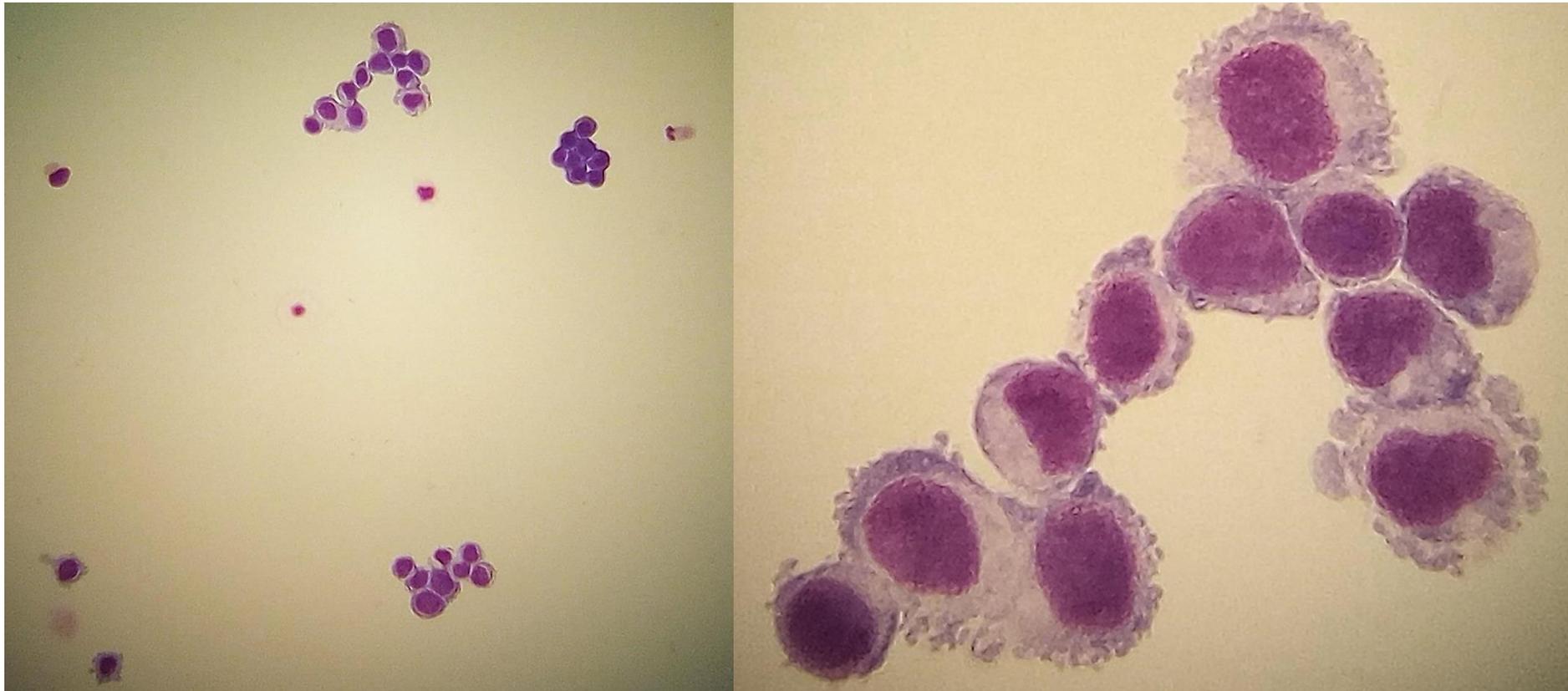
- Cellule tumorali da tumori primitivi:
- medulloblastoma
 - astrocitoma
 - meningioma.

piccole cellule tumorali
blu, rotonde nel CSF di un
paziente con tumore
germinale

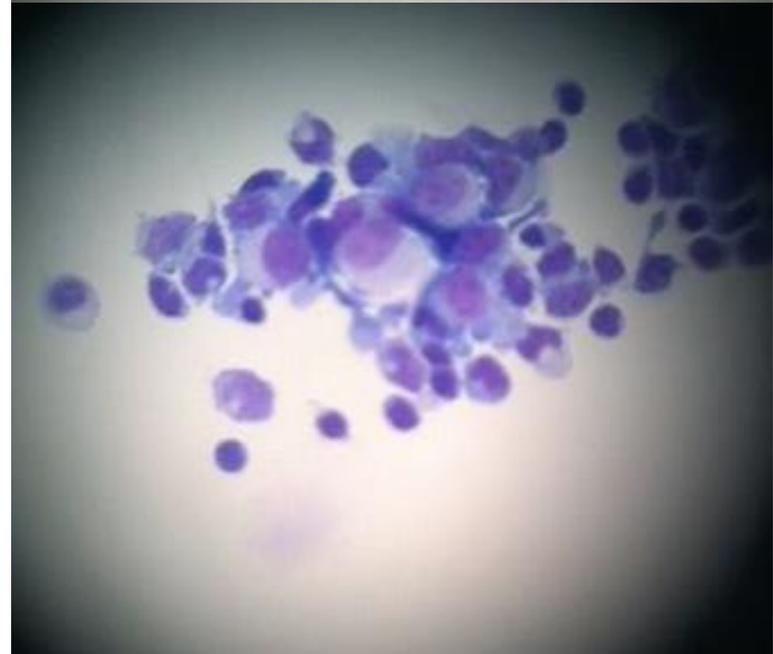
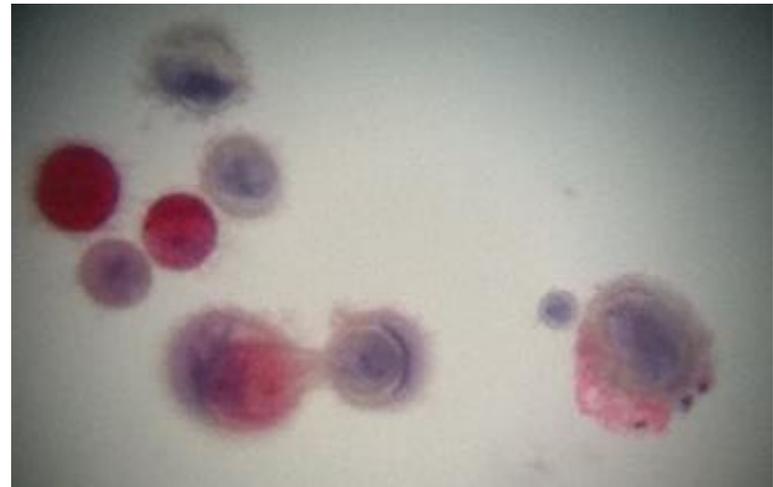
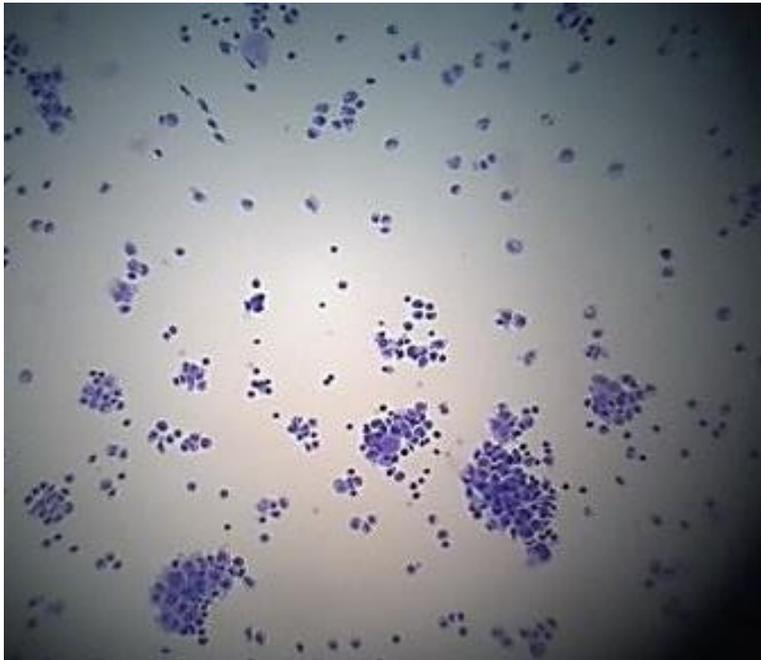


Meningite carcinomatosa

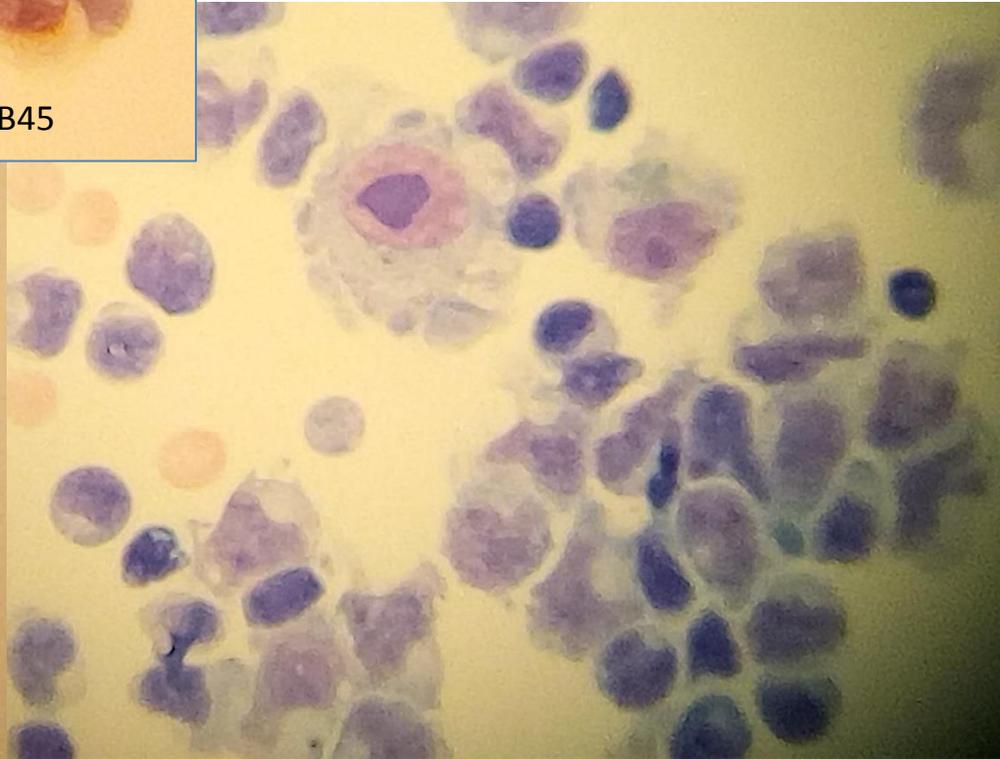
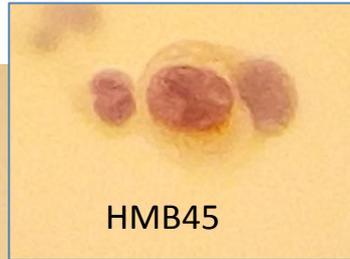
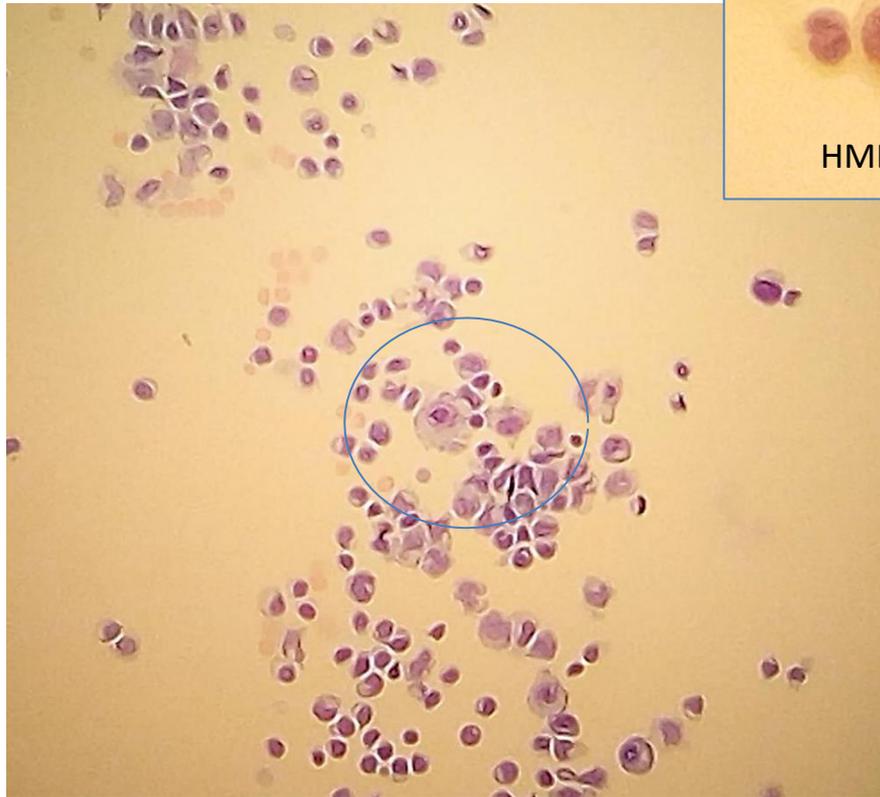
- Nel liquor si possono talora osservare **cellule tumorali** che possono derivare da **tumori metastatici**, soprattutto quando il tumore ha cominciato ad infiltrare le meningi.



- I principali tumori metastatici che possono determinare la presenza di cellule tumorali nel liquido cerebrospinale sono polmone, mammella, colon e melanoma.
- **Informazioni cliniche**
- **ICC per definirne l'origine**



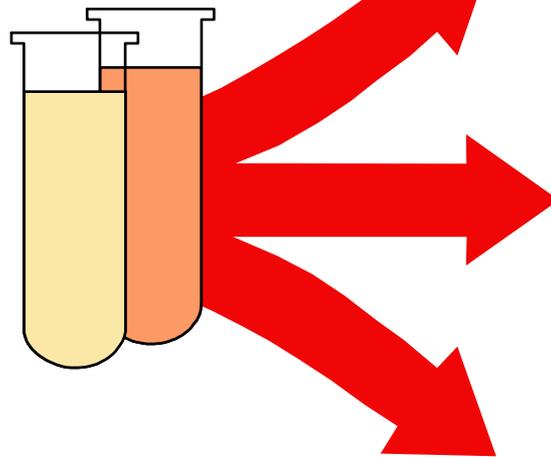
Melanoma



Versamenti endocavitari

- L'accumulo di un liquido nelle cavità sierose è **sempre** un **evento patologico**
- **Non sono però sempre patologiche le cellule** che si ritrovano

PLEURICI
PERITONEALI
PERICARDICI

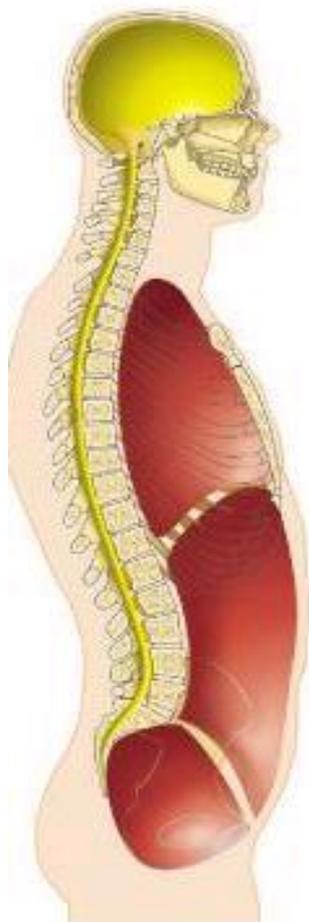


**ALTERAZIONI
VASCOLARI**

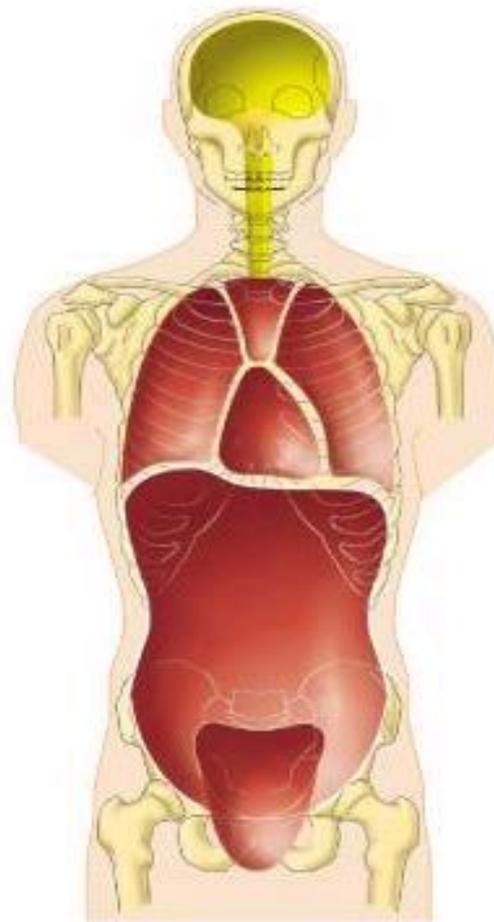
**ALTERAZIONI
INFIAMMATORIE**

**TUMORI
MALIGNI**

Le cavità sierose sono **cavità chiuse**, non comunicanti con l'esterno, delimitate da sottilissime **membrane sierose**

