

Seminario regionale SCIVAC – Moncalieri 16 giugno 2019

La citologia delle cose più comuni e facili



Mario Caniatti DVM, Dipl ECVP - Dipartimento di Medicina Veterinaria (DiMeVet)

Schema generale

1- Lesioni infiammatorie

2-Lesioni non infiammatorie

a) non neoplastiche

b) neoplastiche

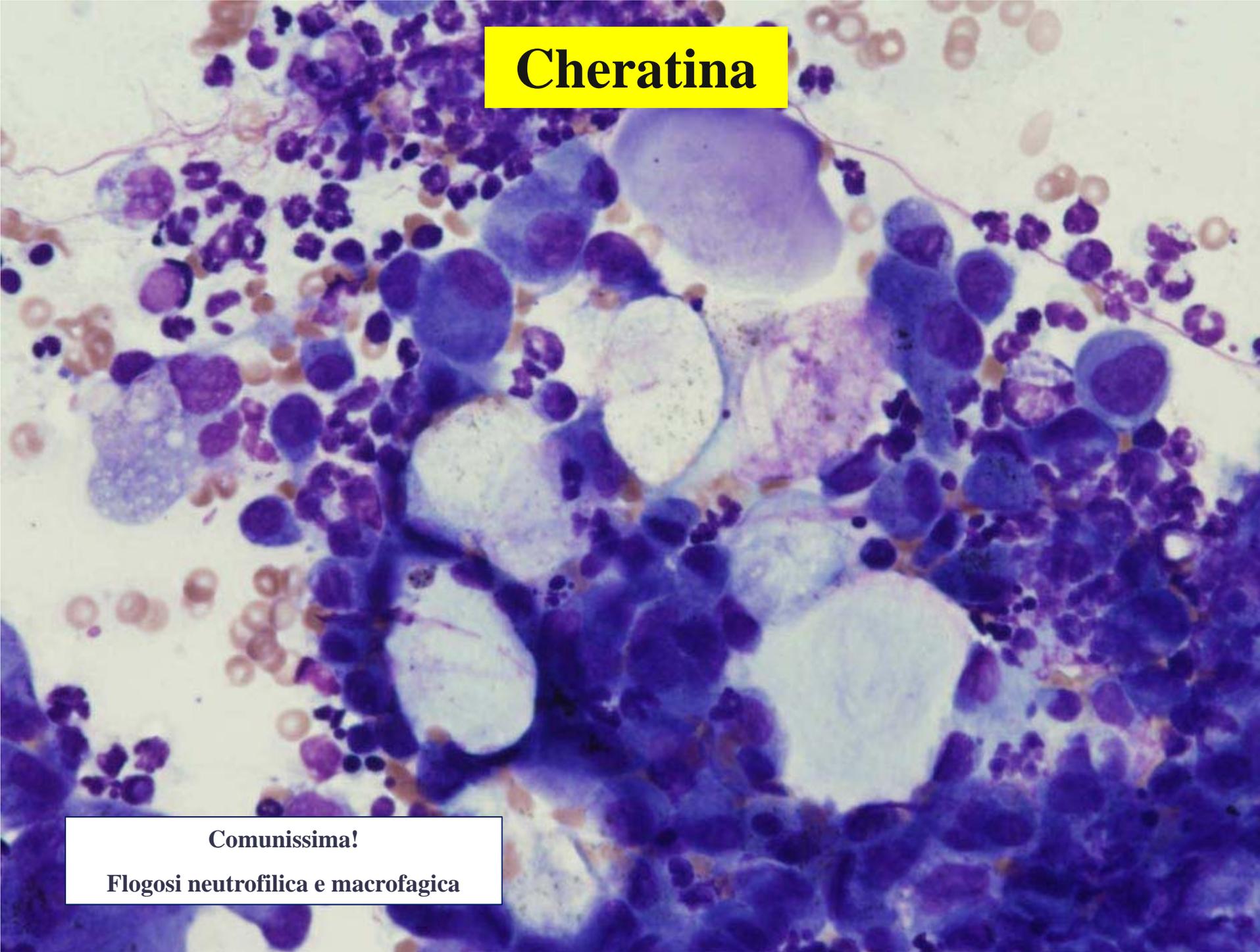
3-Lesioni miste?

1- Lesioni infiammatorie

- *eziologia non infettiva

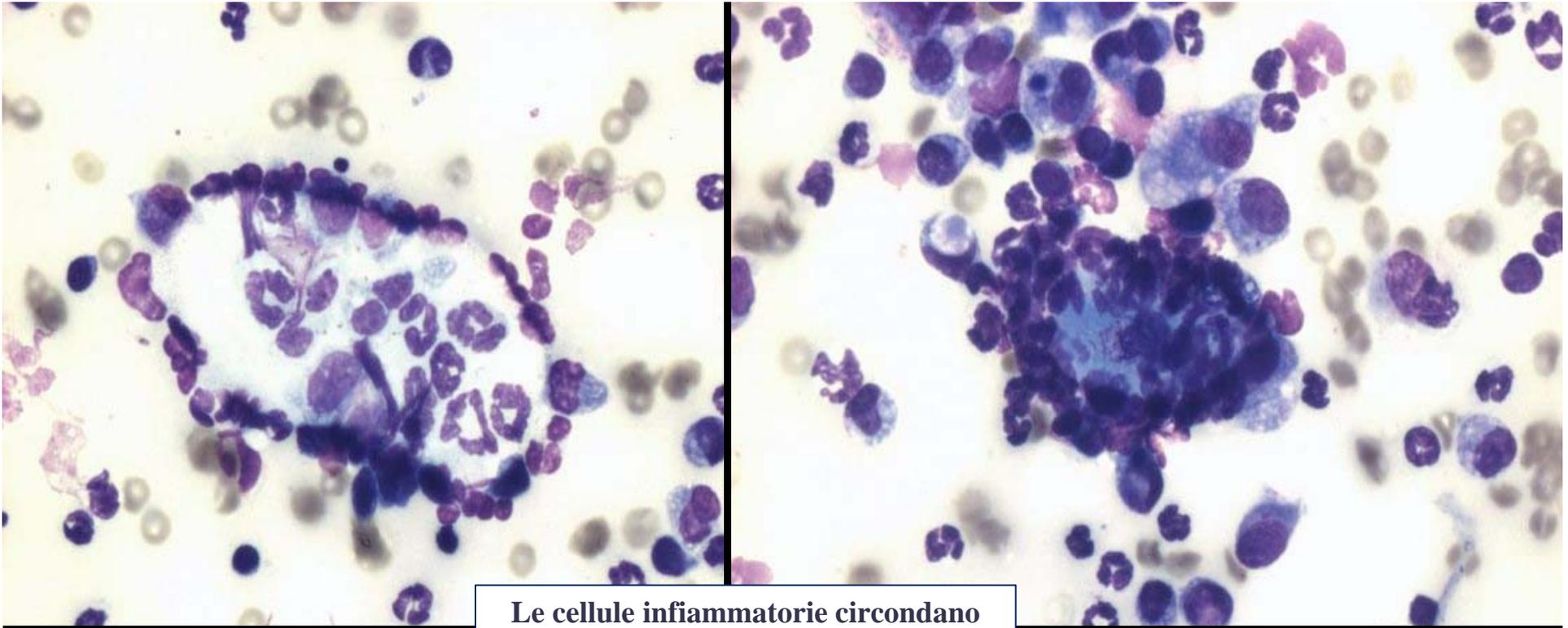
- *eziologia infettiva (da cause biologiche)