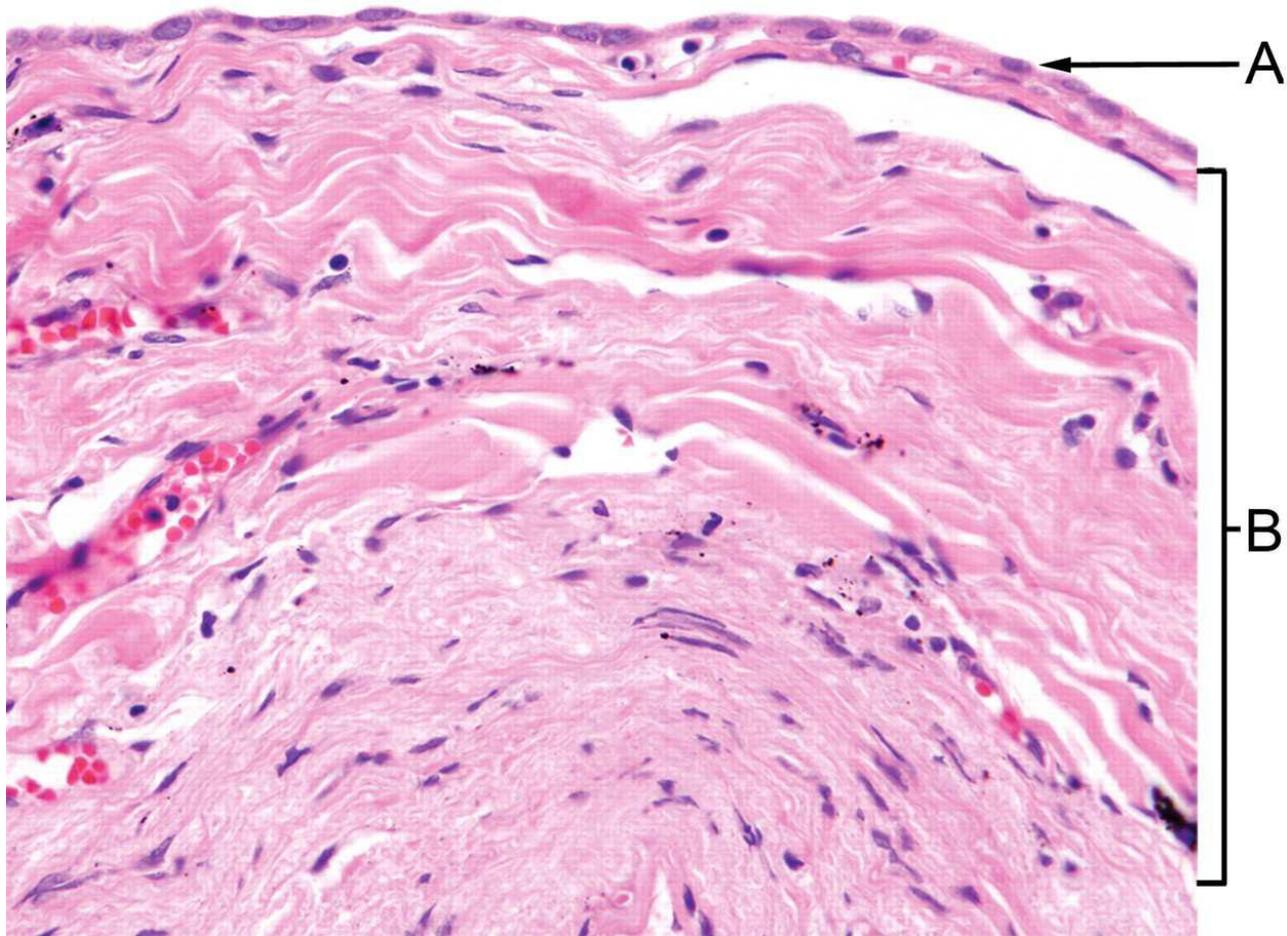


(a) Lateral view

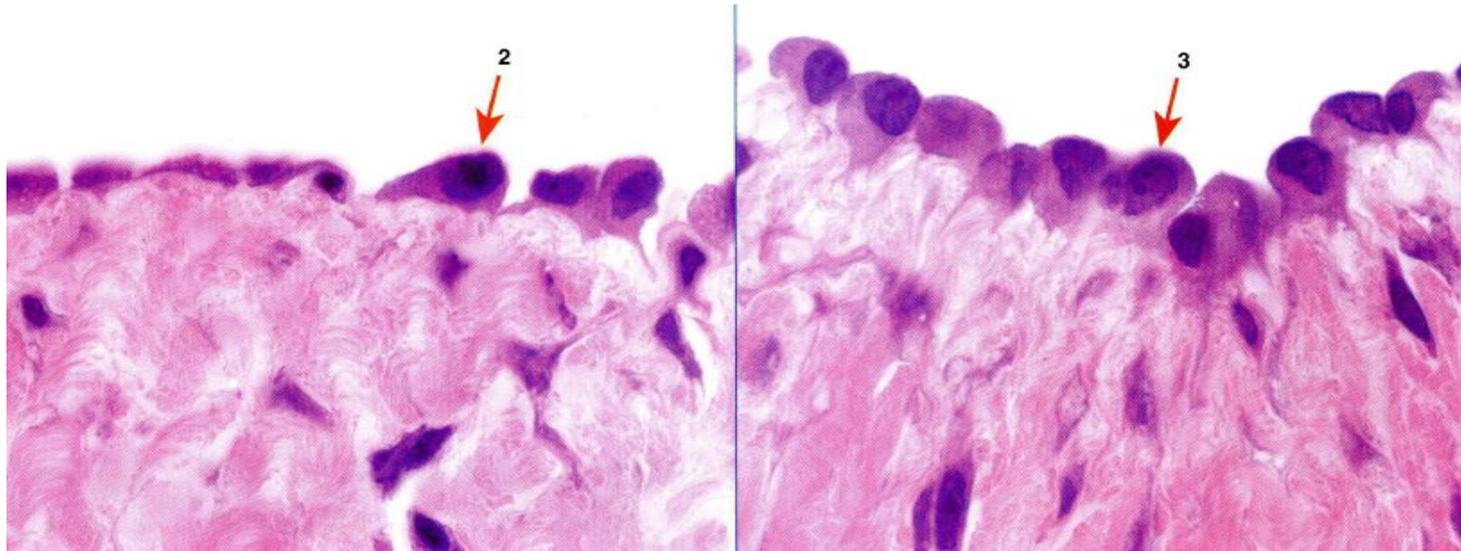


(b) Anterior view

Cellule mesoteliali



Cellule mesoteliali reattive/iperplastiche



Elementi cellulari nei versamenti

- Cellule mesoteliali
- Macrofagi
- Elementi infiammatori
- Emazie



Morfologia delle cellule mesoteliali

NUCLEO

- Centrale/eccentrico
- Rotondo/ovale
- Cromatina finemente granulare
- Uno o piu'

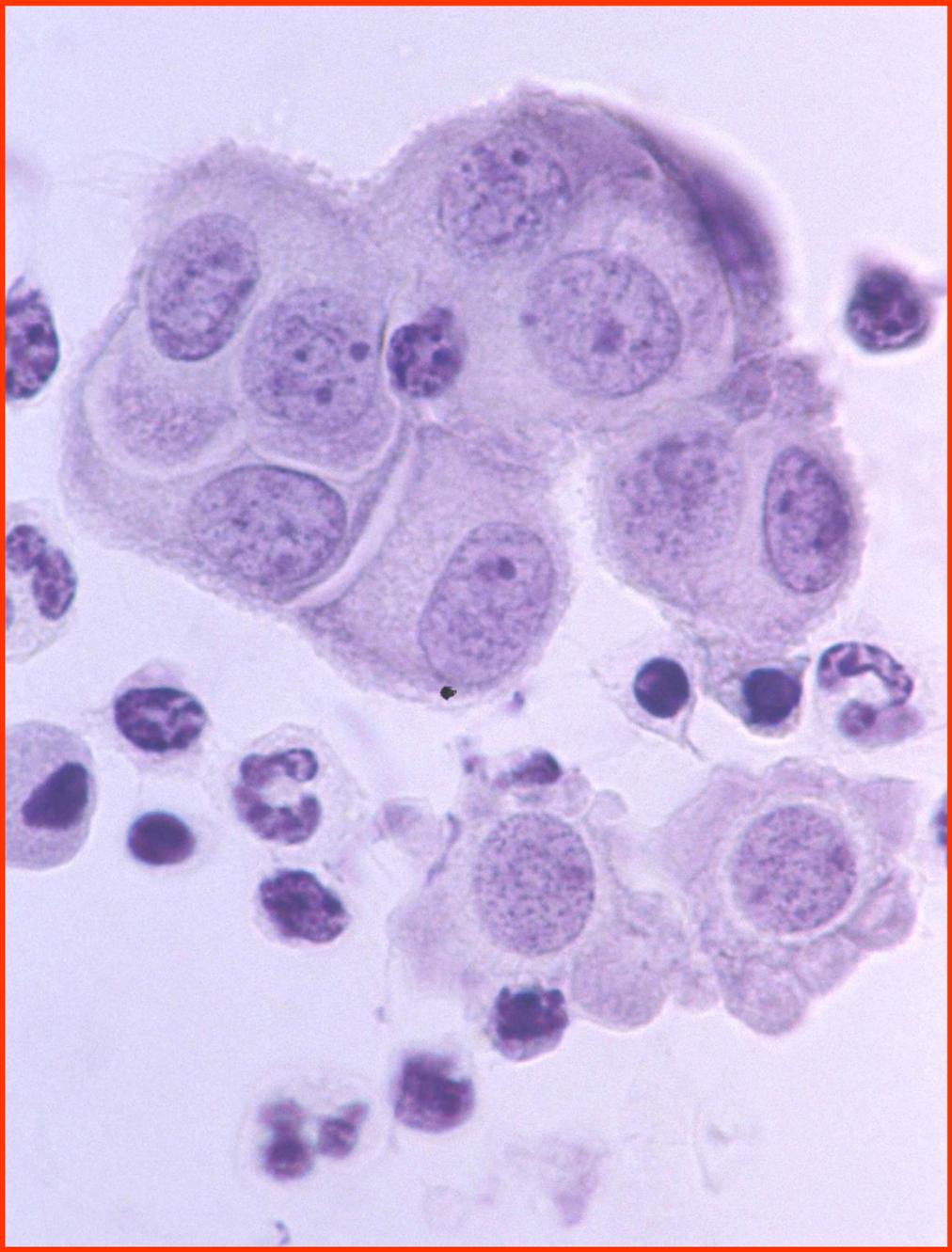
NUCLEOLO

- Visibile +/-

CITOPLASMA

- Rotondo
- Ben delimitato
- Microvilli
- Vacuoli chiari periferici (glicogeno)
- Vacuolo unico o plurimi (degenerazione idropica)

Microvilli

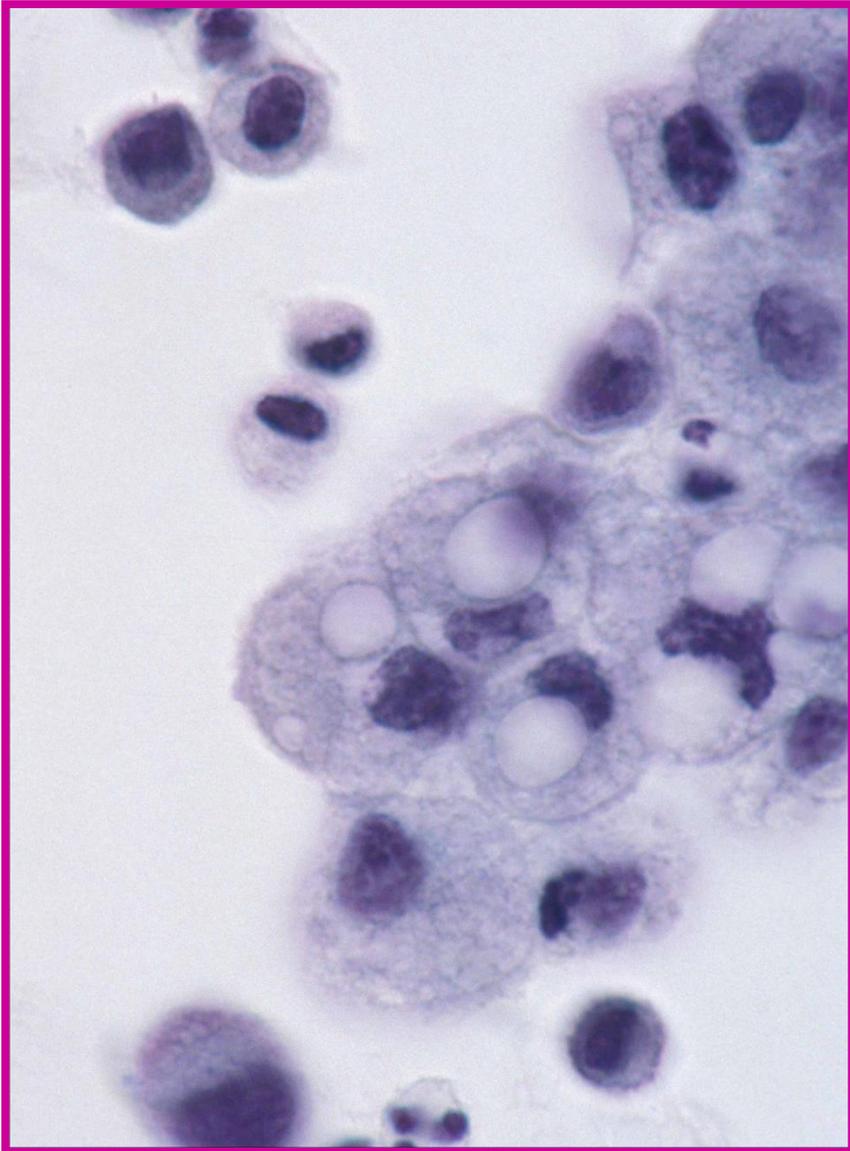




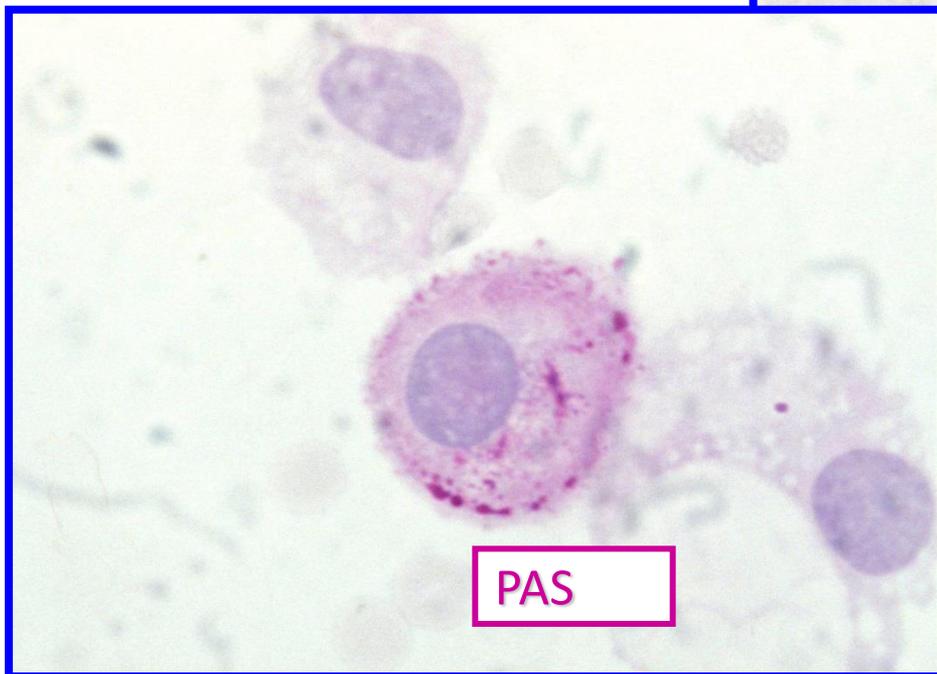
FENESTRATURE



Alterazioni regressive - vacuolizzazioni



- Vacuolizzazioni

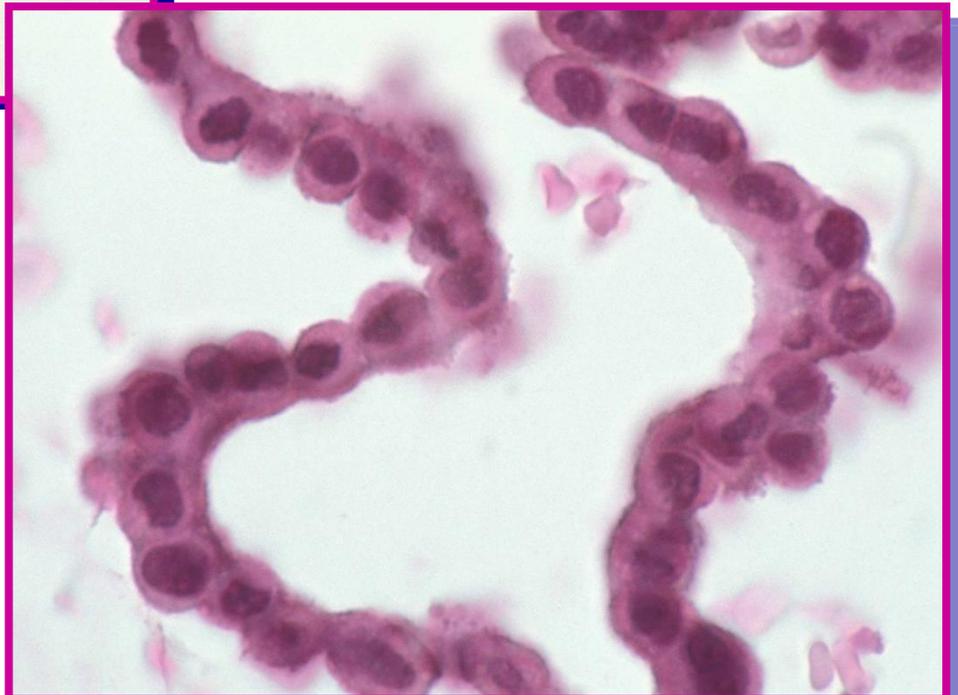


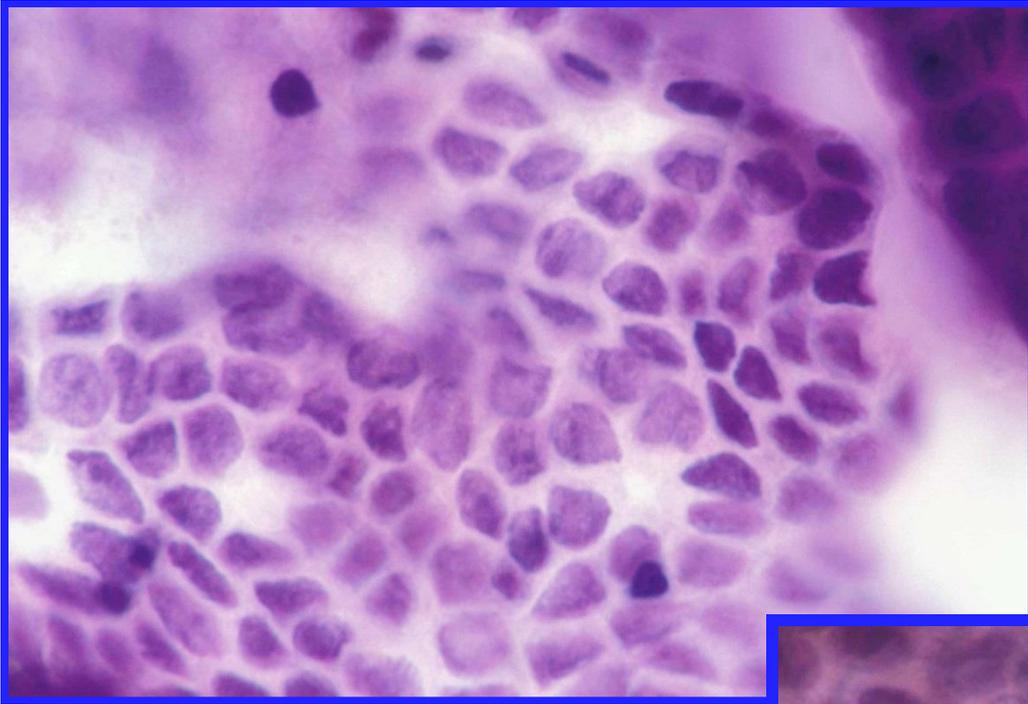
PAS



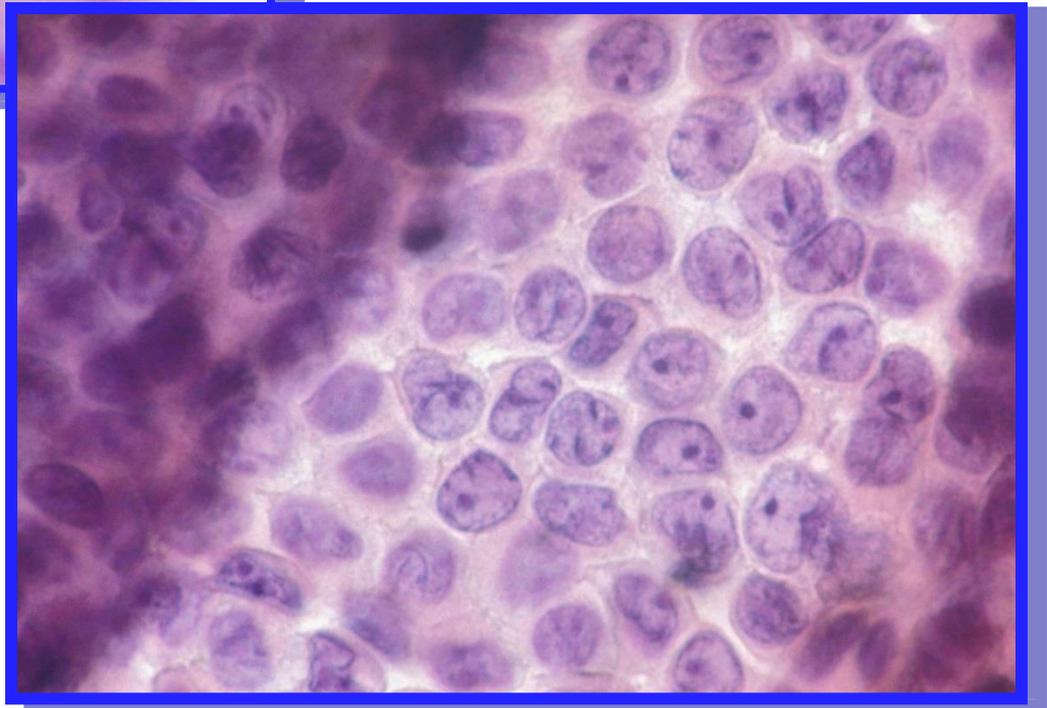
Strutture acinari

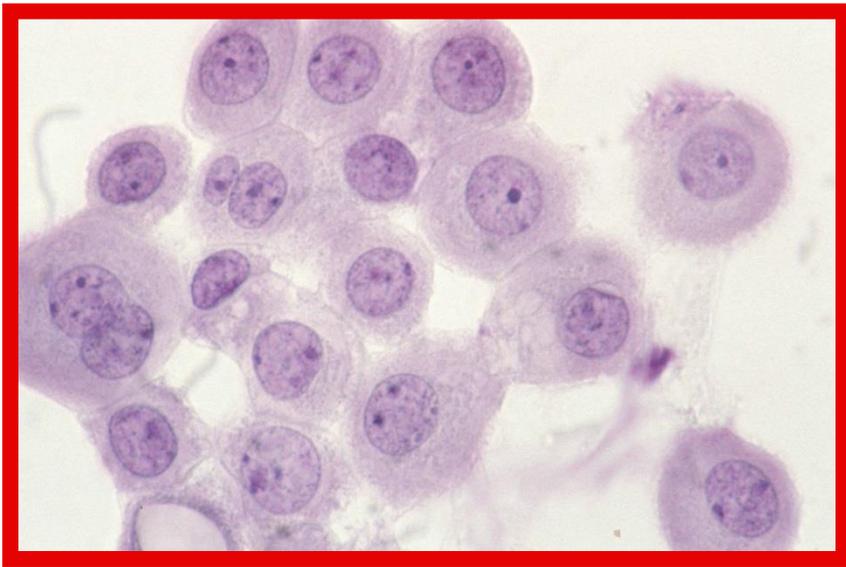
Filiere





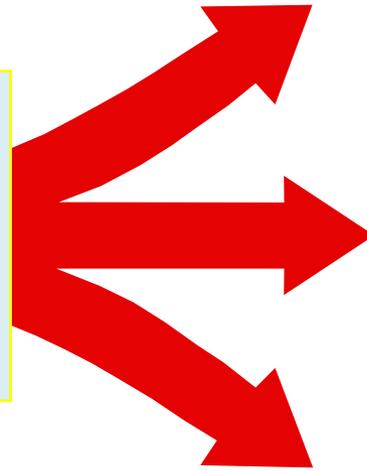
Ampi lembi





QUANDO?

Cellule mesoteliali
in ampi lembi



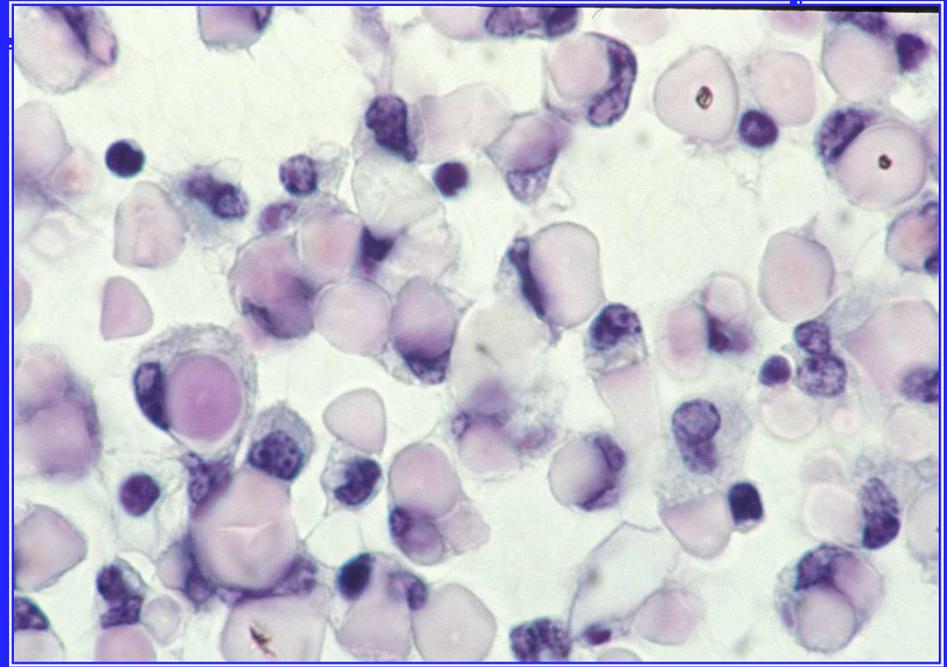
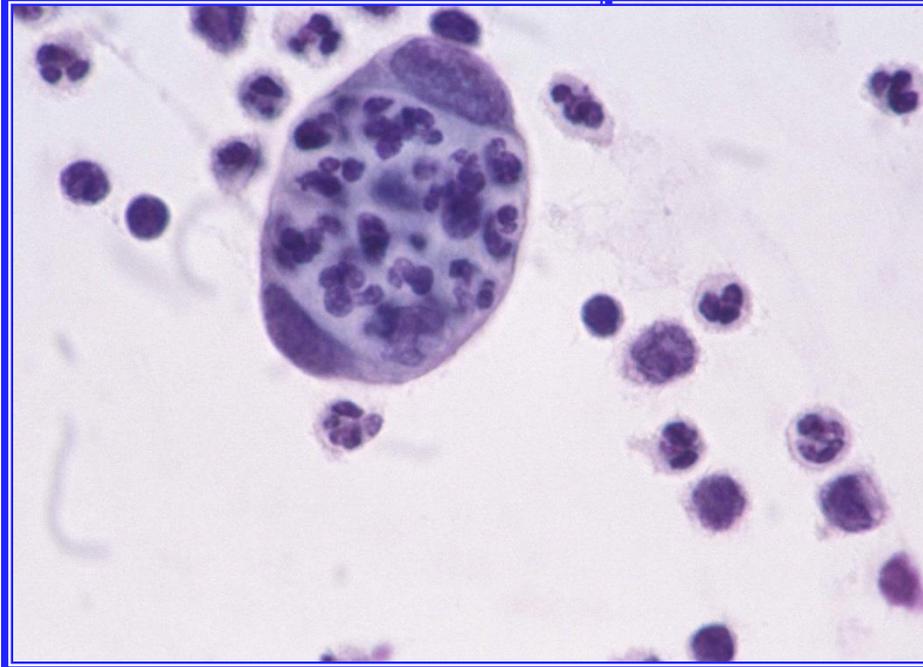
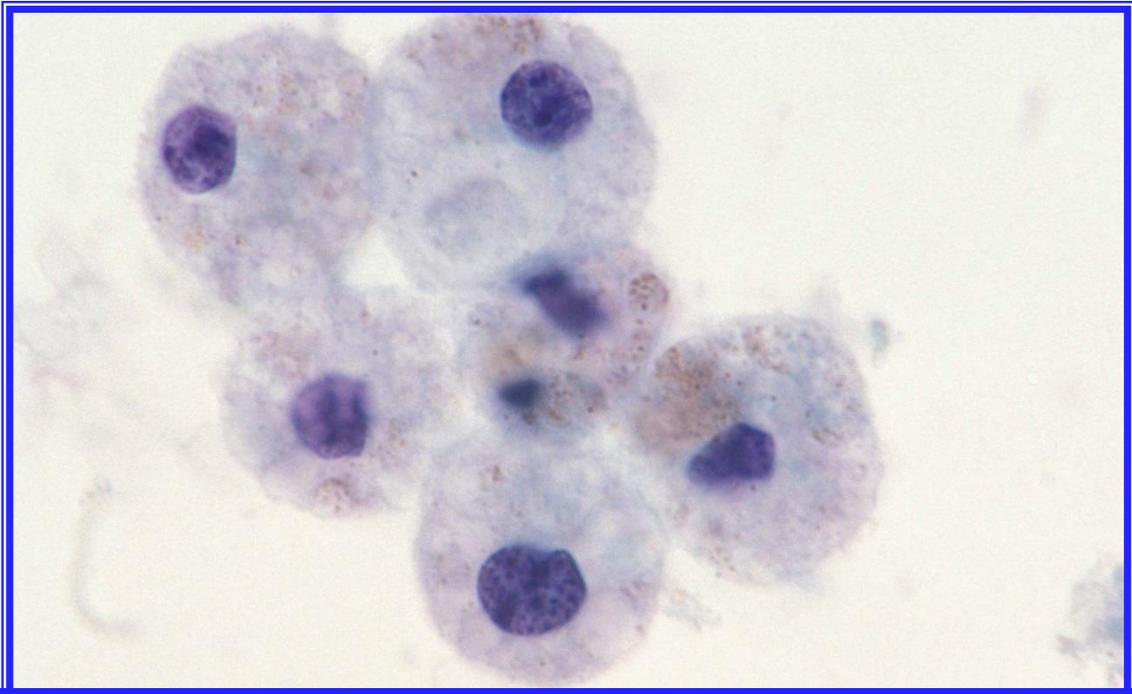
Lavaggio peritoneale

**Tumori retroperitoneali
voluminosi**

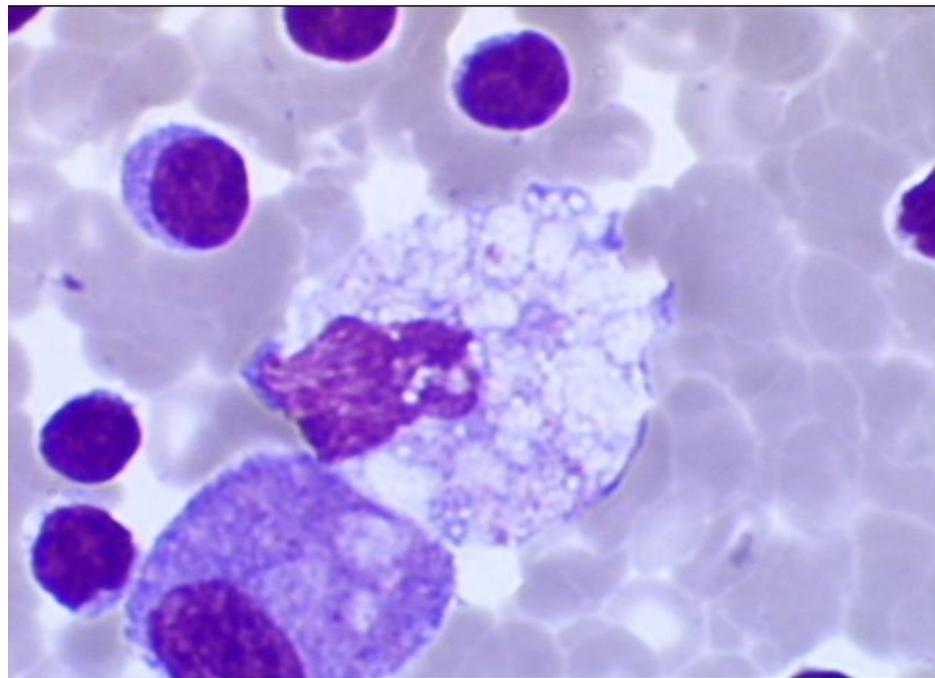
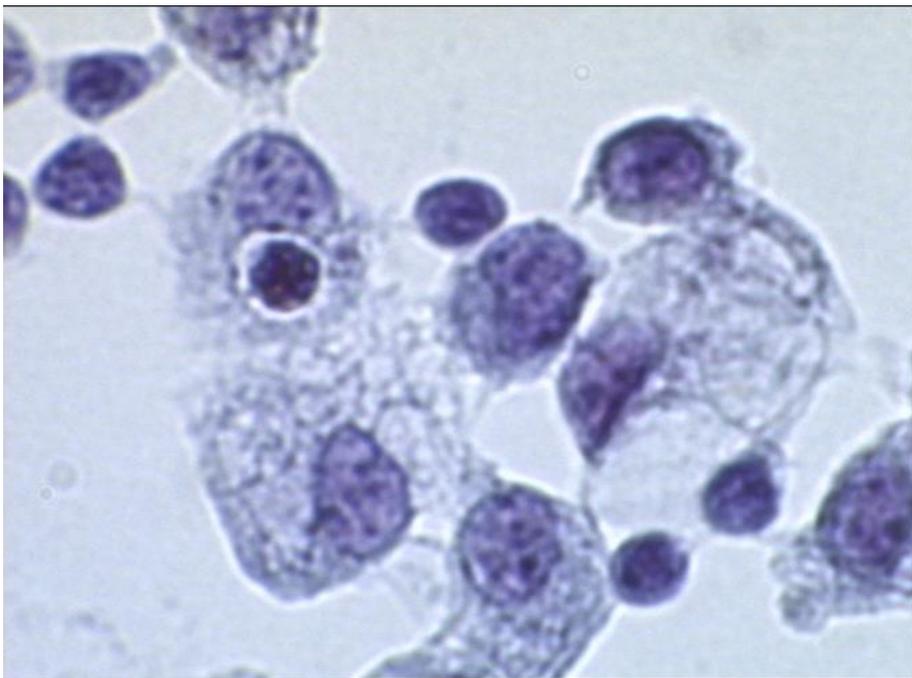
**Laparotomia o
toracotomia**

Macrofagi

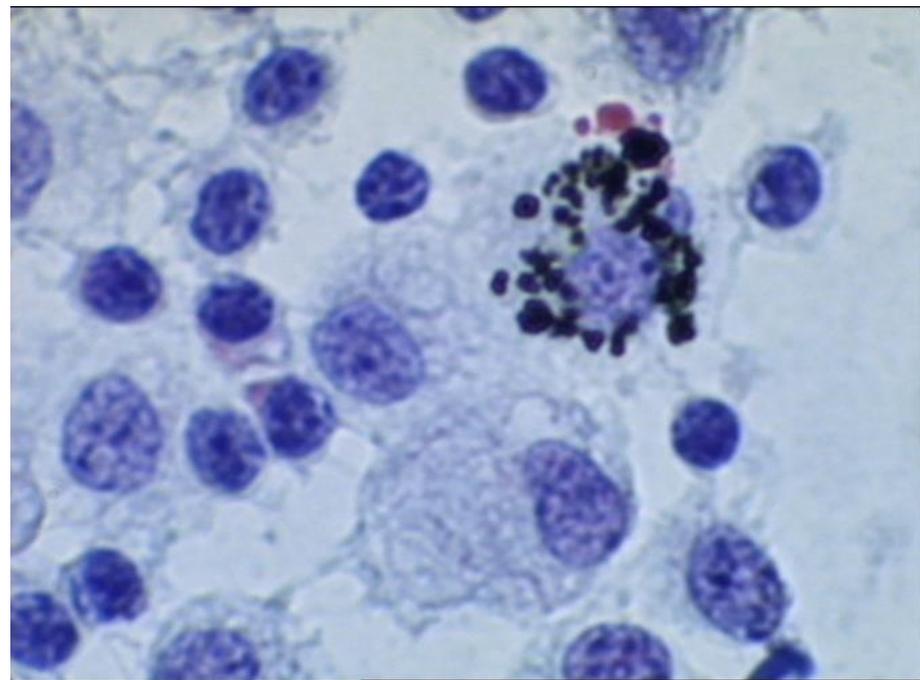
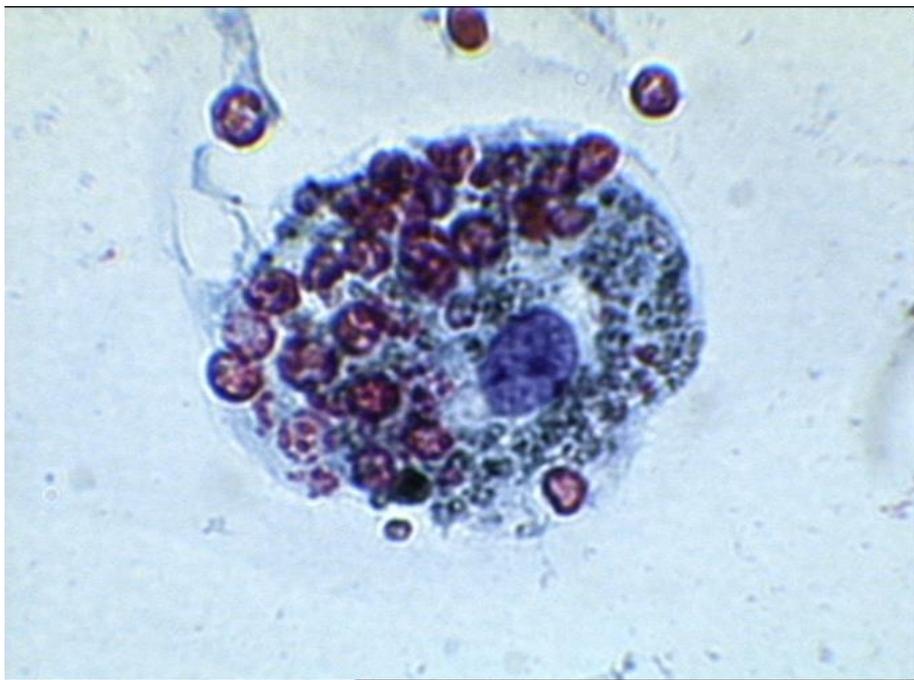
- Cellule di taglia variabile
- Fagocitosi



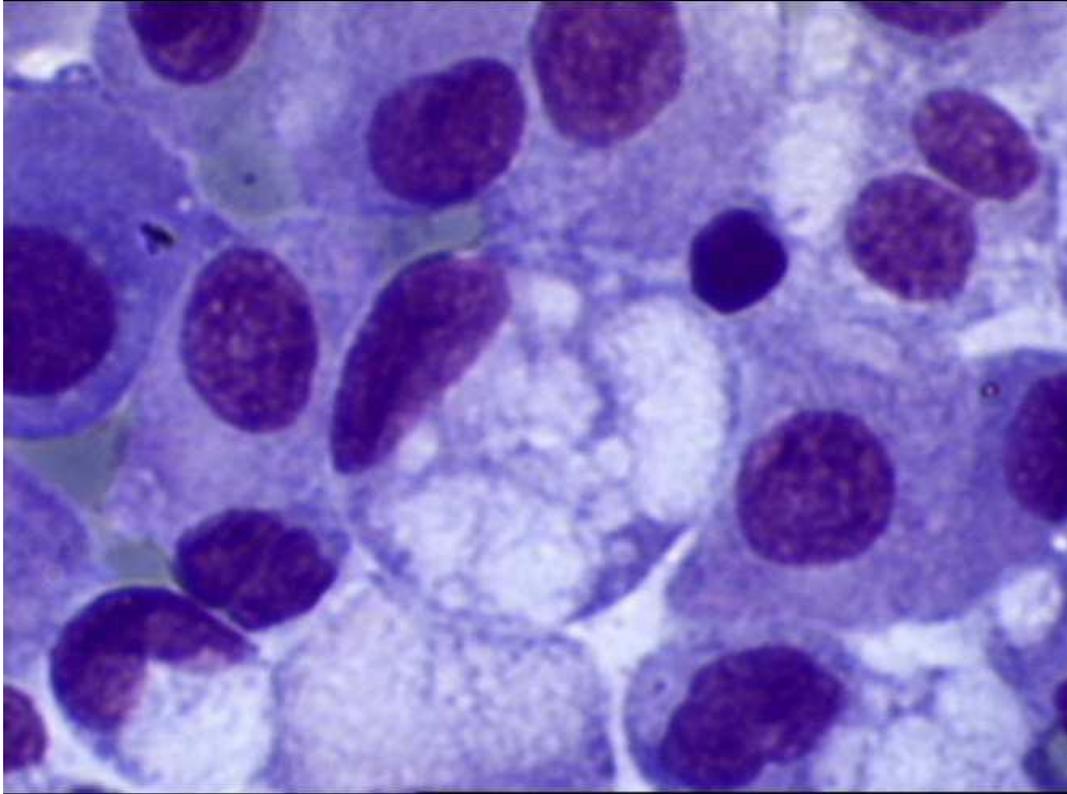
- Citoplasmi mal definiti
- Nuclei eccentrici/ reniformi