Cheratina

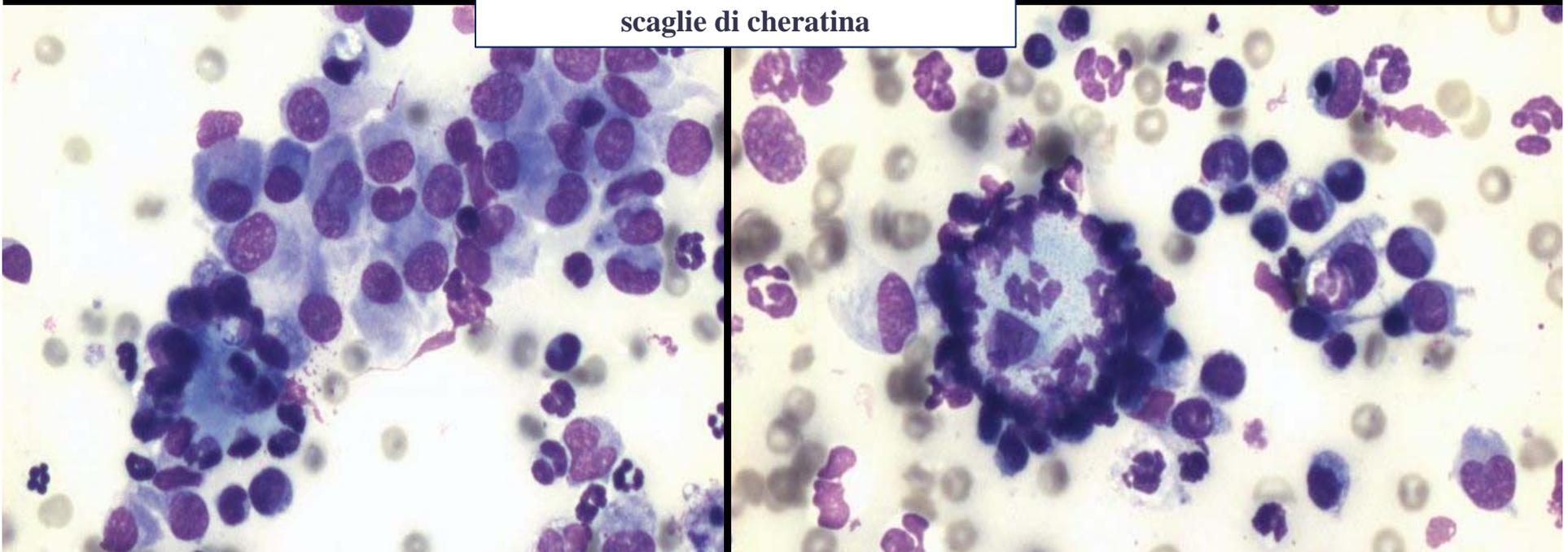


Comunissima!

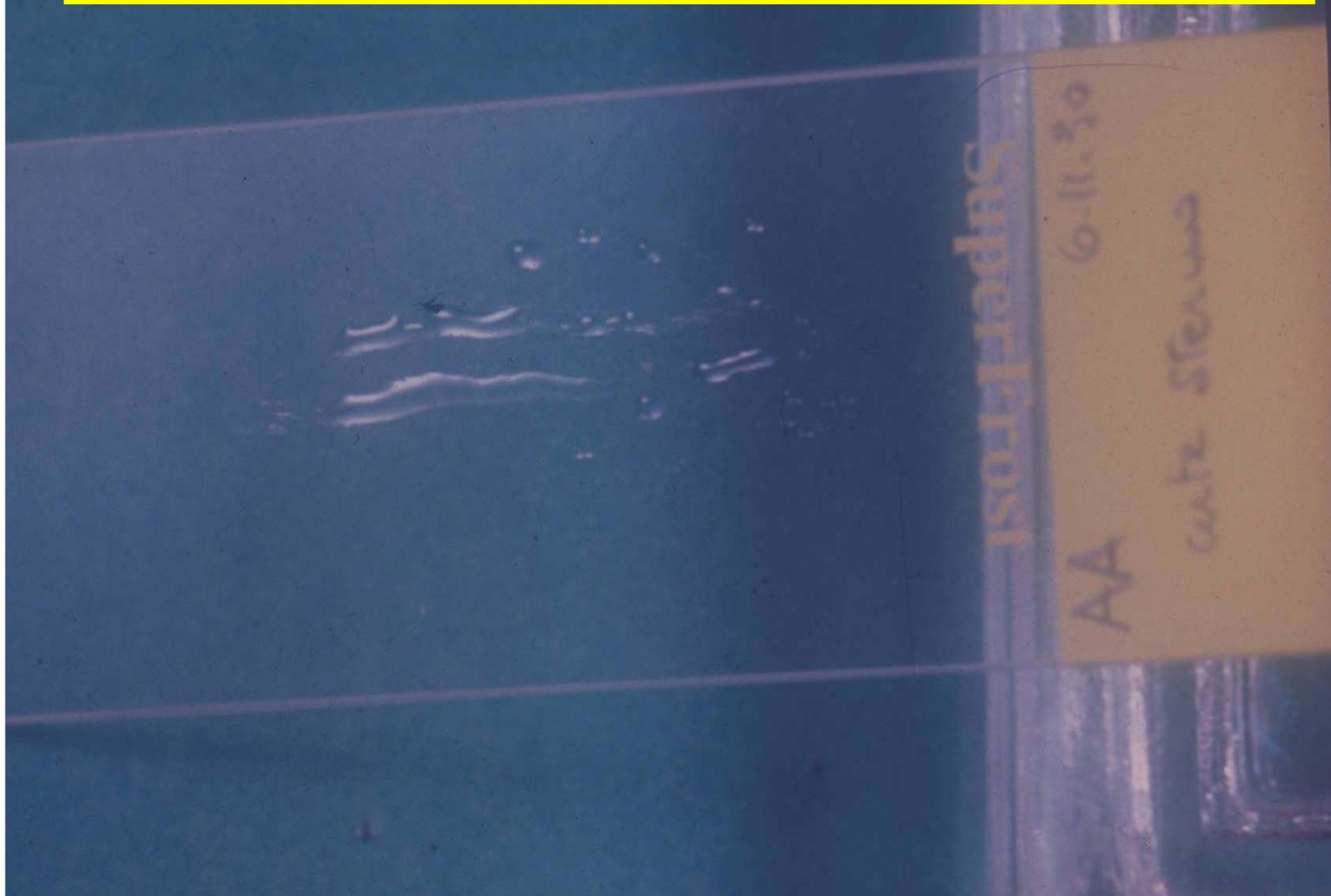
Flogosi neutrofilica e macrofagica



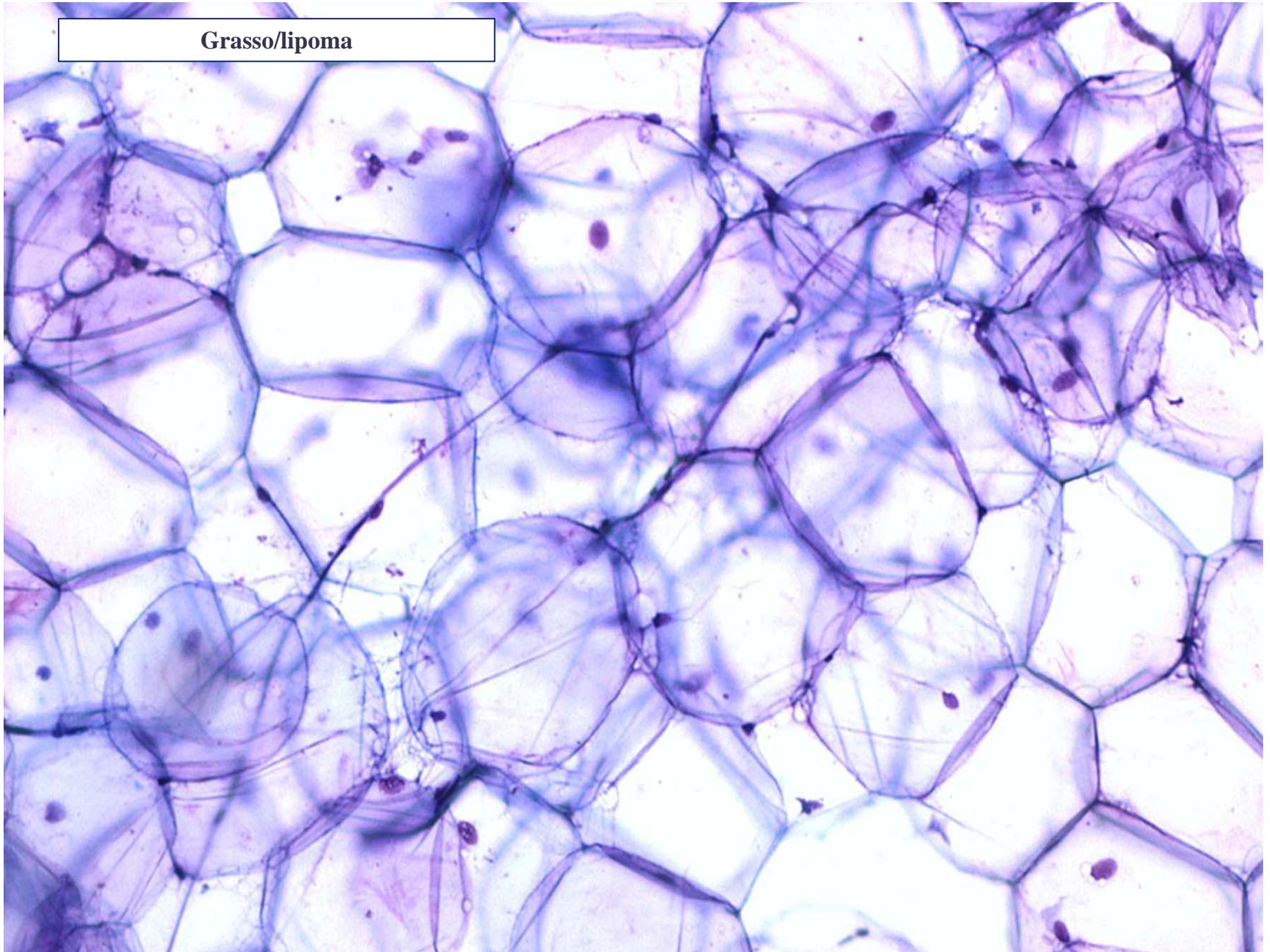
**Le cellule infiammatorie circondano
scaglie di cheratina**



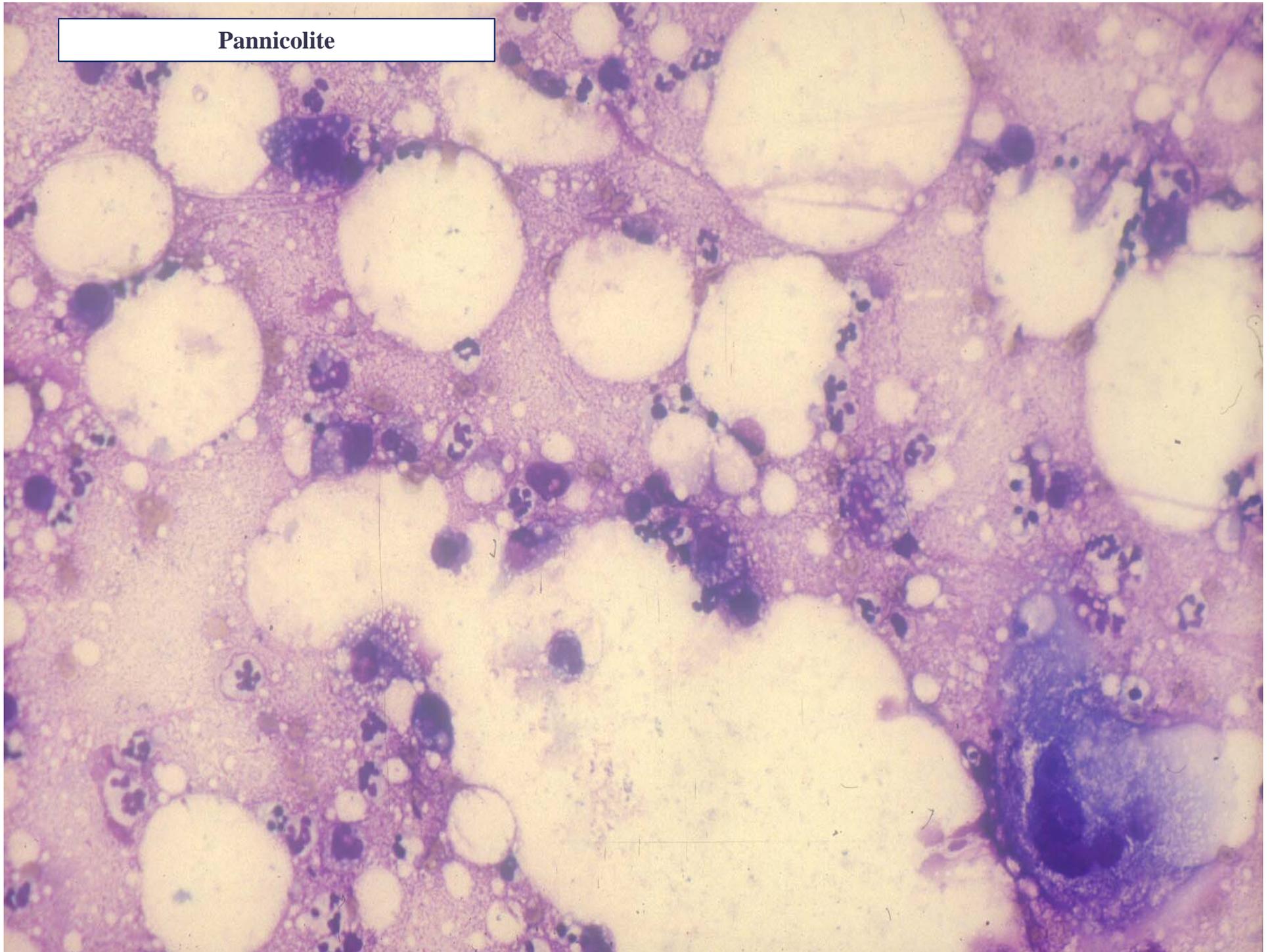
Grasso-Lipoma-Pannicolite-Mastocitoma



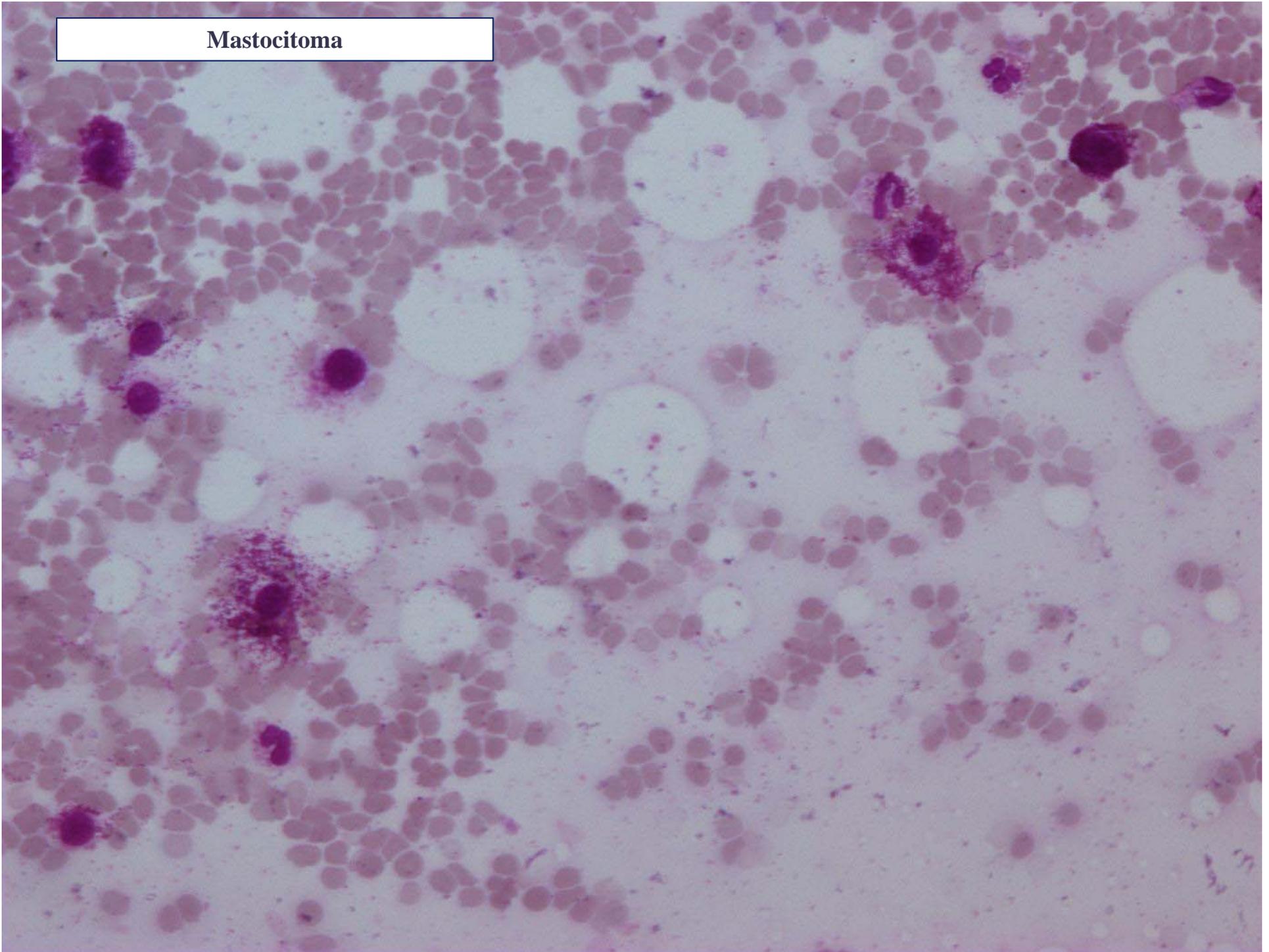
Grasso/lipoma



Pannicolite



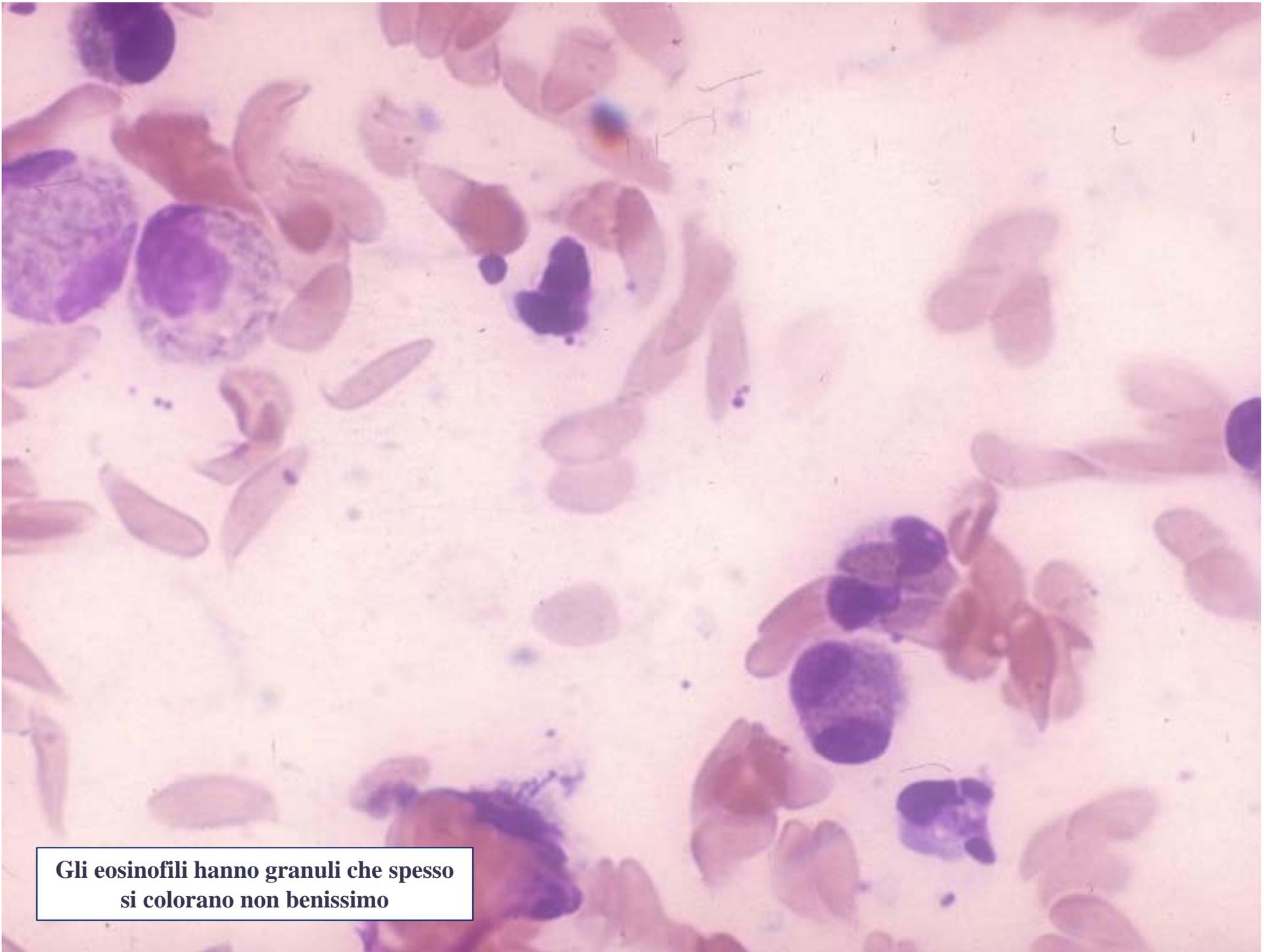
Mastocitoma