Fagocitosi

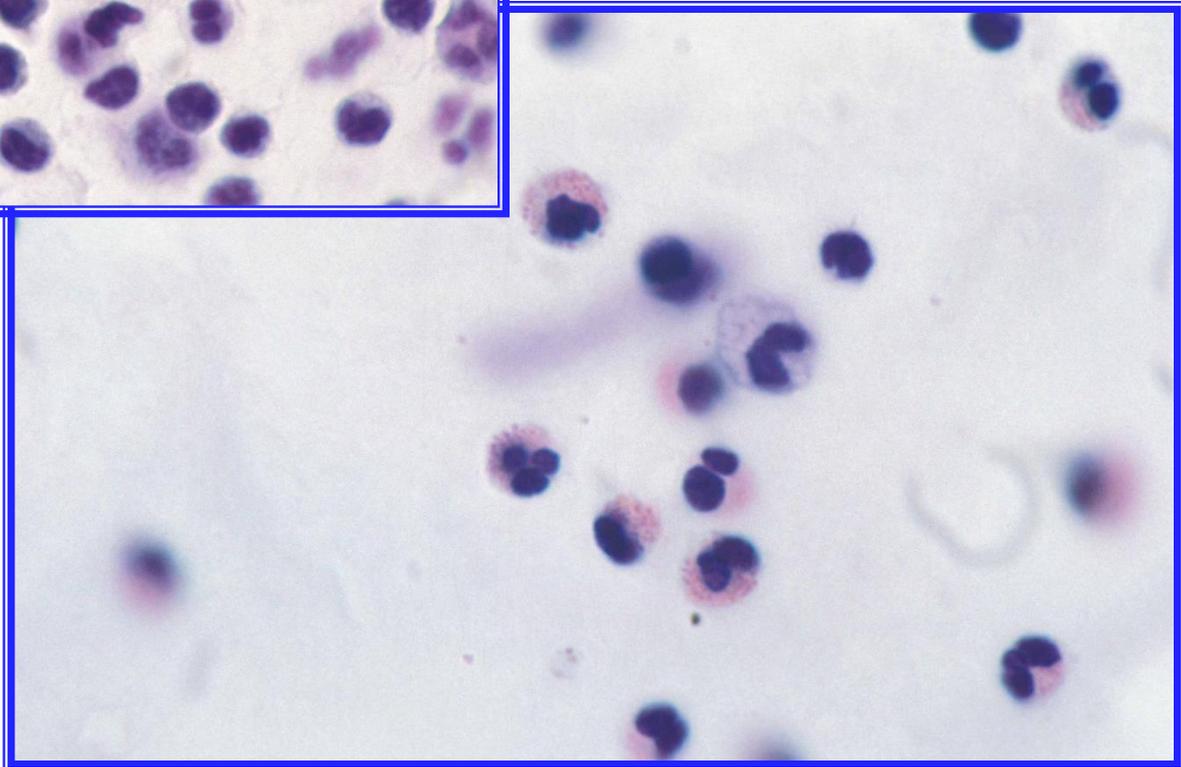
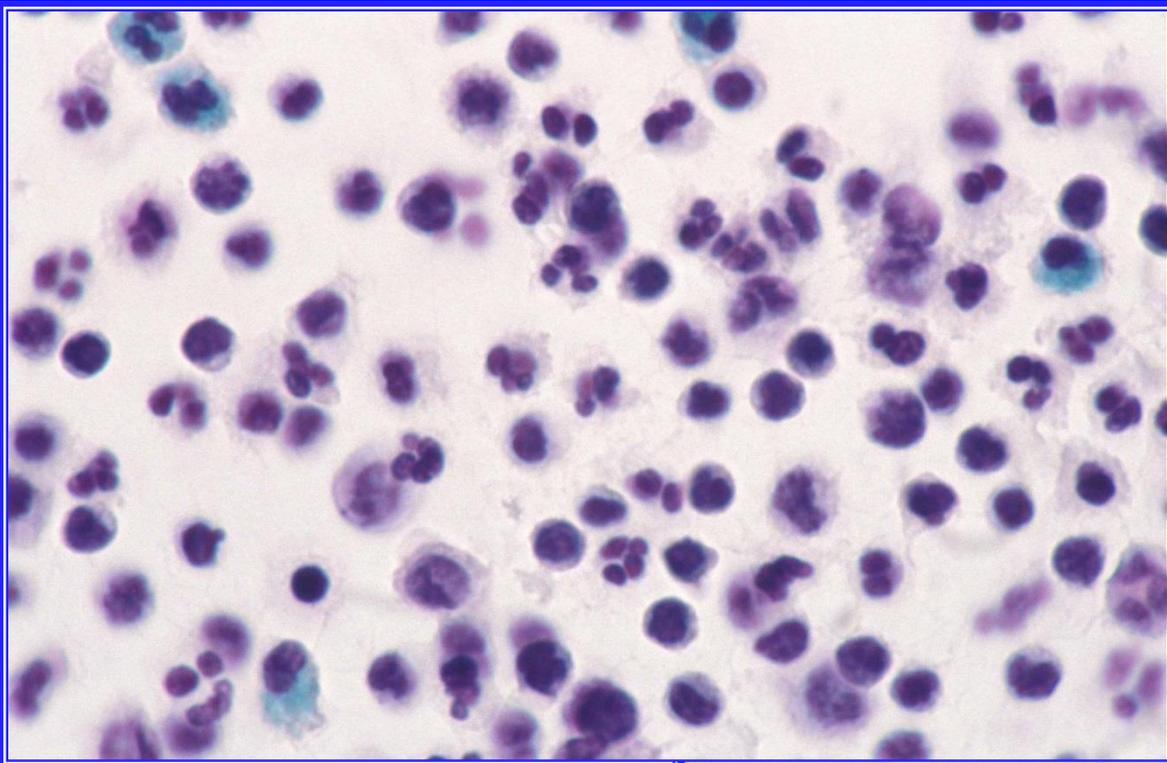


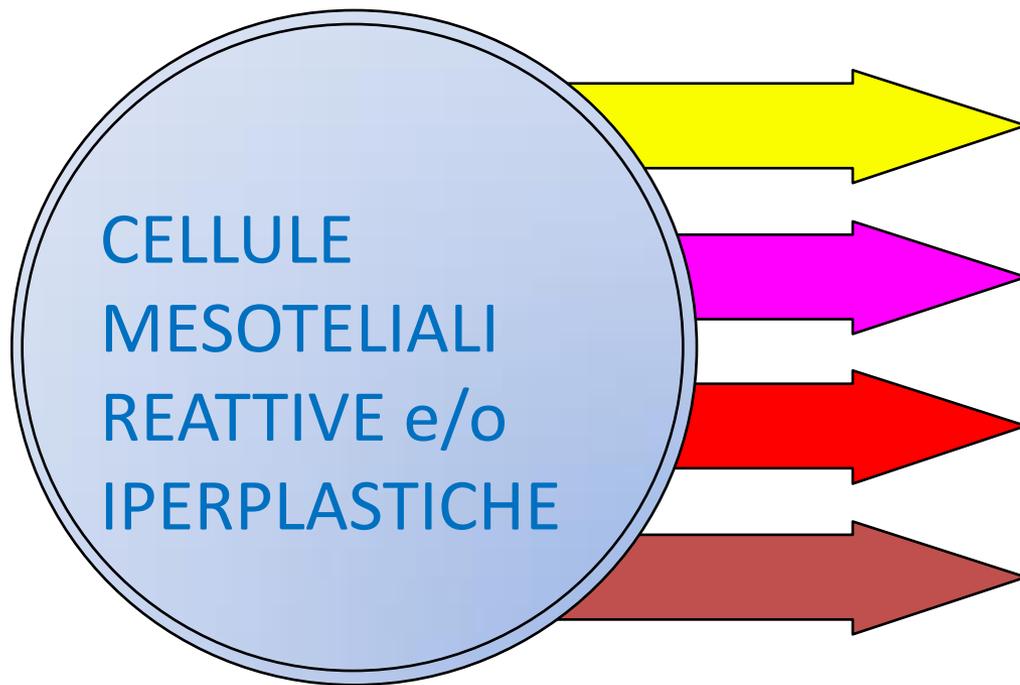
Mesoteliale (macrophage-like) o macrofago (istiociti)?



- La differenza non è evidente
- È clinicamente di scarso significato

Elementi
infiammatori





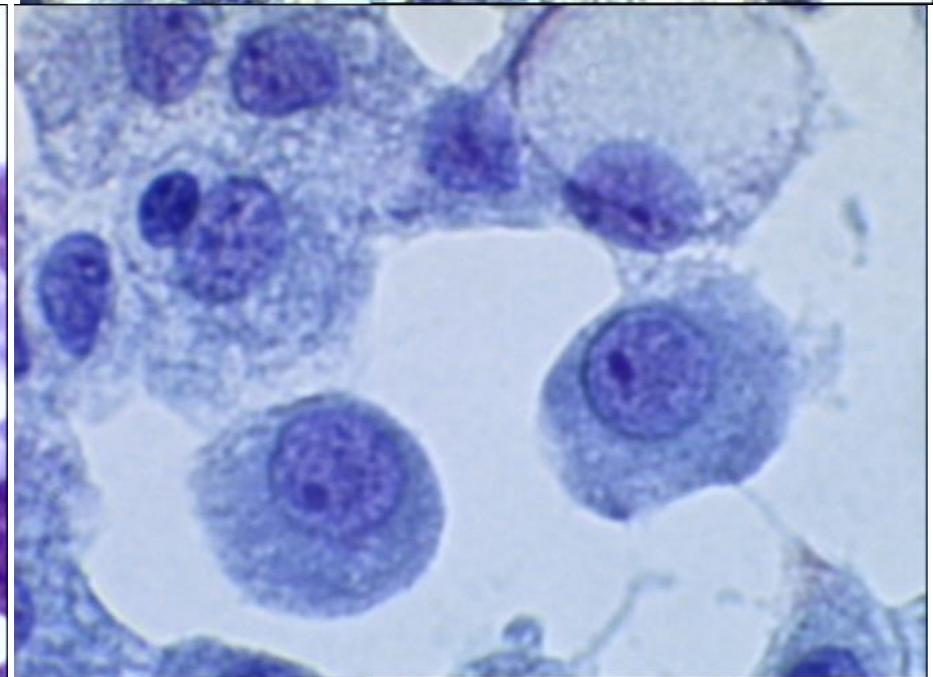
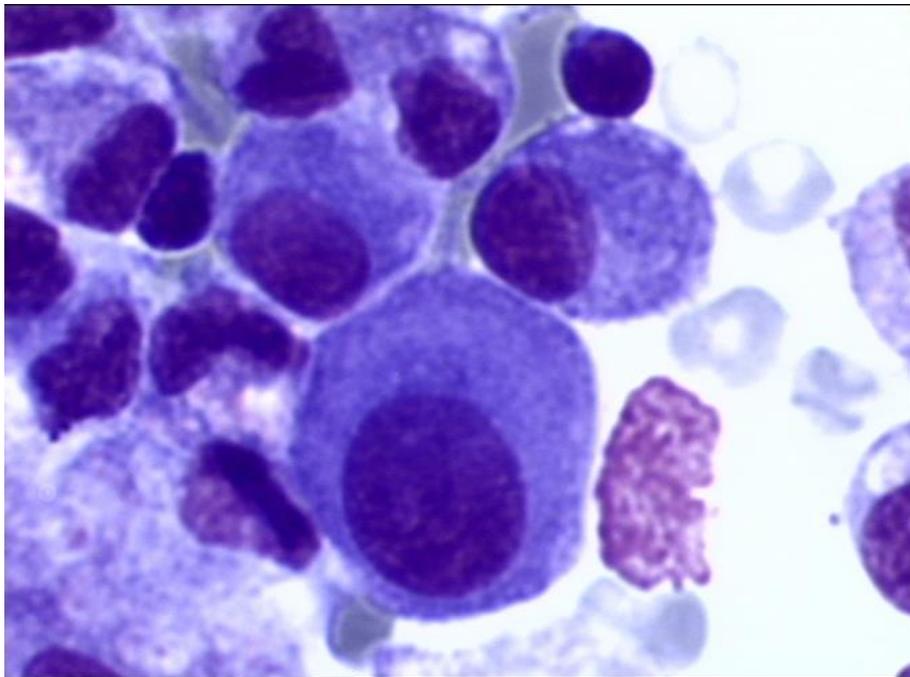
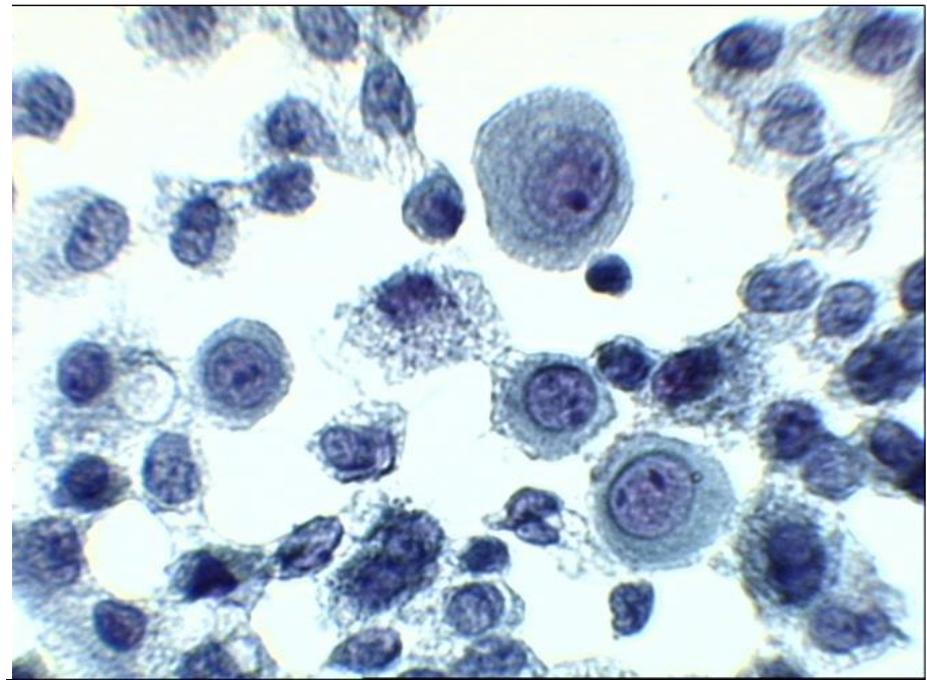
Versamenti di vecchia data o
recidivanti

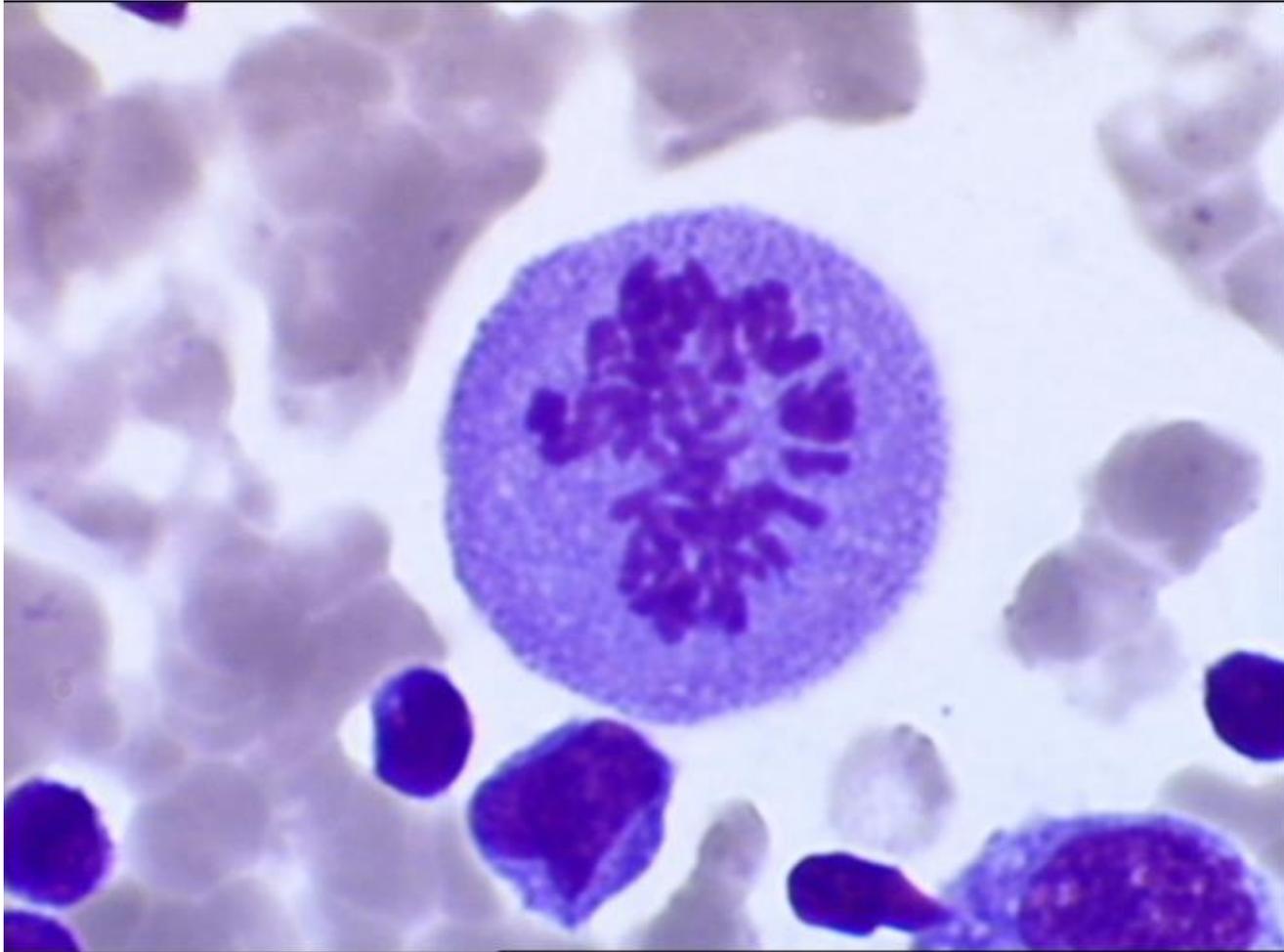
Infiammazioni acute e
croniche

Chemioterapia

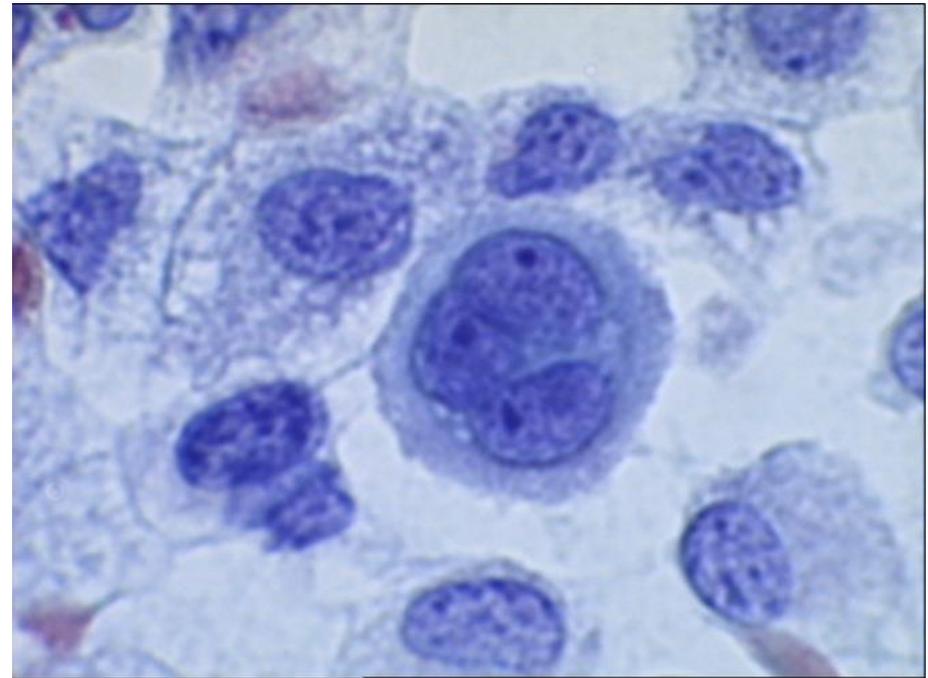
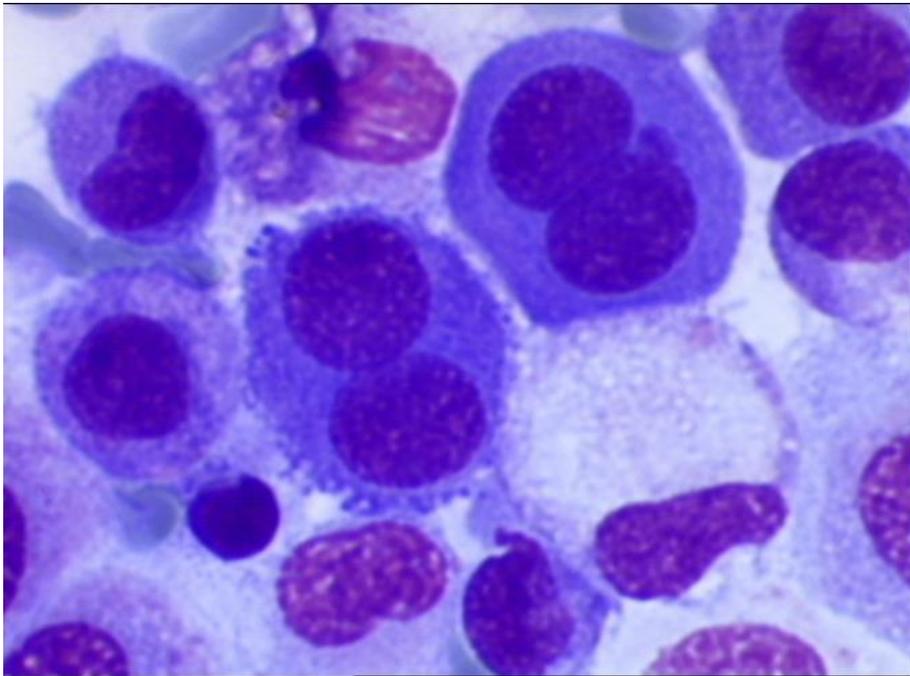
Tumori sottosierosi

Nuclei tondeggianti
Cromatina regolare
Nucleolo singolo o multiplo

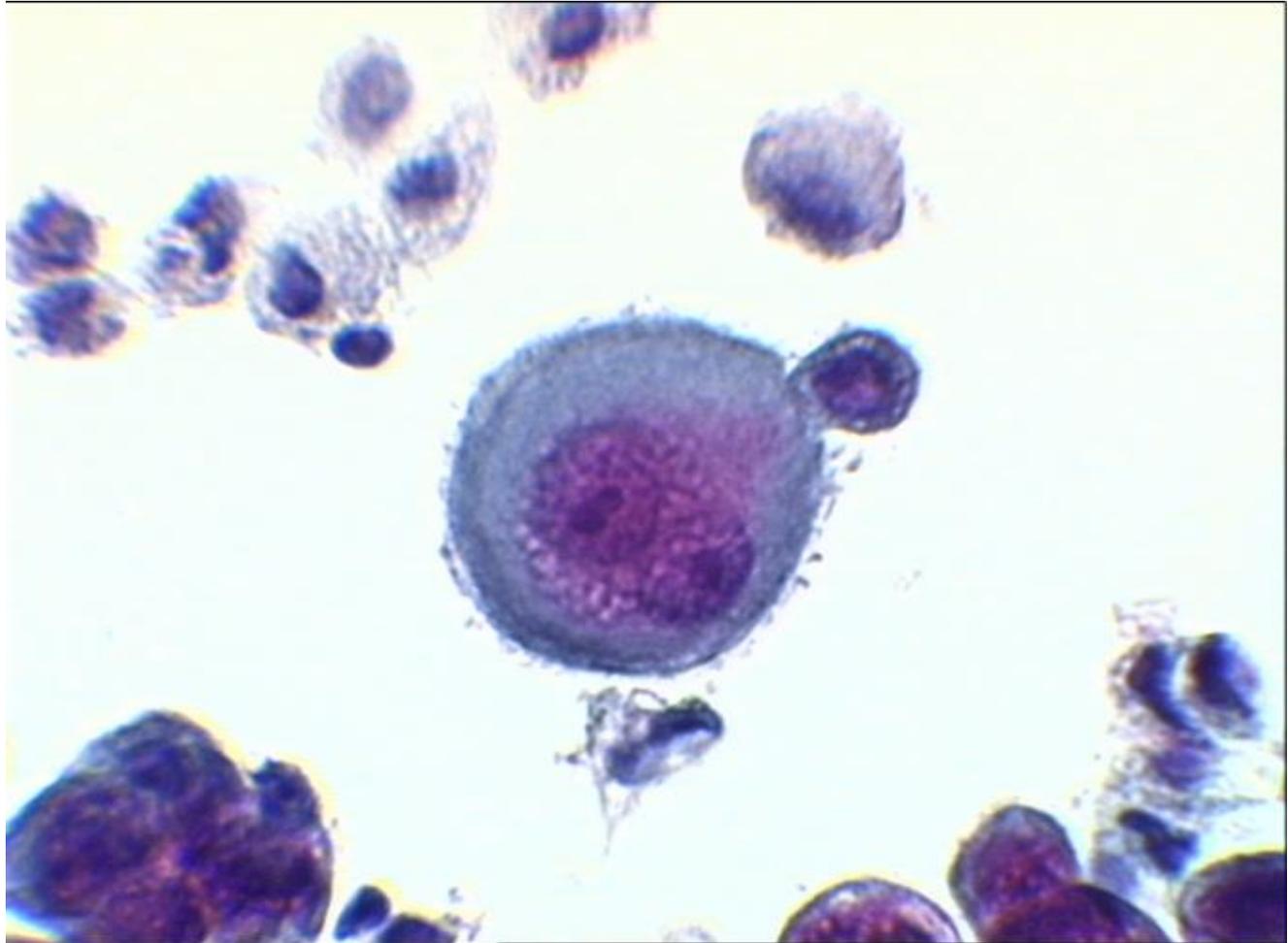




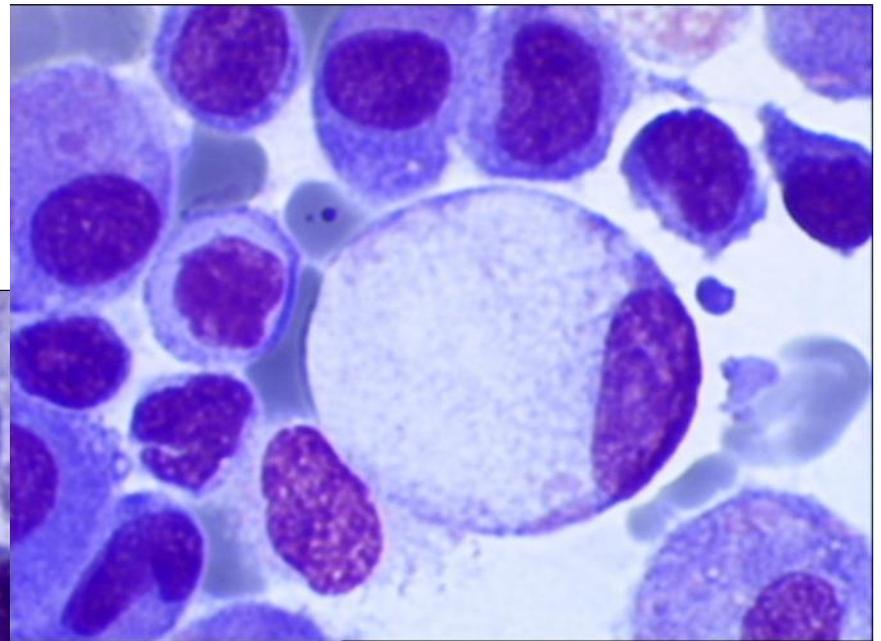
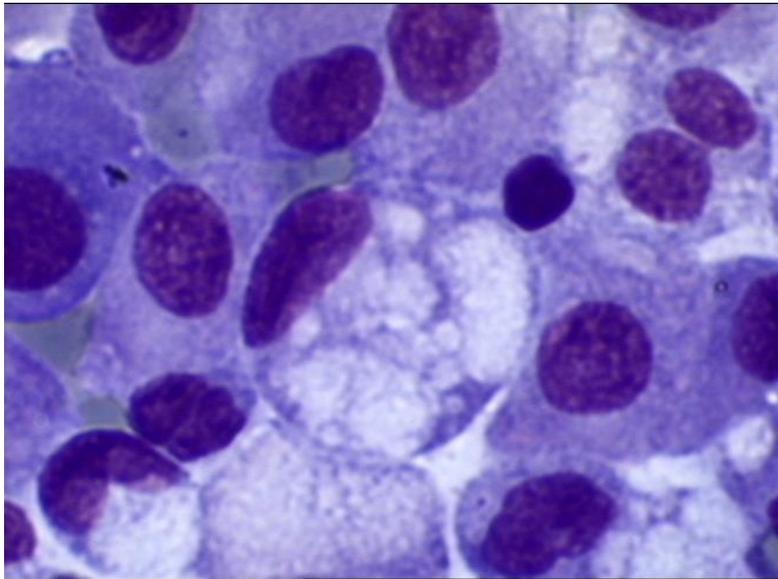
Cellule bi- e plurinucleate



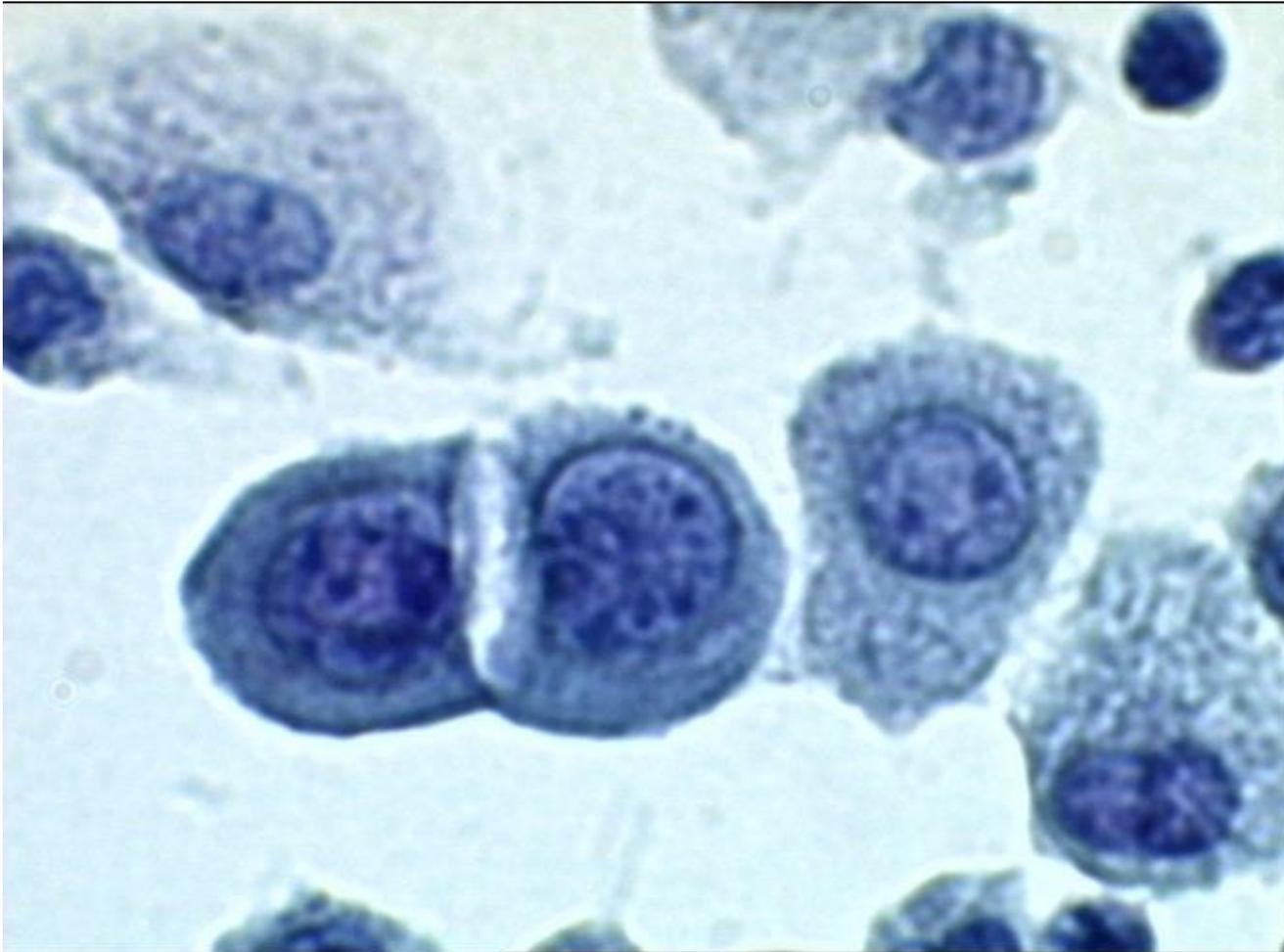
Anfofila del citoplasma



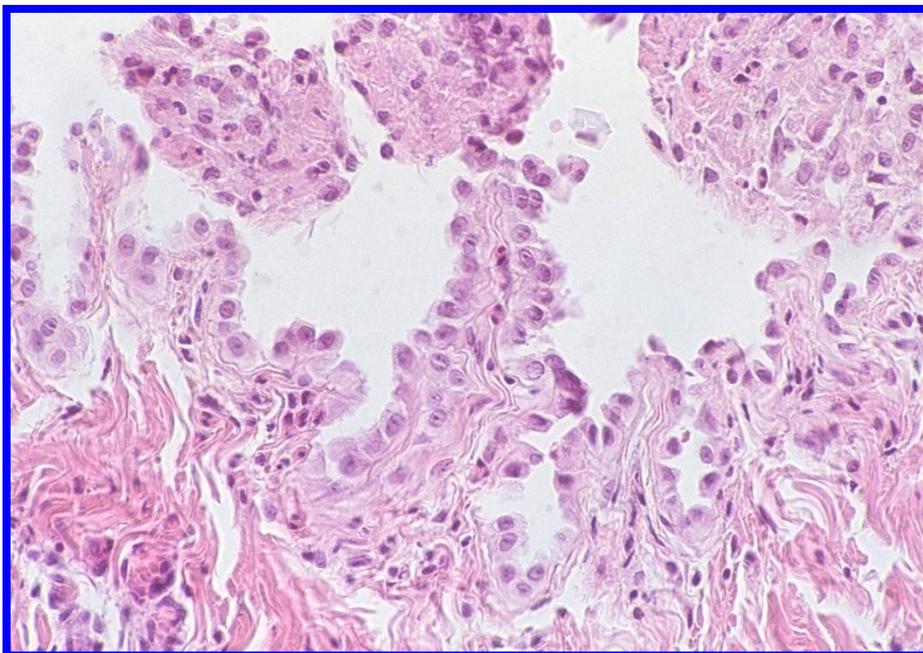
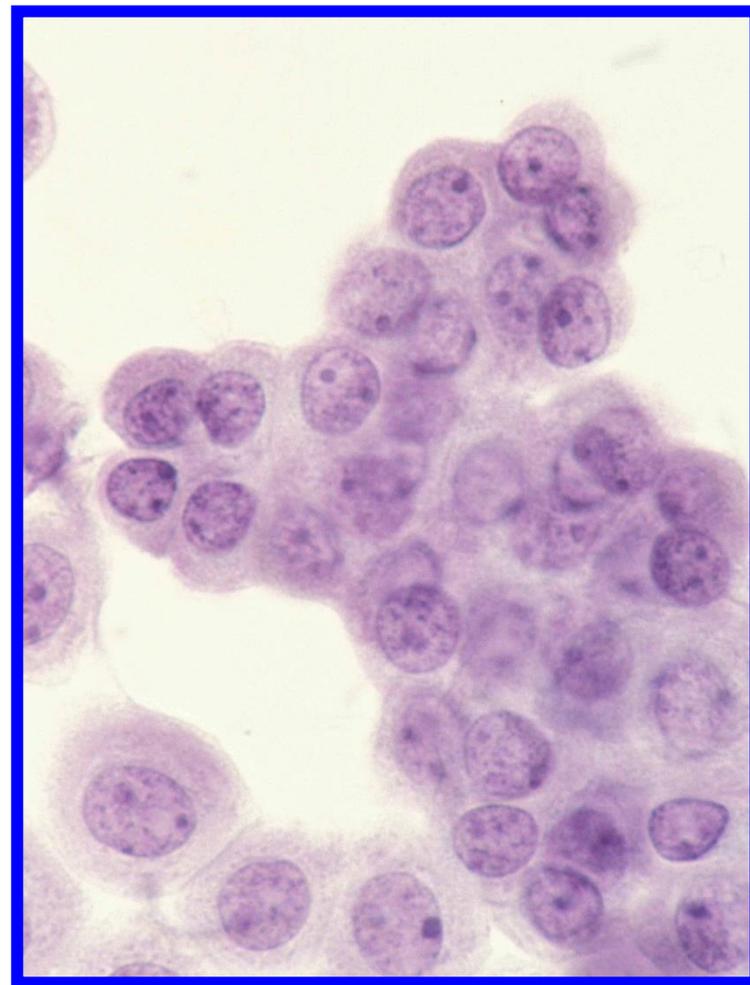
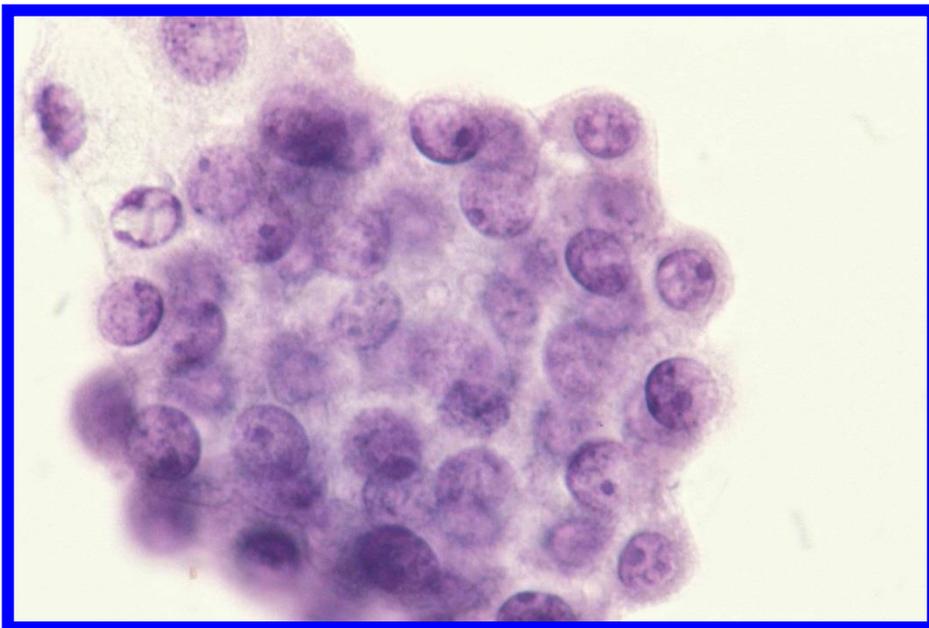
Vacuolizzazioni citoplasmatiche Degenerazione idropica