Granuloma eosinofílico



http://www.marvistavet.com/html/body_eosinophilic_granuloma.html



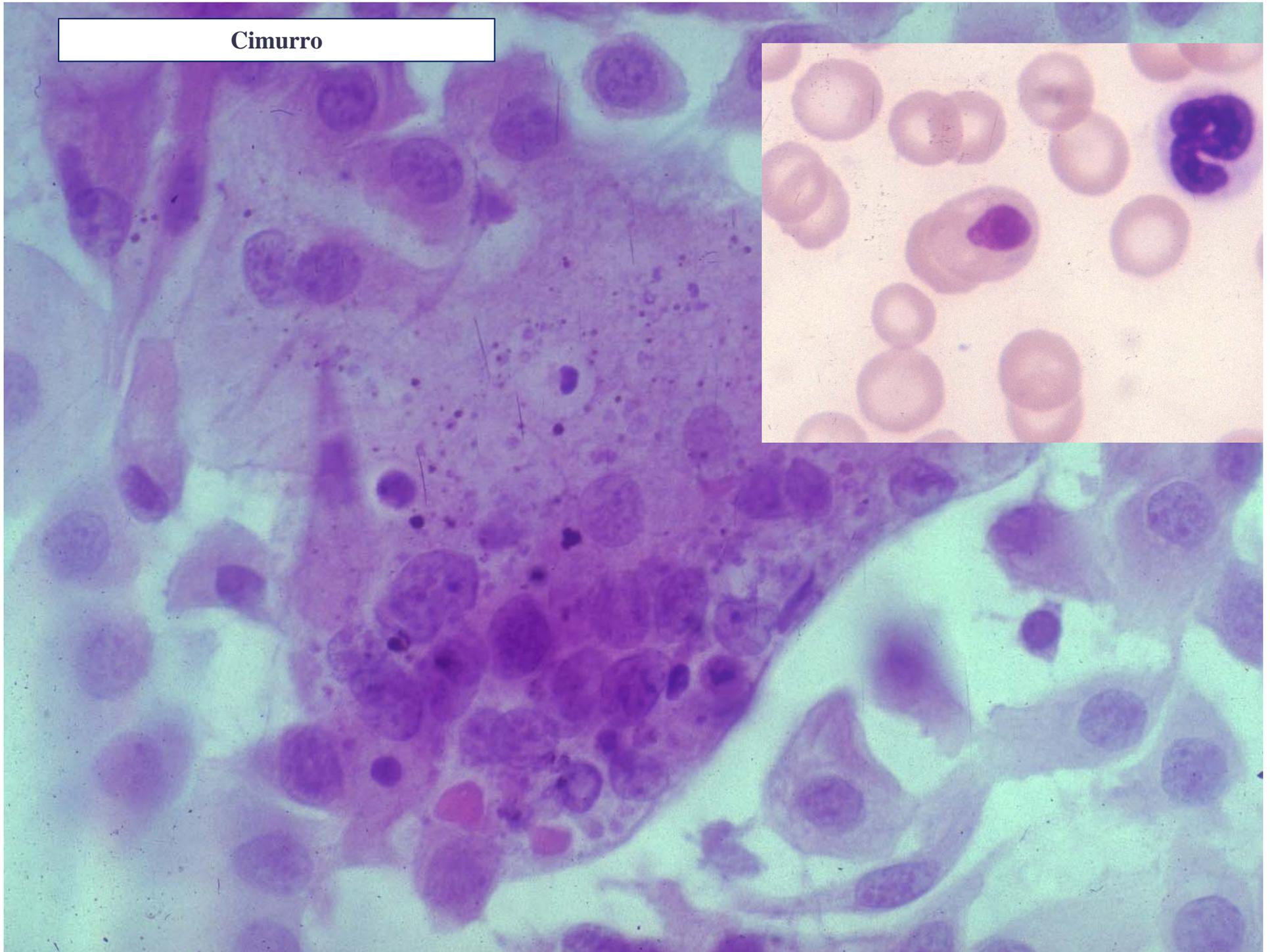
**Gli eosinofili hanno granuli che spesso
si colorano non benissimo**