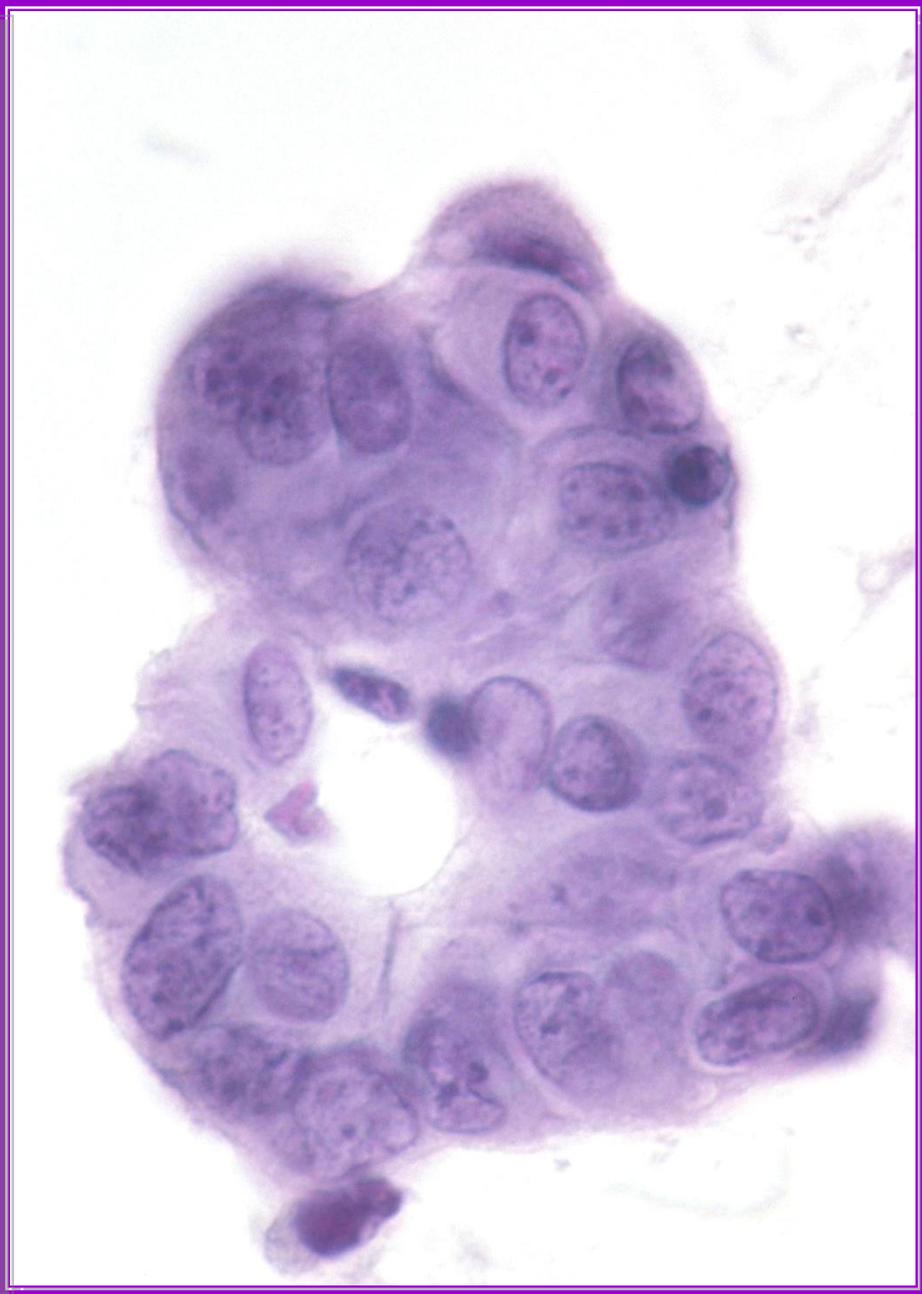
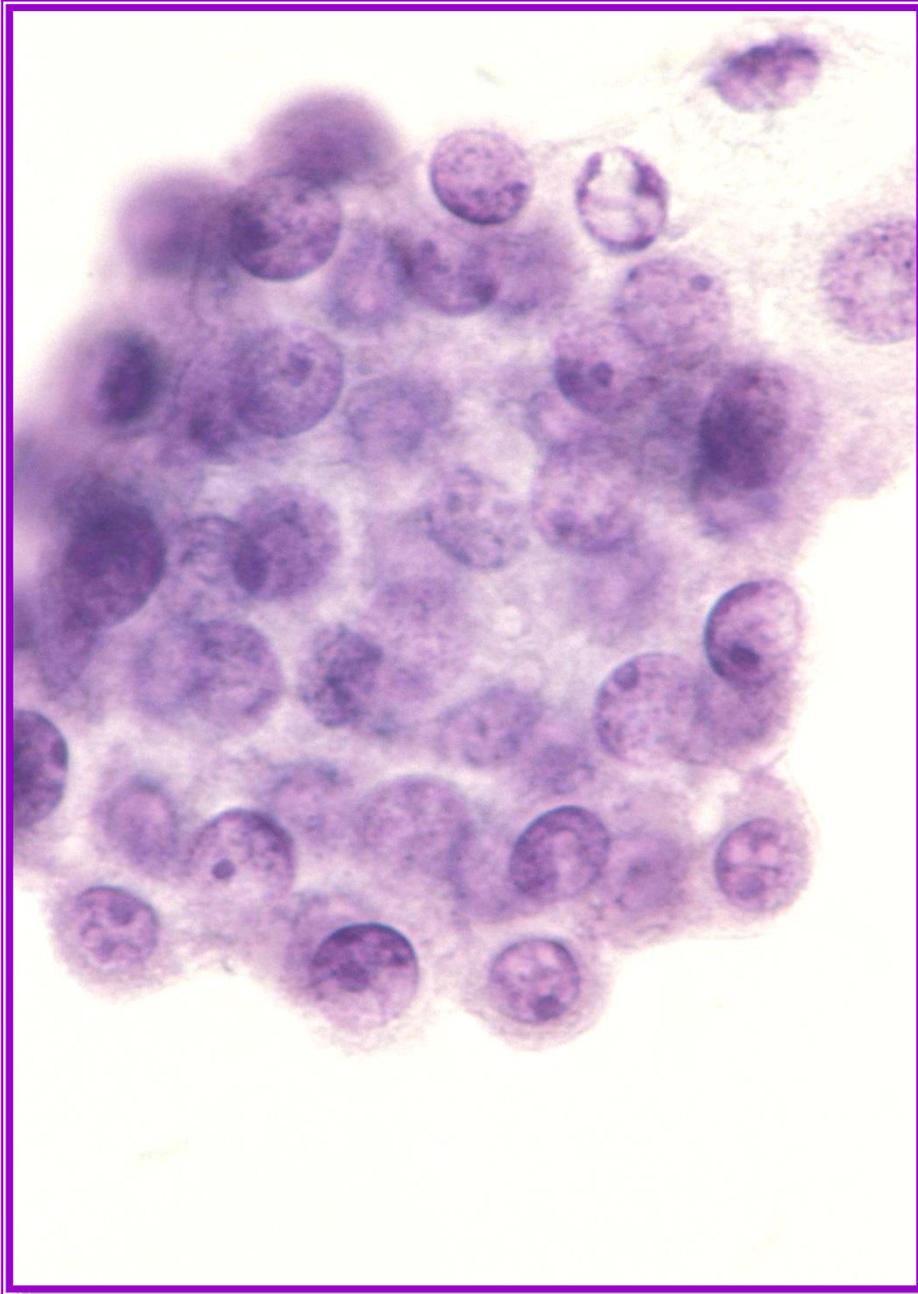


Fenestrature tra i citoplasmi



Iperplasia





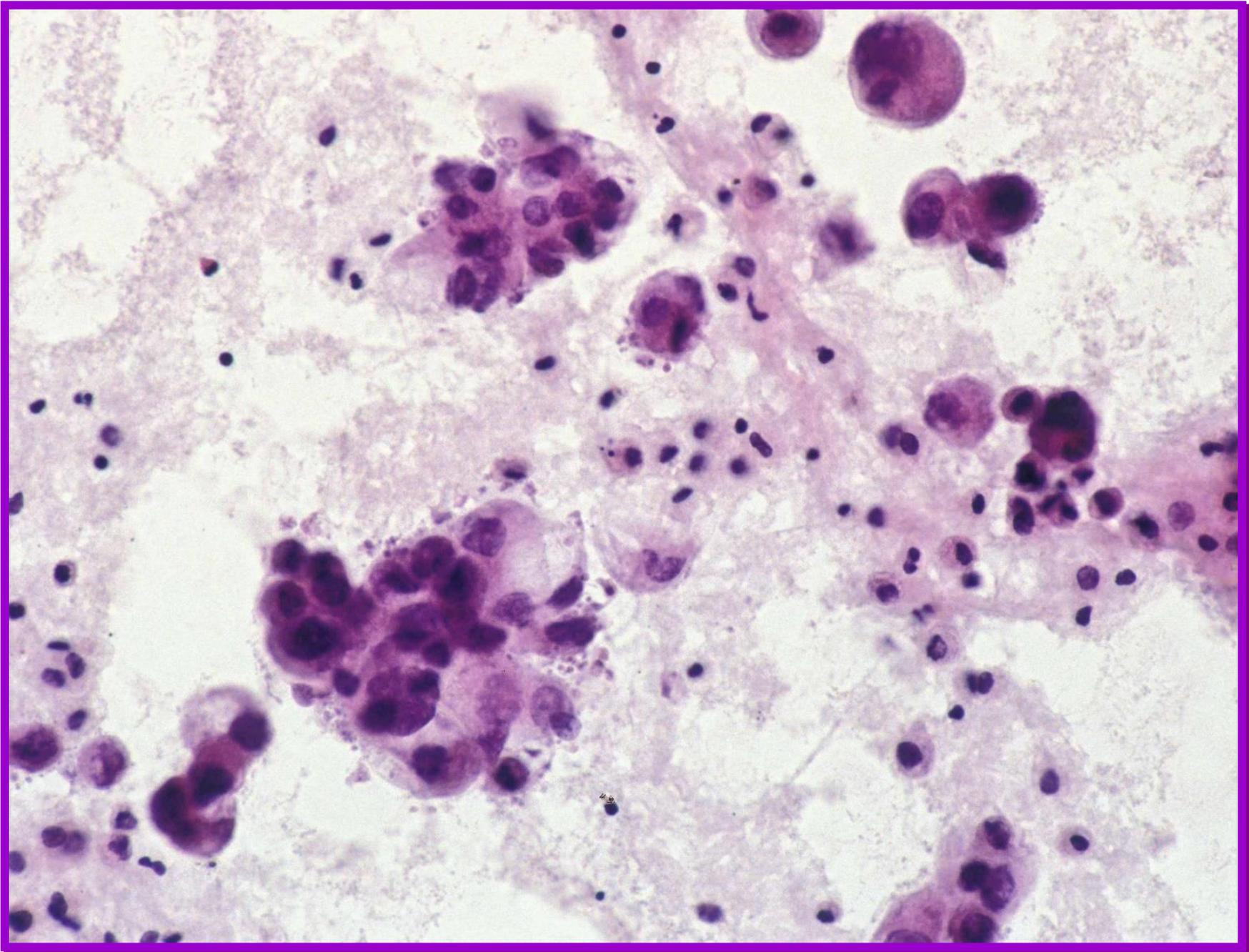
CELLULE MALIGNI NEI VERSAMENTI

➤ Neoplasie metastatiche

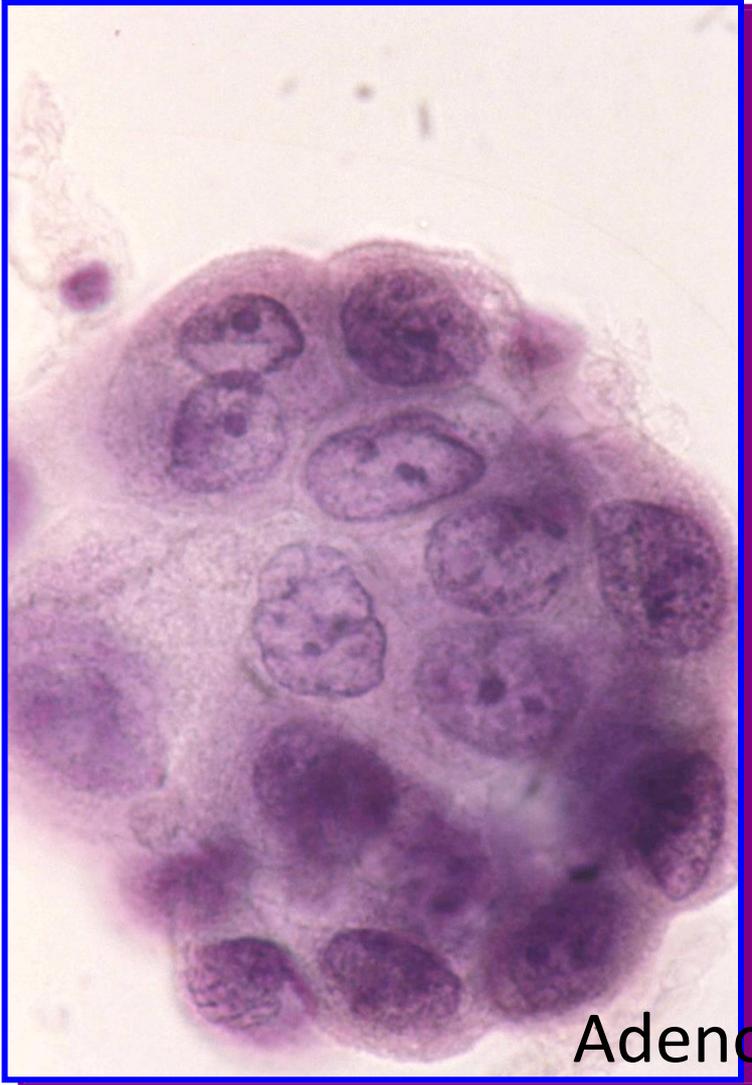
- *Adenocarcinomi*
- *Carcinomi a piccole cellule*
- *Carcinomi squamocellulari*
- *Linfomi*
- *Altre neoplasie non epiteliali*

➤ Neoplasia primitiva

- *Mesotelioma*

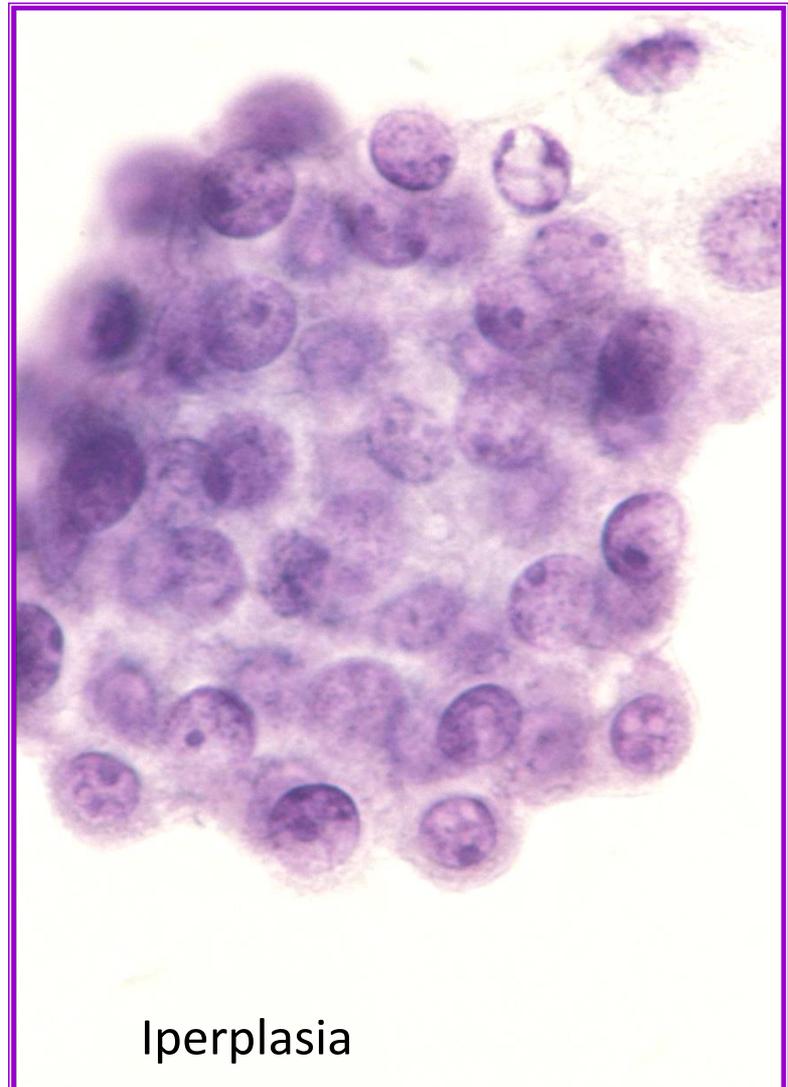


Aggregati di cellule pleomorfe
Caratteri nucleari di malignità



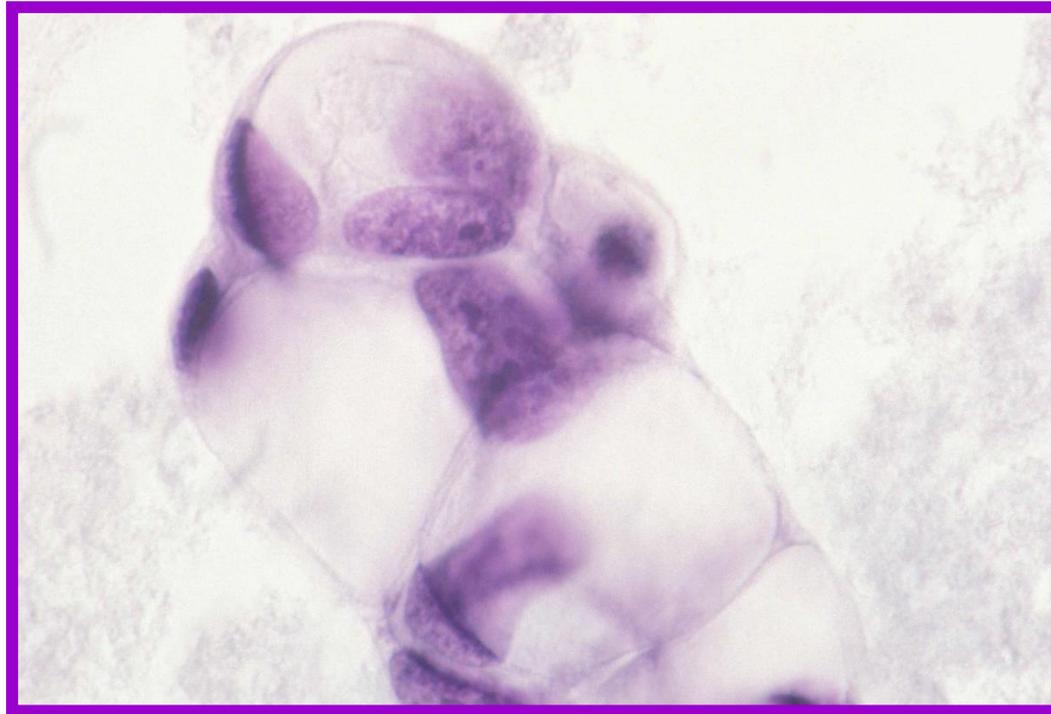
Adenocarcinoma (polmone)

Diagnostica differenziale



Adenocarcinoma

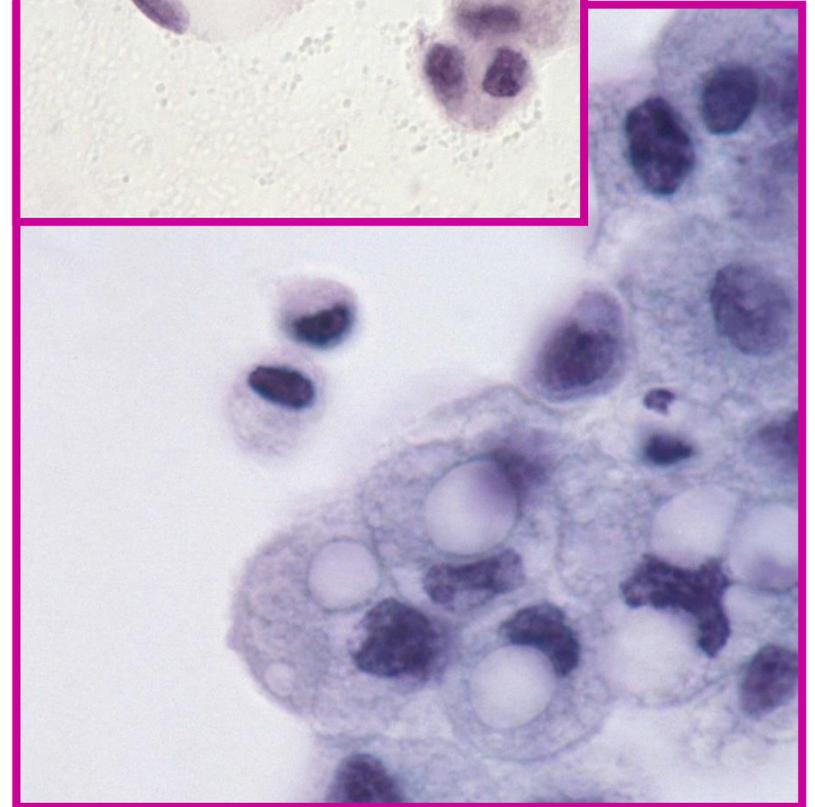
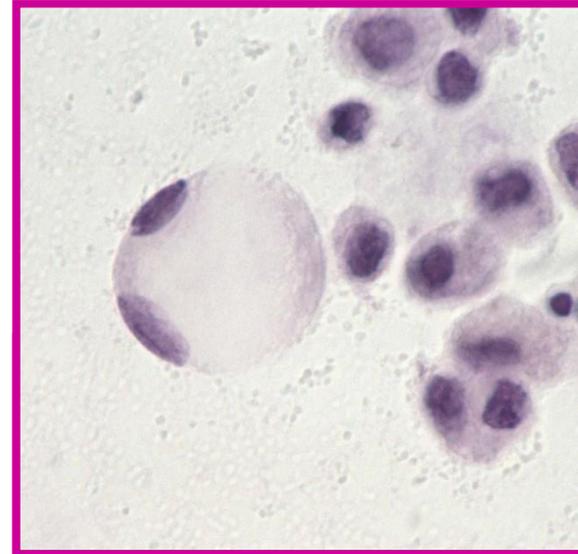
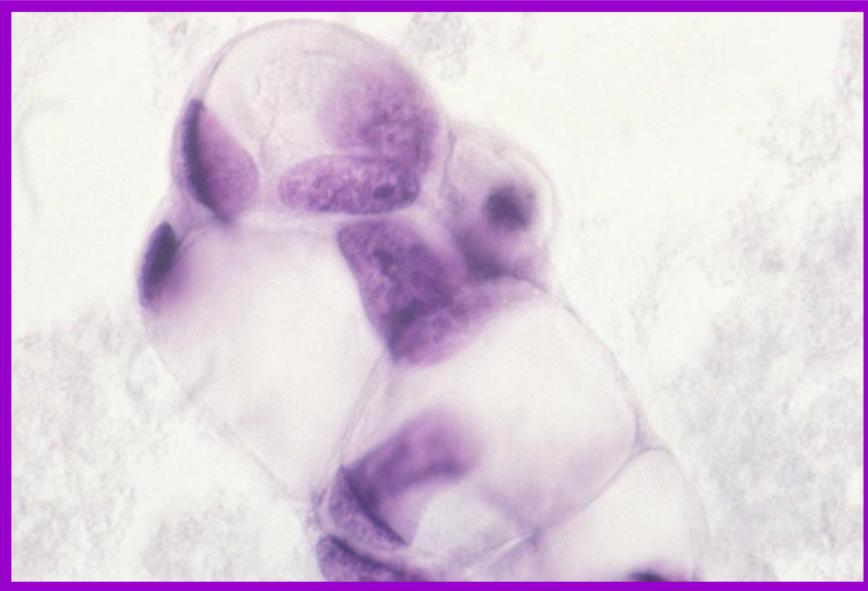
Vacuoli citoplasmatici contenenti muco



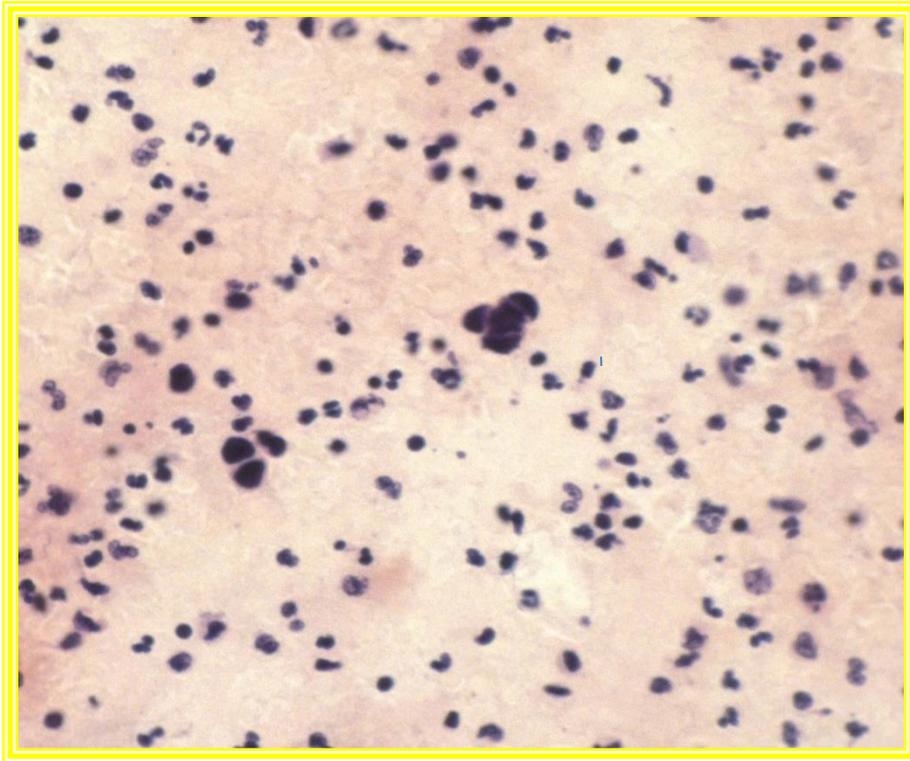
Alterazioni regressive - vacuolizzazioni

Diagnostica differenziale

Adenocarcinoma



Carcinoma indifferenziato a piccole cellule

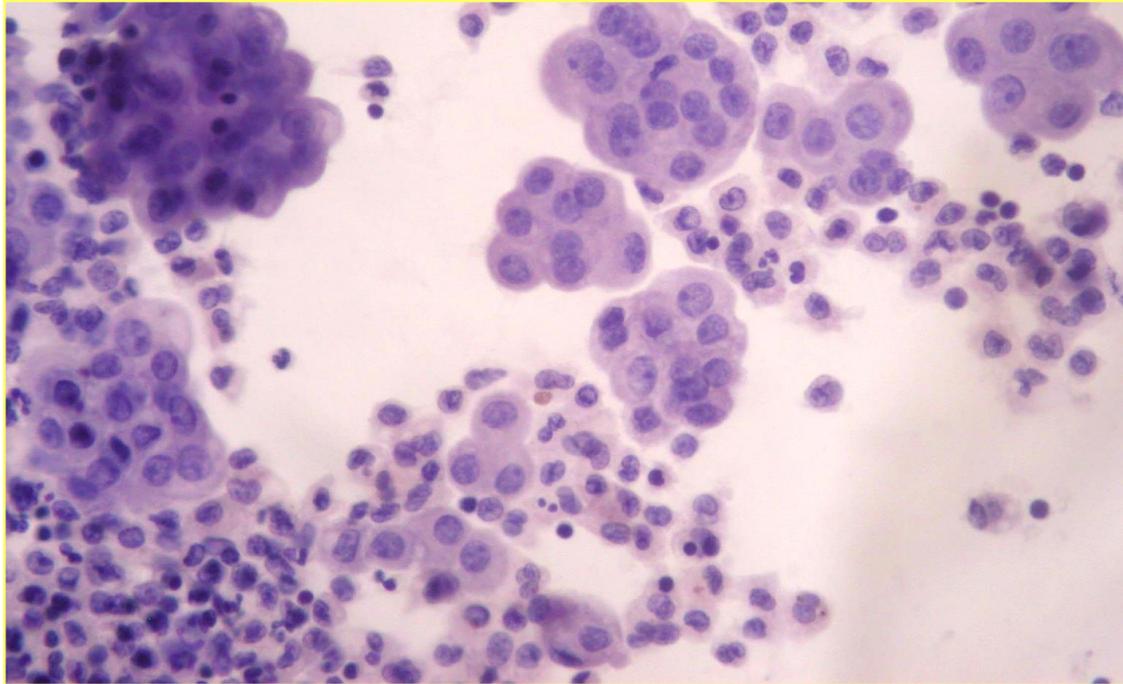


ESSUDATI DA NEOPLASIE METASTATICHE

REGOLE GENERALI

- L'infiltrazione di una sierosa da parte di cellule maligne causa differenti reazioni: si osservano, più frequentemente, **versamenti emorragici**, seguiti da **versamenti infiammatori non purulenti** o a prevalenza linfocitaria o eosinofili (rari).
- Deve essere presente una **popolazione cellulare chiaramente estranea alle sierose**, che mostra caratteristiche di malignità.

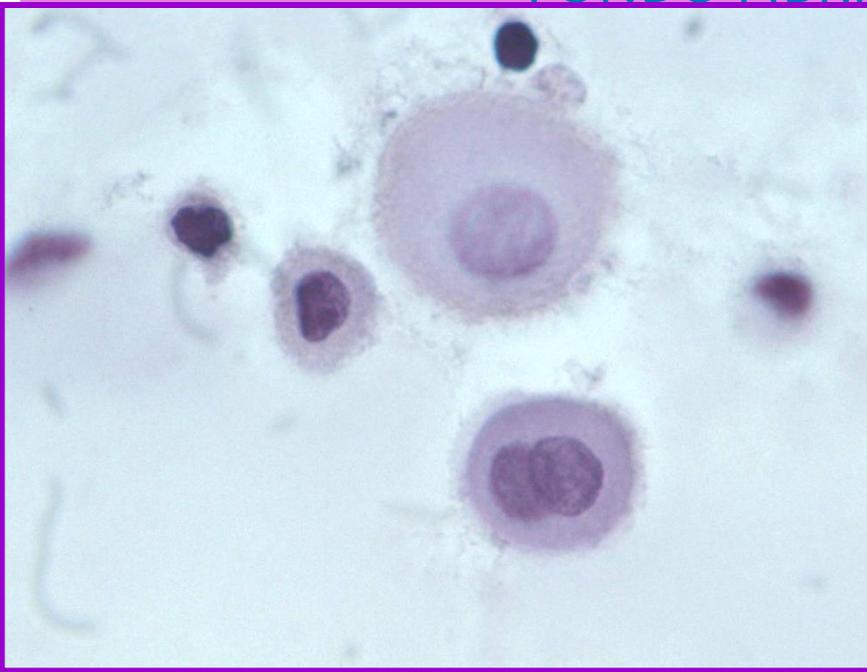
MESOTELIOMA



- Presenza di un'unica popolazione cellulare
- Numero elevato di cellule con atipie nucleari
- Numerosi e voluminosi aggregati costituiti da un numero elevato di cellule
- Fondo fibrino-emorragico
- **Notizie cliniche compatibili**



FONDO FIBRINO-EMORRAGICO



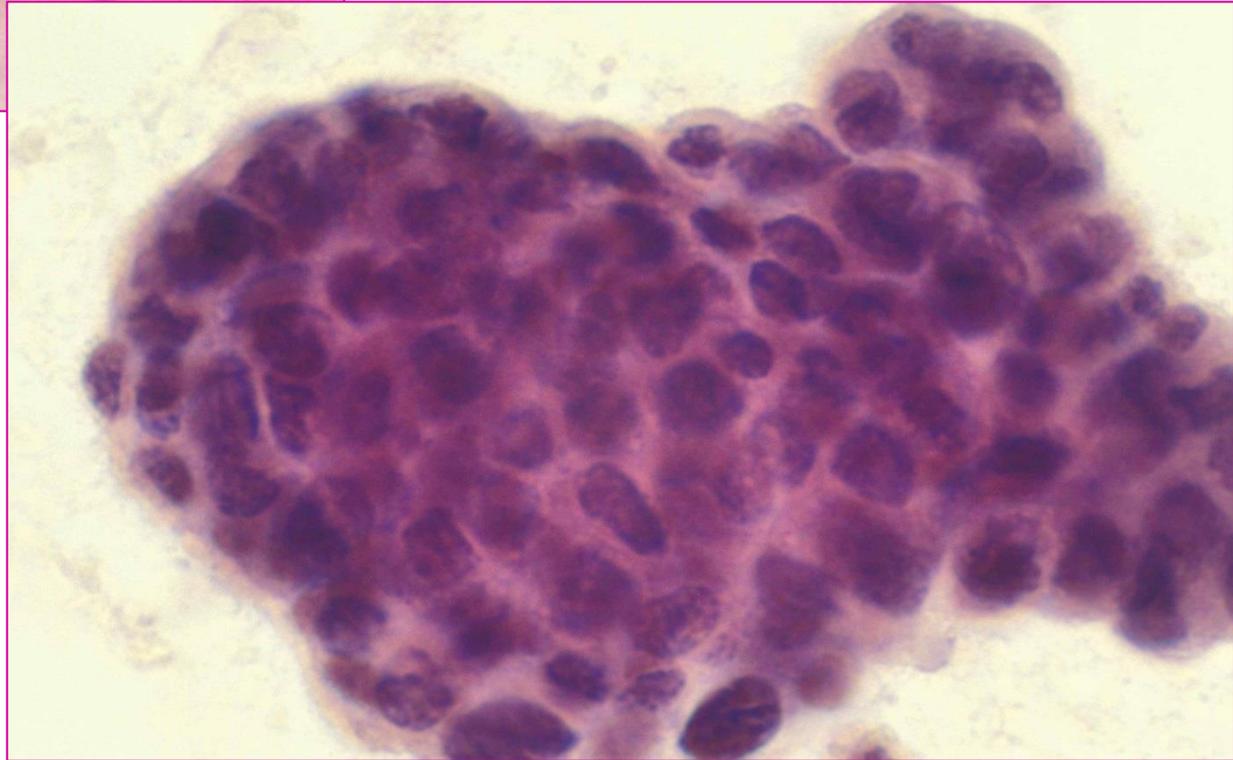


- Voluminosi aggregati tridimensionali di cellule mesoteliali



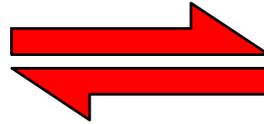
Aggregati papillari

Presenza di un'unica
popolazione cellulare

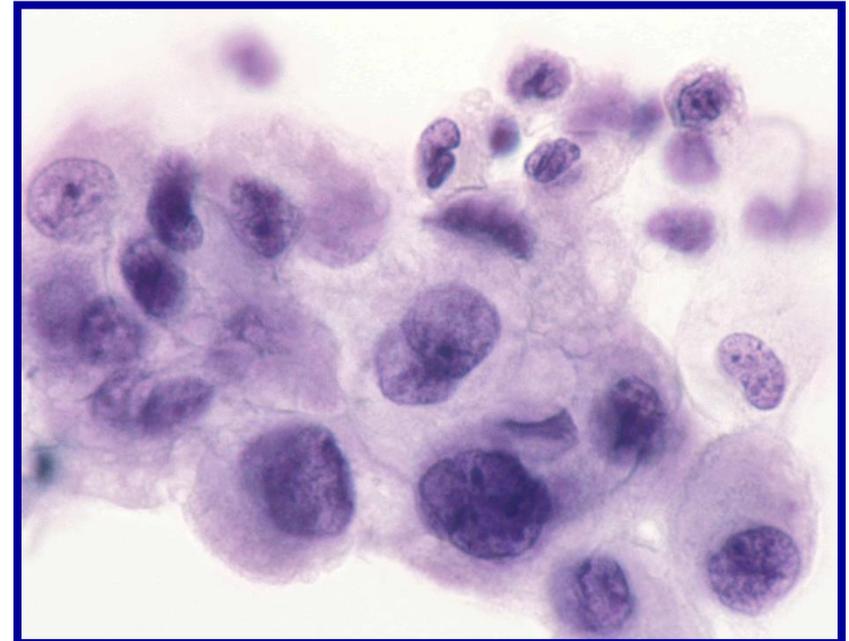
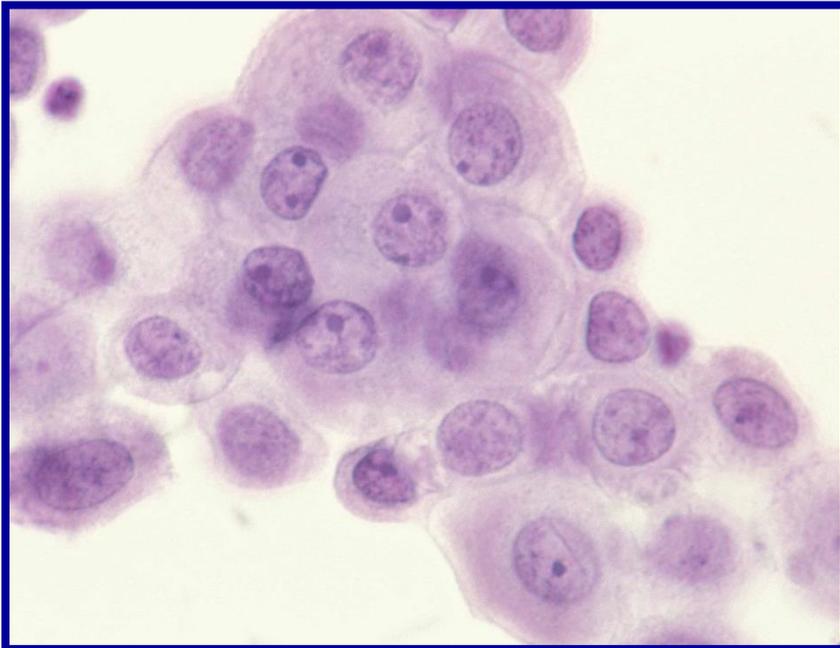