Virus

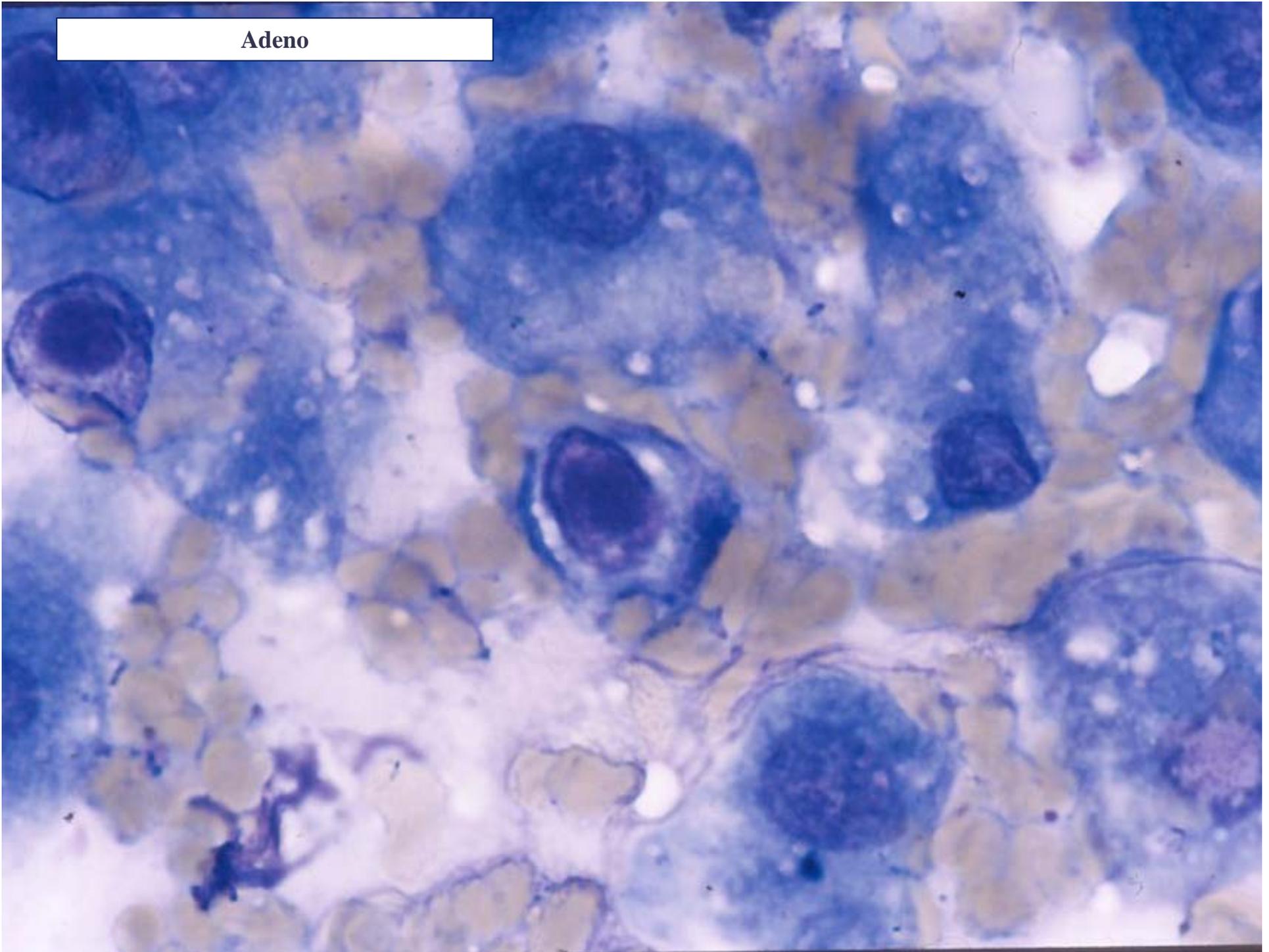


<https://www.knysnaplettherald.com/News/Article/General/aggressive-distemper-strain-kills-80-dogs-201805231252>