DIAGNOSTICA DIFFERENZIALE

Iperplasia del
mesotelio

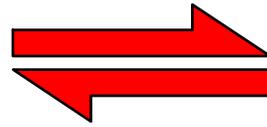


Mesotelioma
epiteliale

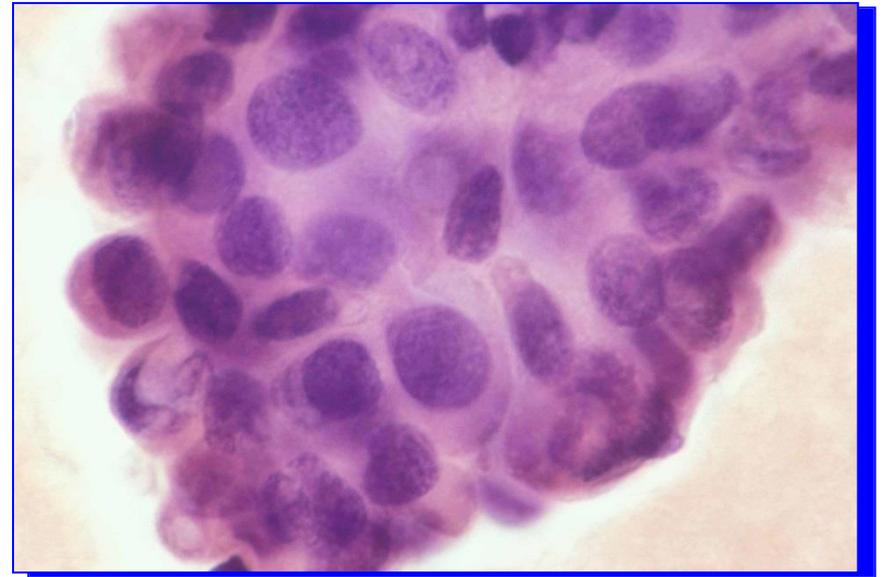
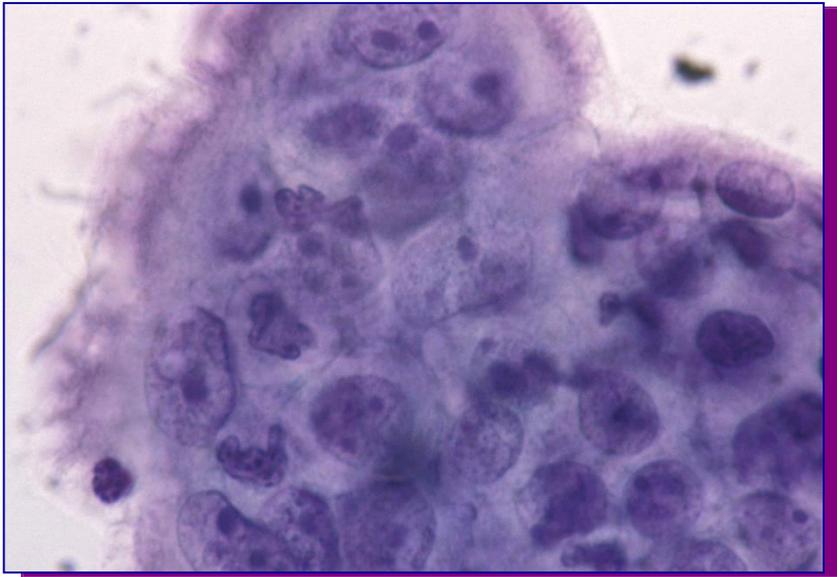


DIAGNOSTICA DIFFERENZIALE

Mesotelioma



Adenocarcinoma

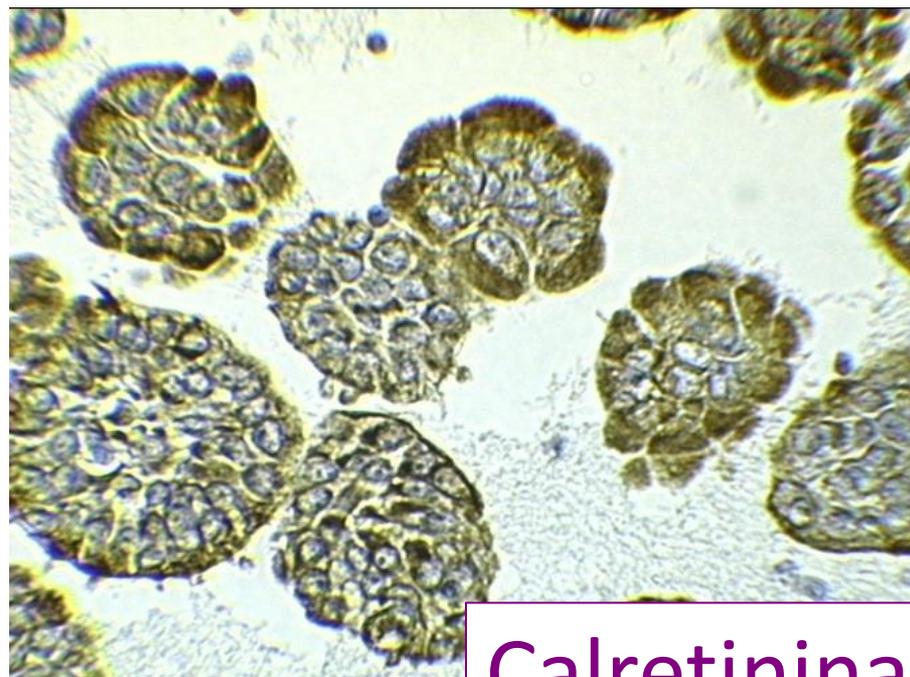


IMMUNOCITOCHIMICA

- Presenza di un'unica popolazione cellulare



CEA mono



Calretinina

DISPOSIZIONE CELLULARE

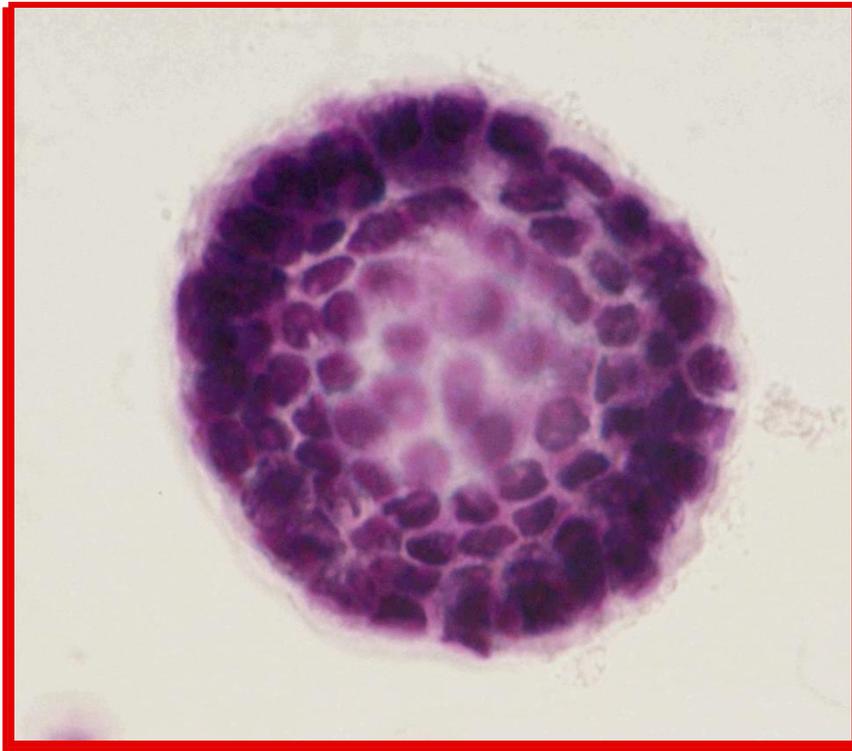
- STRUTTURE

SFERICHE
PAPILLARI

- IN FILIERE

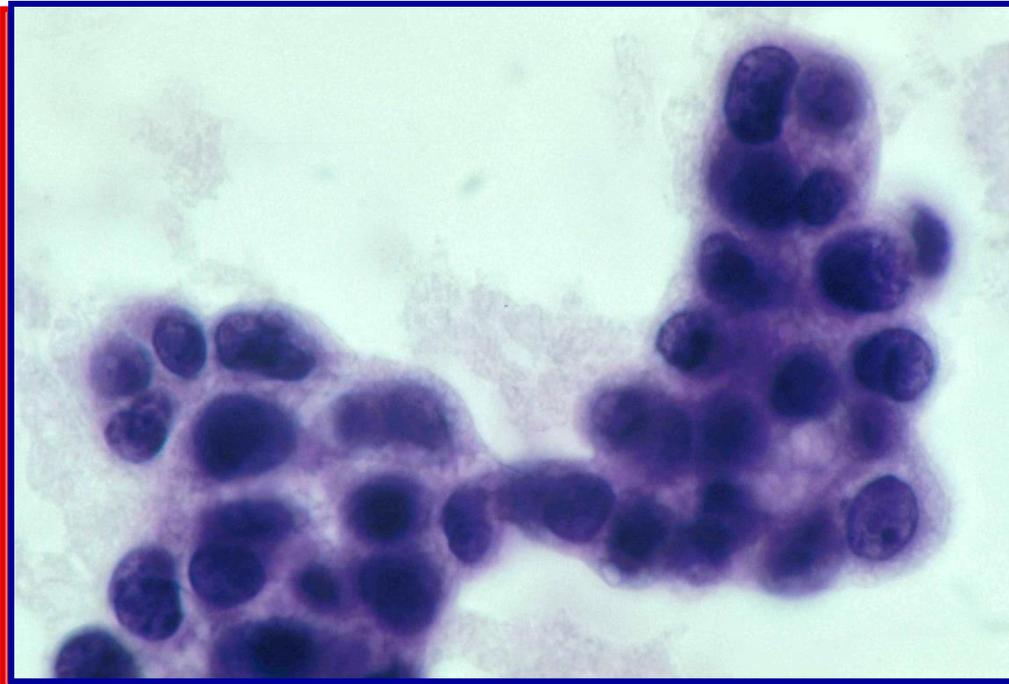
- CELLULE ISOLATE

GRANDI CELLULE
PICCOLE CELLULE



STRUTTURE SFERICHE

- MESOTELIOMA
- CARCINOMA DELLA MAMMELLA
- CARCINOMA DELL' OVAIO



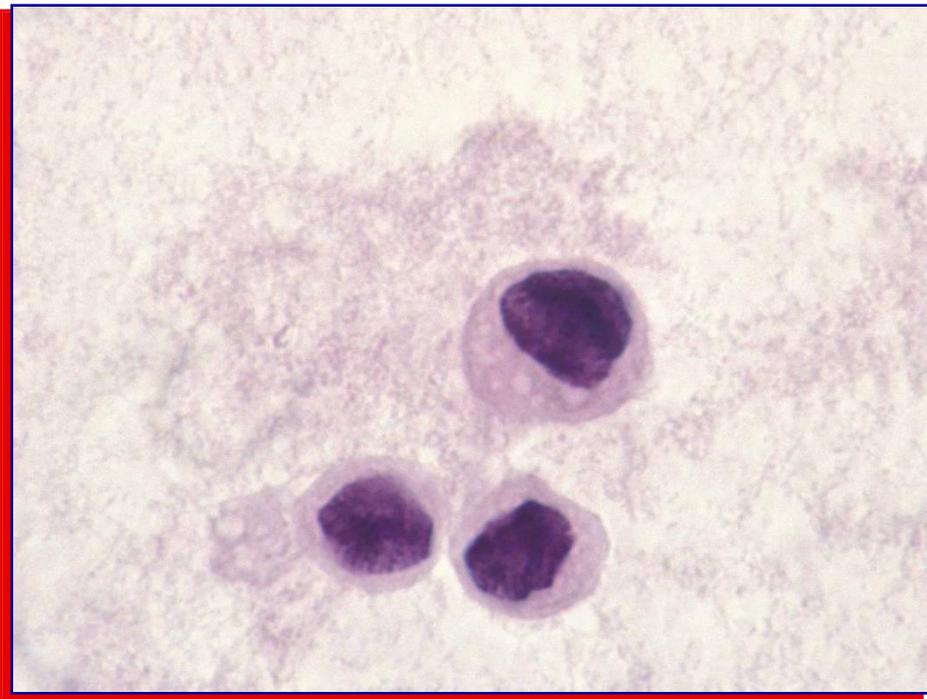
STRUTTURE PAPILLARI

- MESOTELIOMA
- CARCINOMA PAPILLARE (ovaio, polmone, stomaco, intestino, tiroide)
- CARCINOMA TRANSIZIONALE DELLA VESCICA



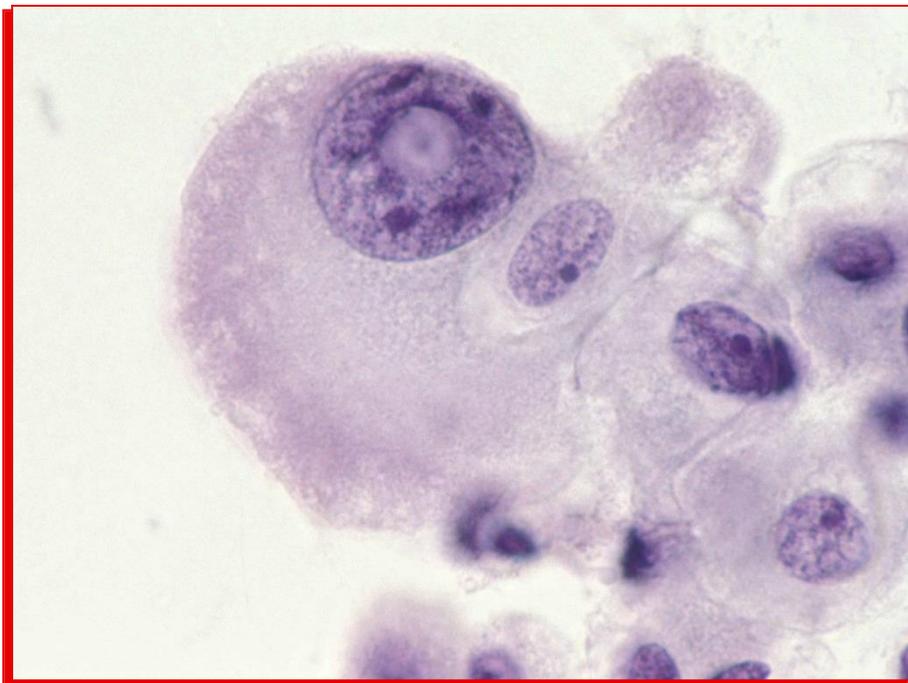
DISPOSIZIONE IN FILIERE

- CARCINOMA DELLA MAMMELLA (lobulare)
- CARCINOMA DEL POLMONE (indifferenziato a piccole cellule)
- CARCINOMA DEL PANCREAS (duttale)



CELLULE ISOLATE DI PICCOLA TAGLIA

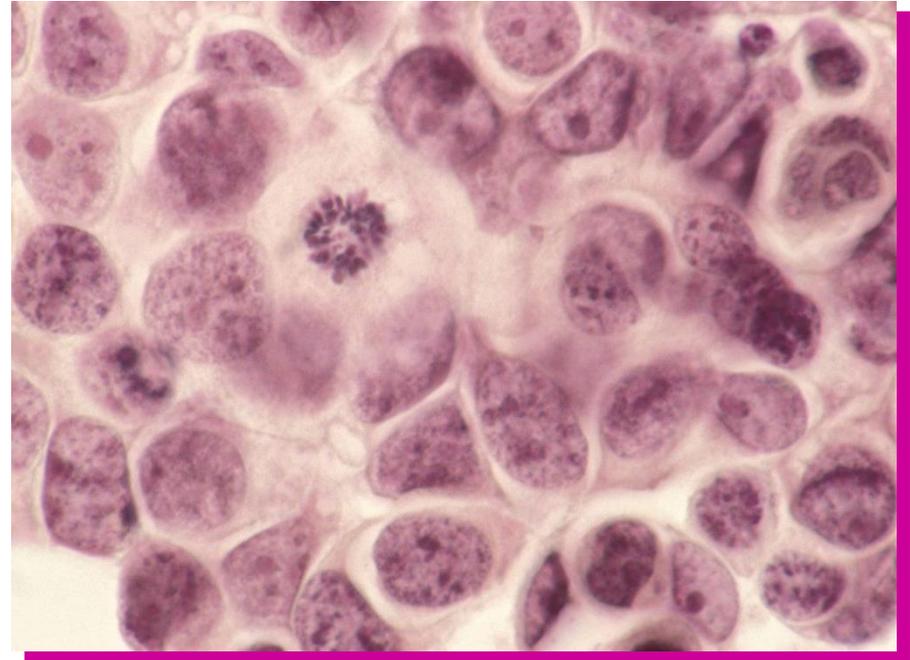
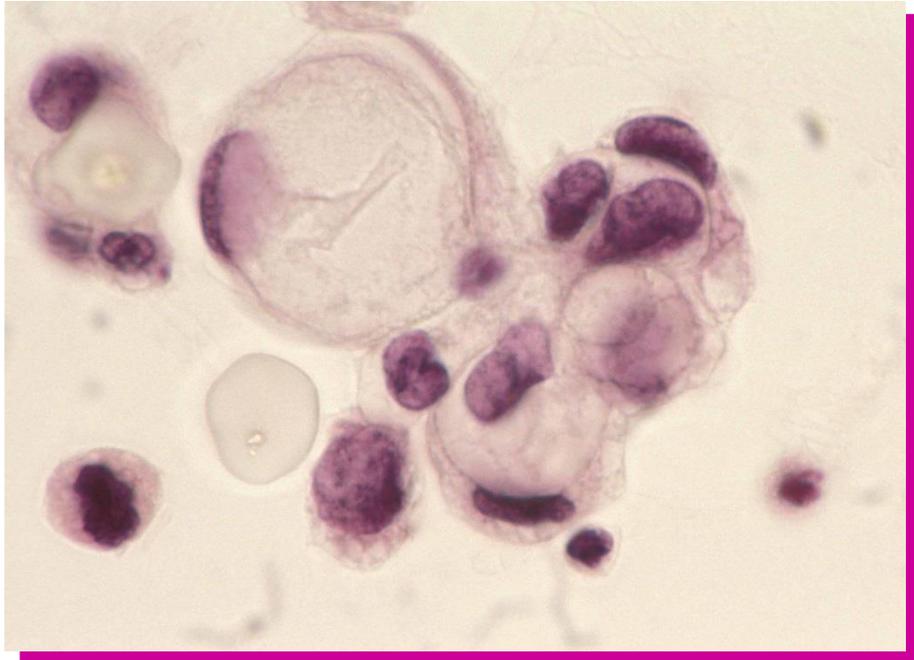
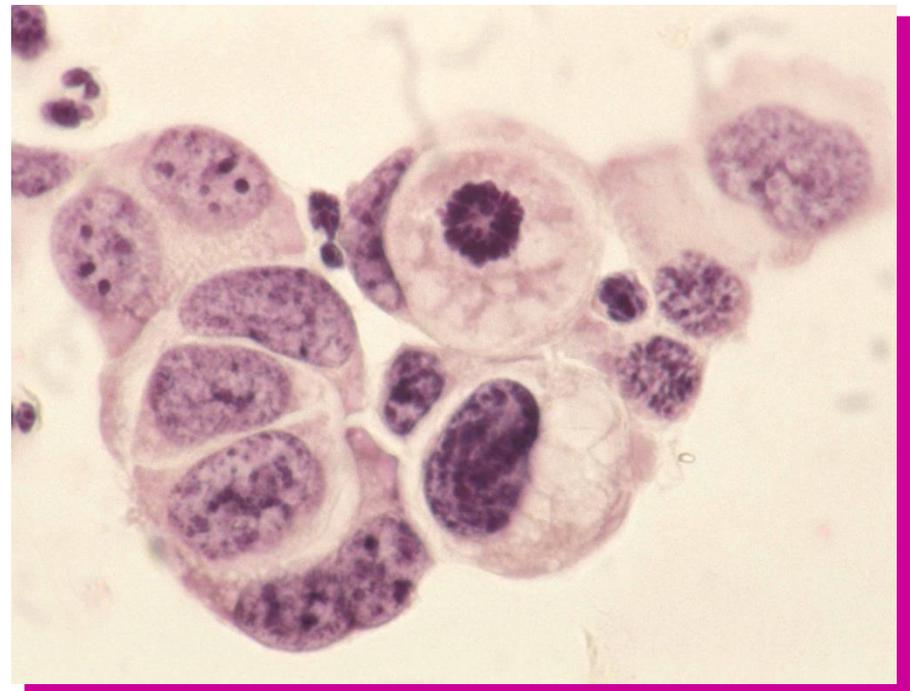
- CARCINOMA DEL POLMONE (indifferenziato a piccole cellule)
- CARCINOMA DELLA MAMMELLA (lobulare)
- LINFOMA
- SARCOMA A PICCOLE CELLULE



CELLULE ISOLATE DI GROSSA TAGLIA

- MESOTELIOMA
- CARCINOMA DEL POLMONE (indifferenziato a grandi cellule)
- MELANOMA
- LINFOMA A GRANDI CELLULE

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La diagnosi di malignità deve essere posta con prudenza in questi casi:

- Versamenti molto proteici
- Strisci inadeguati (spessi e /o emorragici)
- Fondo infiammatorio
- Cellule monomorfe
- Assenza di due distinte popolazioni cellulari
- **Assenza di informazioni cliniche**

Effetti della radioterapia