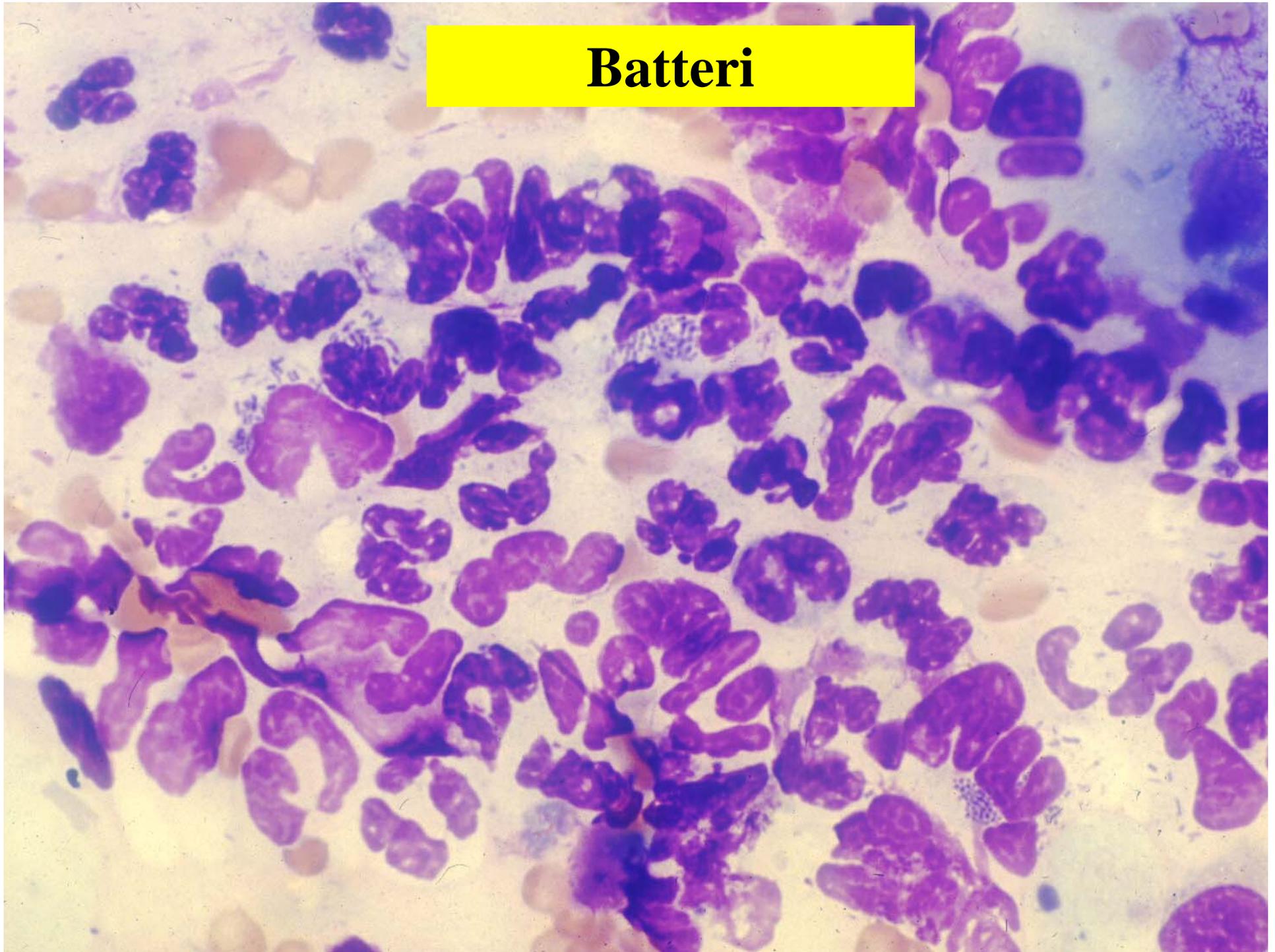
Cimurro



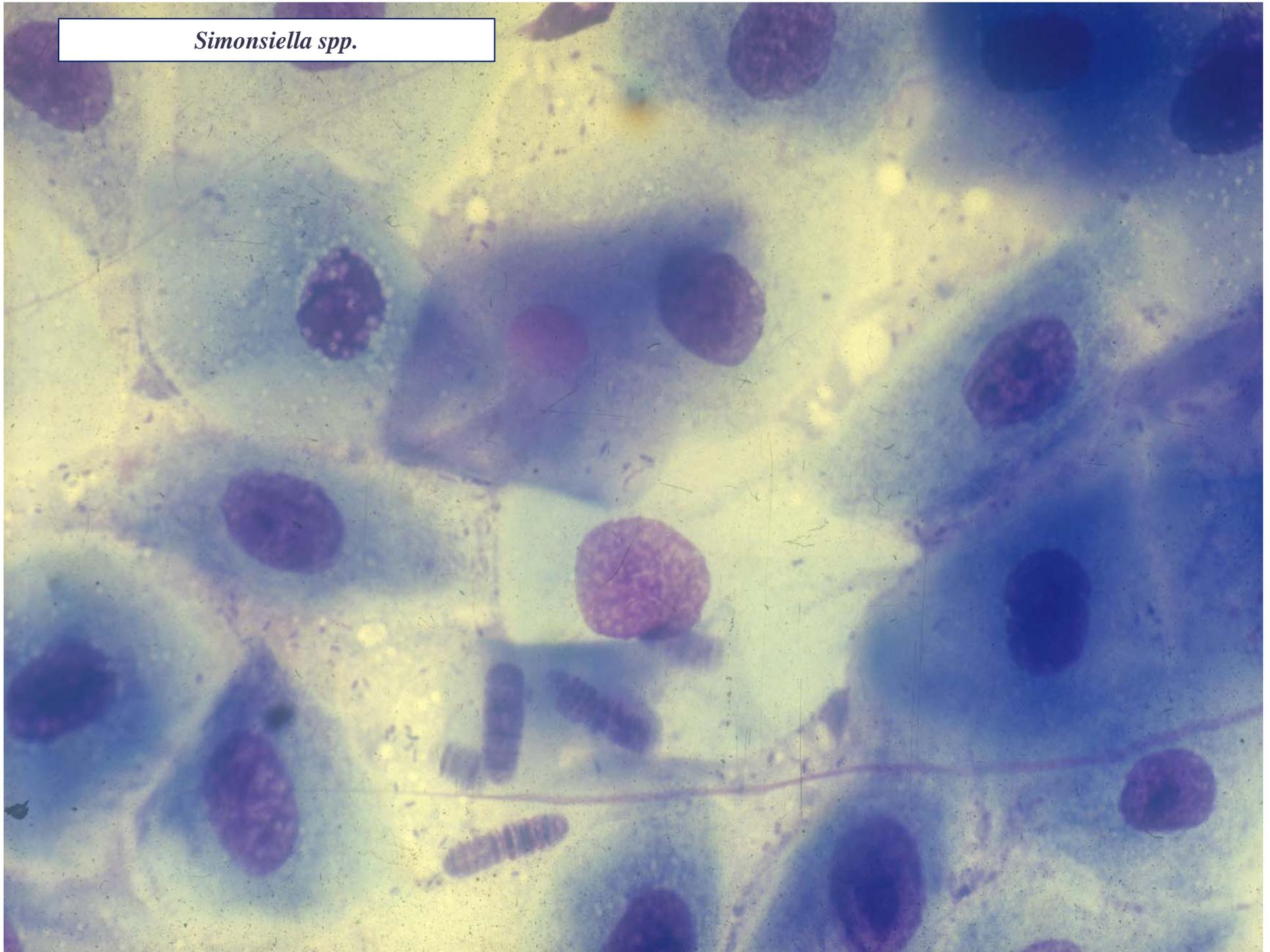
Adeno



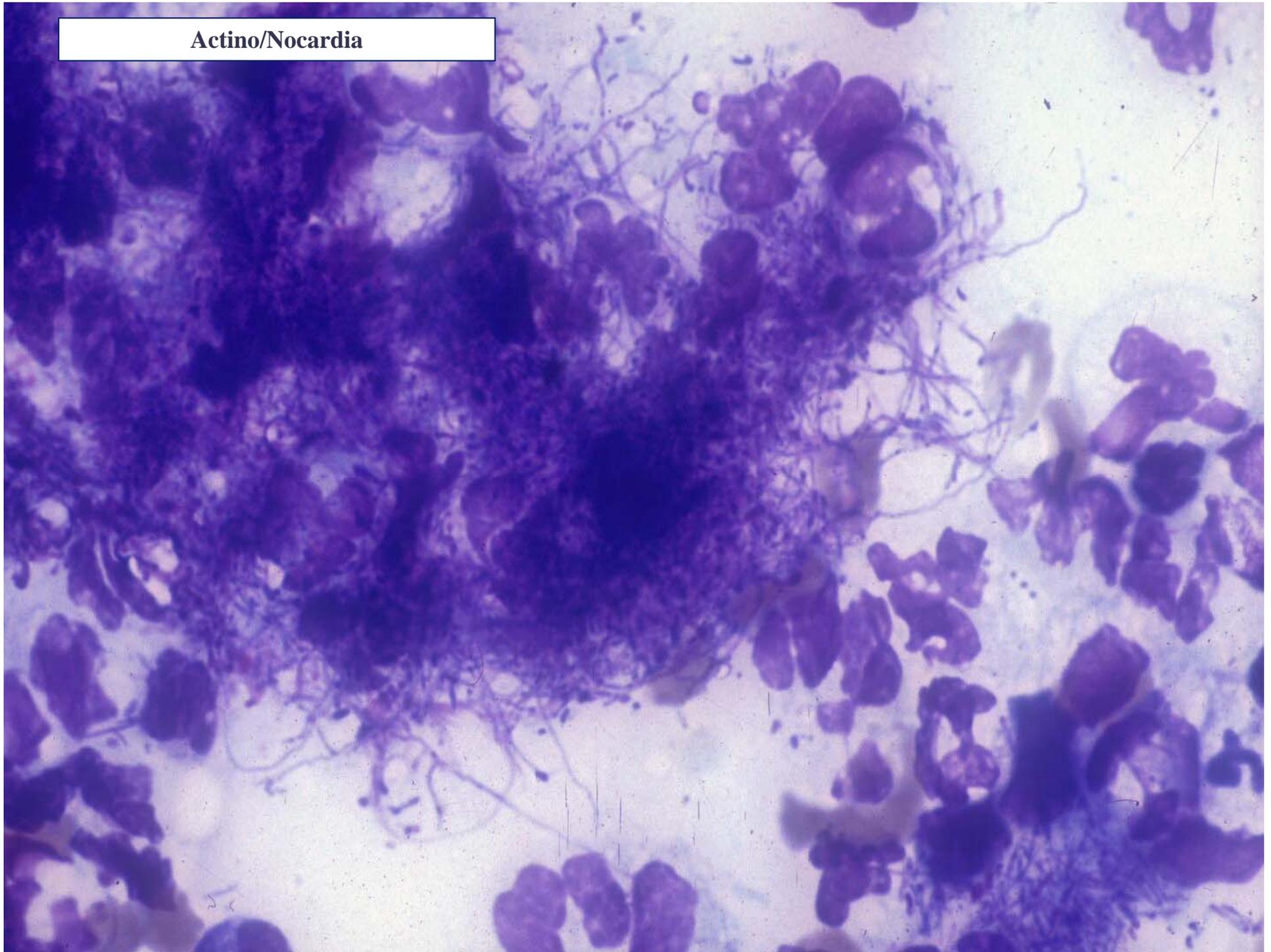
Batteri



Simonsiella spp.



Actino/Nocardia



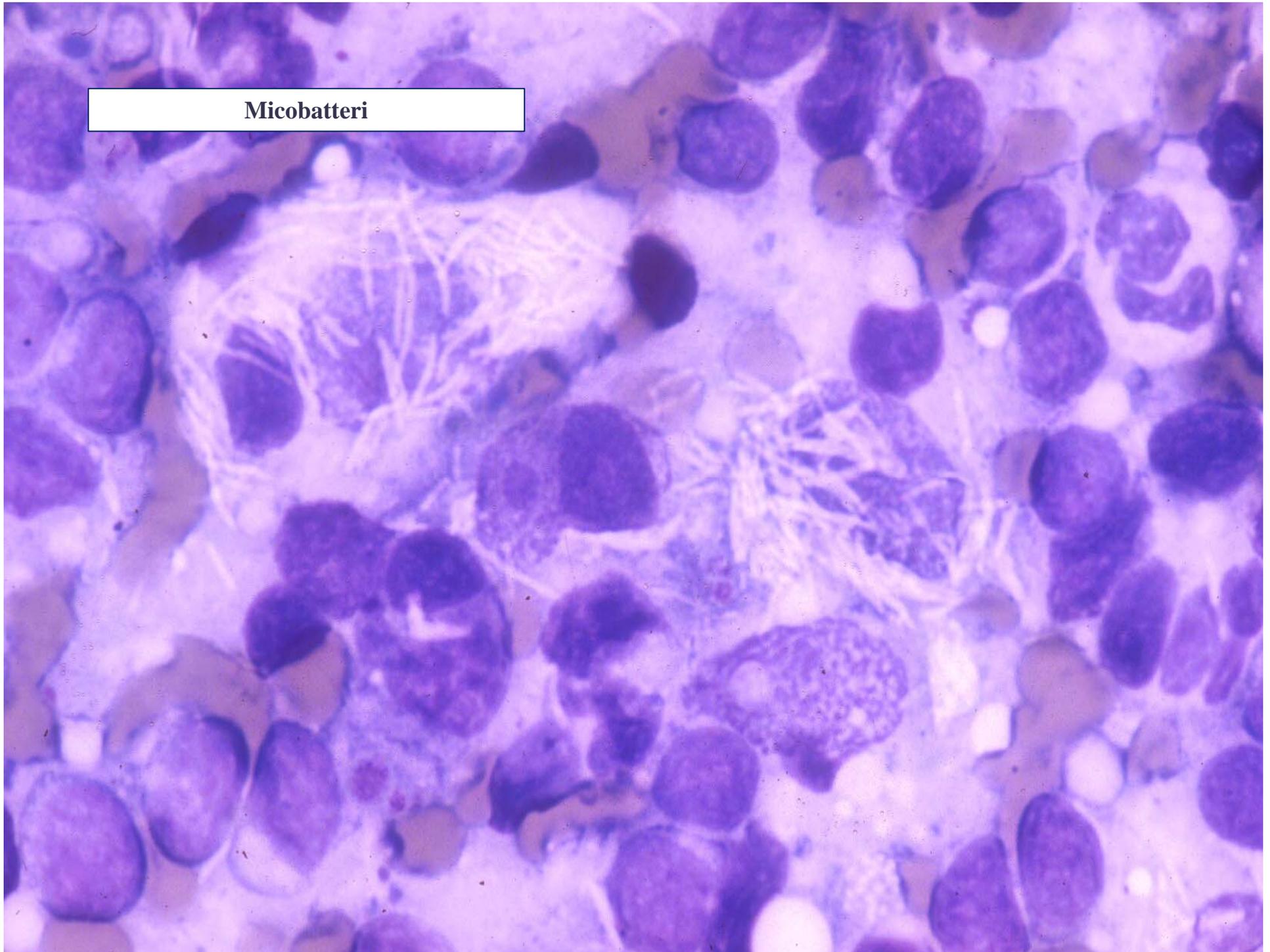


-Gram+

**-Nocardia (aerobio, ZN+,
angolo retto)**

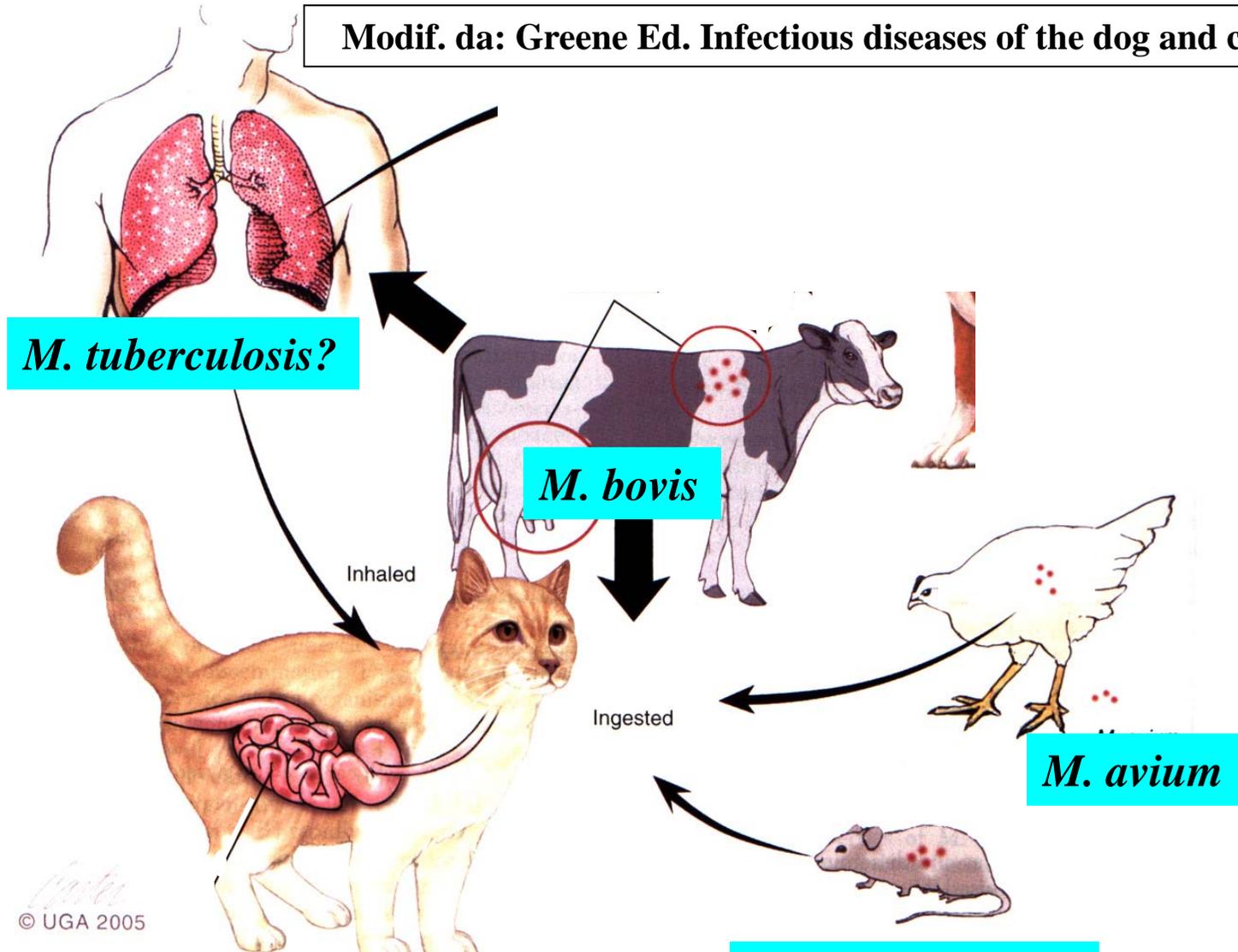
-Actinomyces (anaerobio)

Micobatteri



Comuni micobatteriosi nel gatto

Modif. da: Greene Ed. Infectious diseases of the dog and cat 3rd Ed., 2006



Opportunistici a crescita rapida

M. lepraemurium

M. tuberculosis

**Kuwabara T.
Susceptibility of Cats to Tubercle Bacilli
Kitasato Arch 15:318-329, 1938**

**30 gatti in casa di persone tubercolotiche per 2-3 anni.
Necroscopia negativa.**

**Inoculo intravenoso di micobatterio umano.
Necroscopia dopo 2-3 mesi: coltura +/-; istologia-**

Mycobacterium bovis

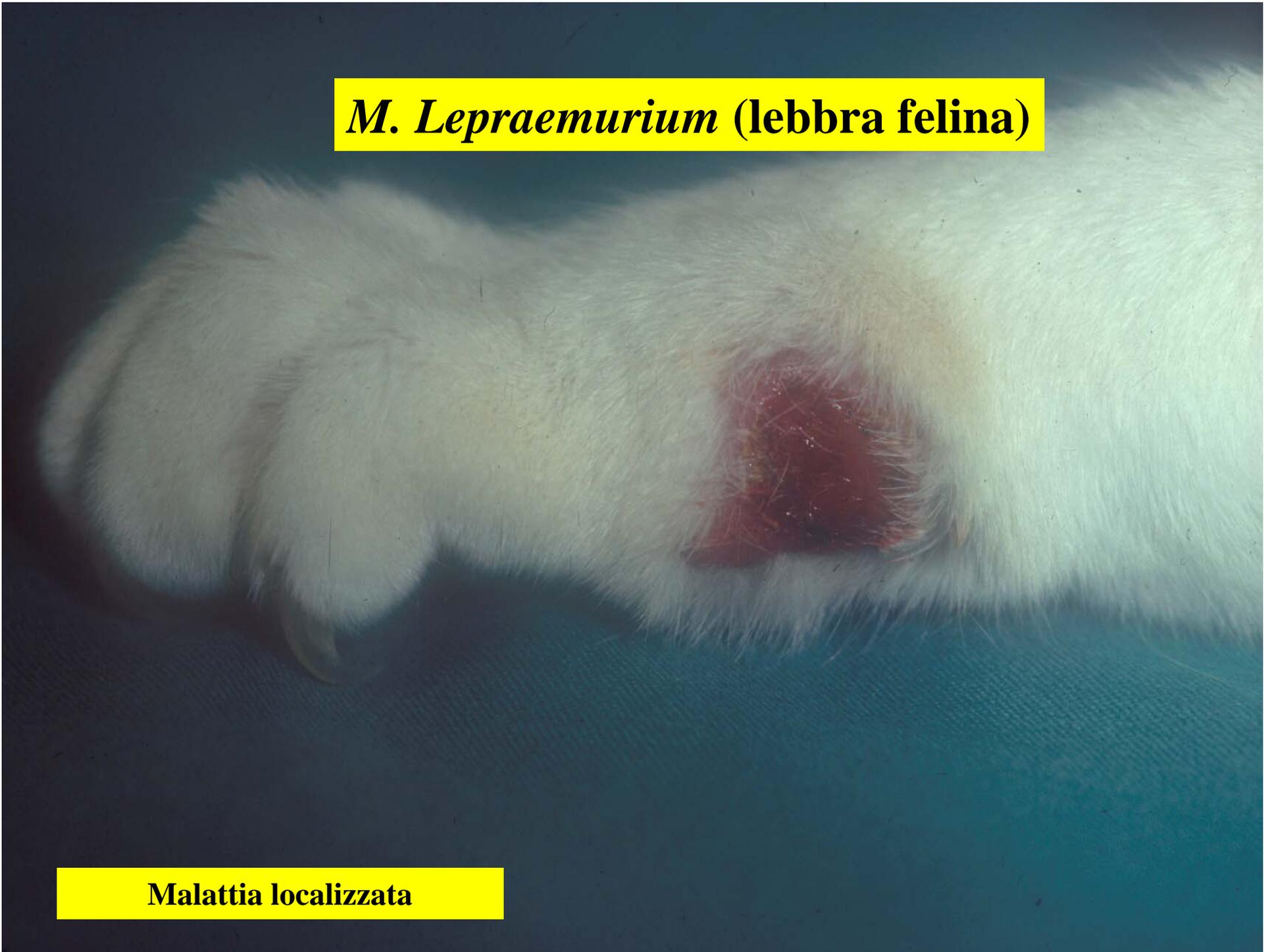
Mycobacterium avium

Forma alimentare: complesso primario intestinale

Malattia generalizzata

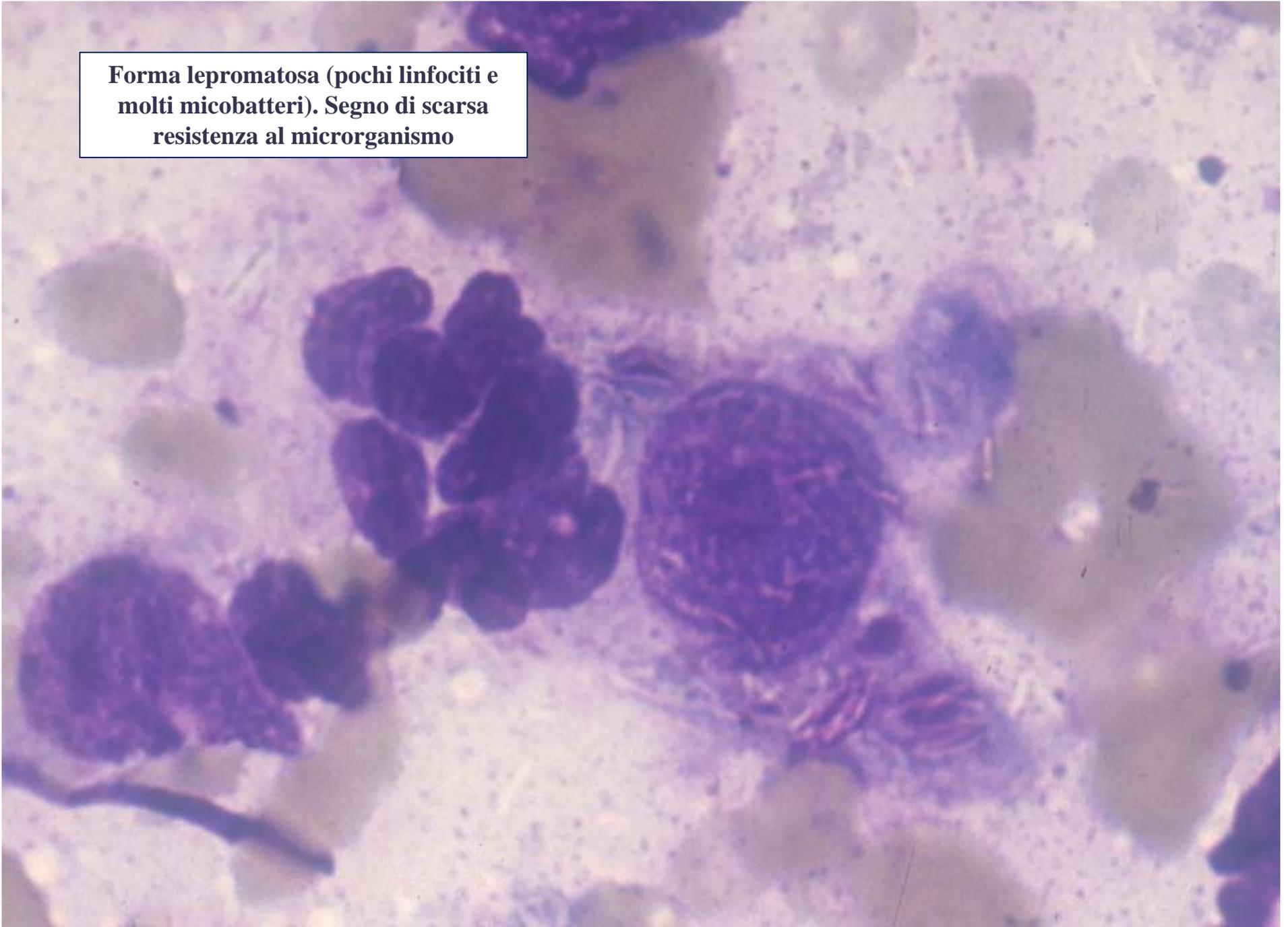
Lesioni granulomatose

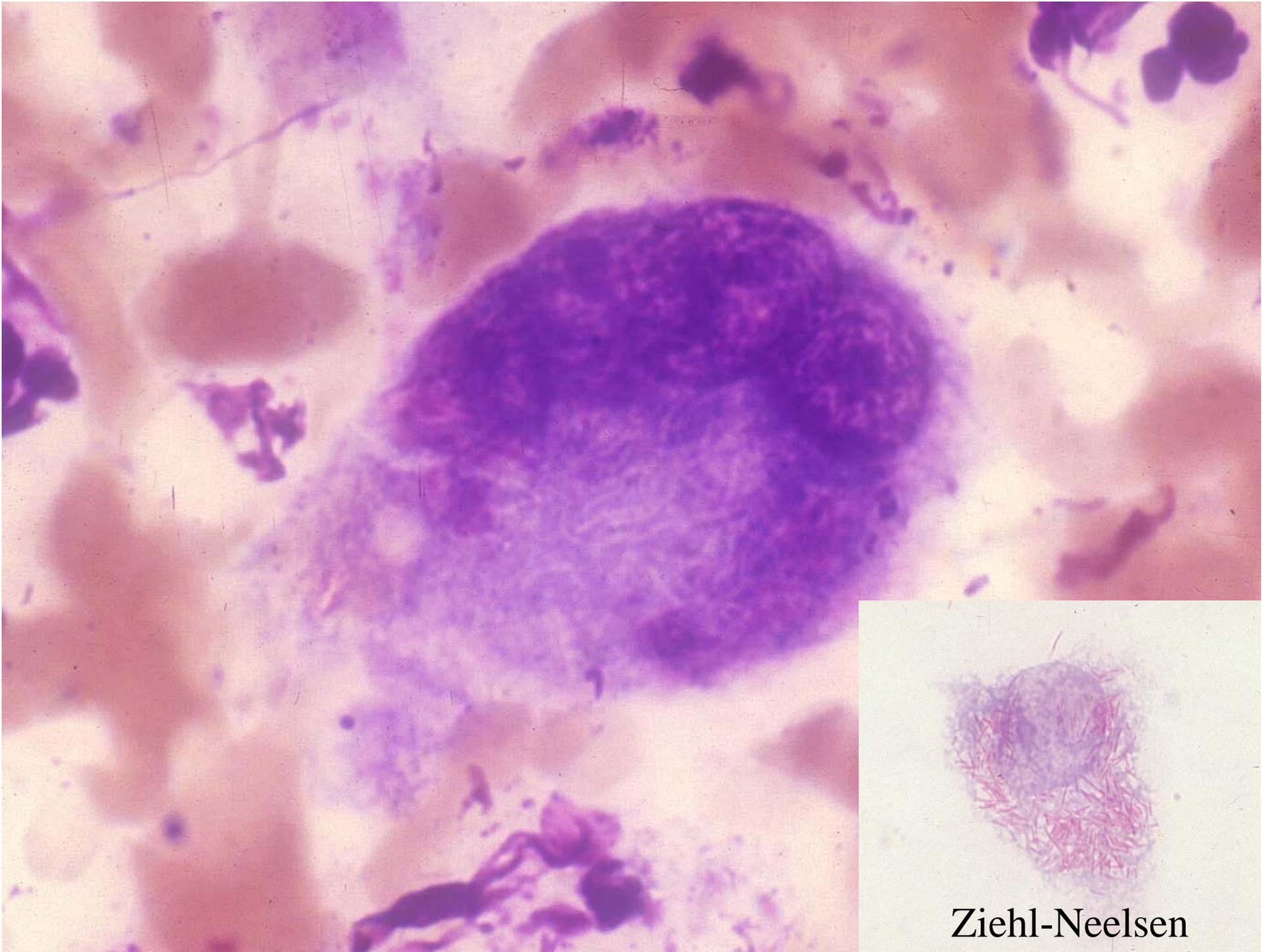
***M. Lepraemurium* (lebbra felina)**



Malattia localizzata

Forma lepromatosa (pochi linfociti e molti micobatteri). Segno di scarsa resistenza al microrganismo





Ziehl-Neelsen

28°C

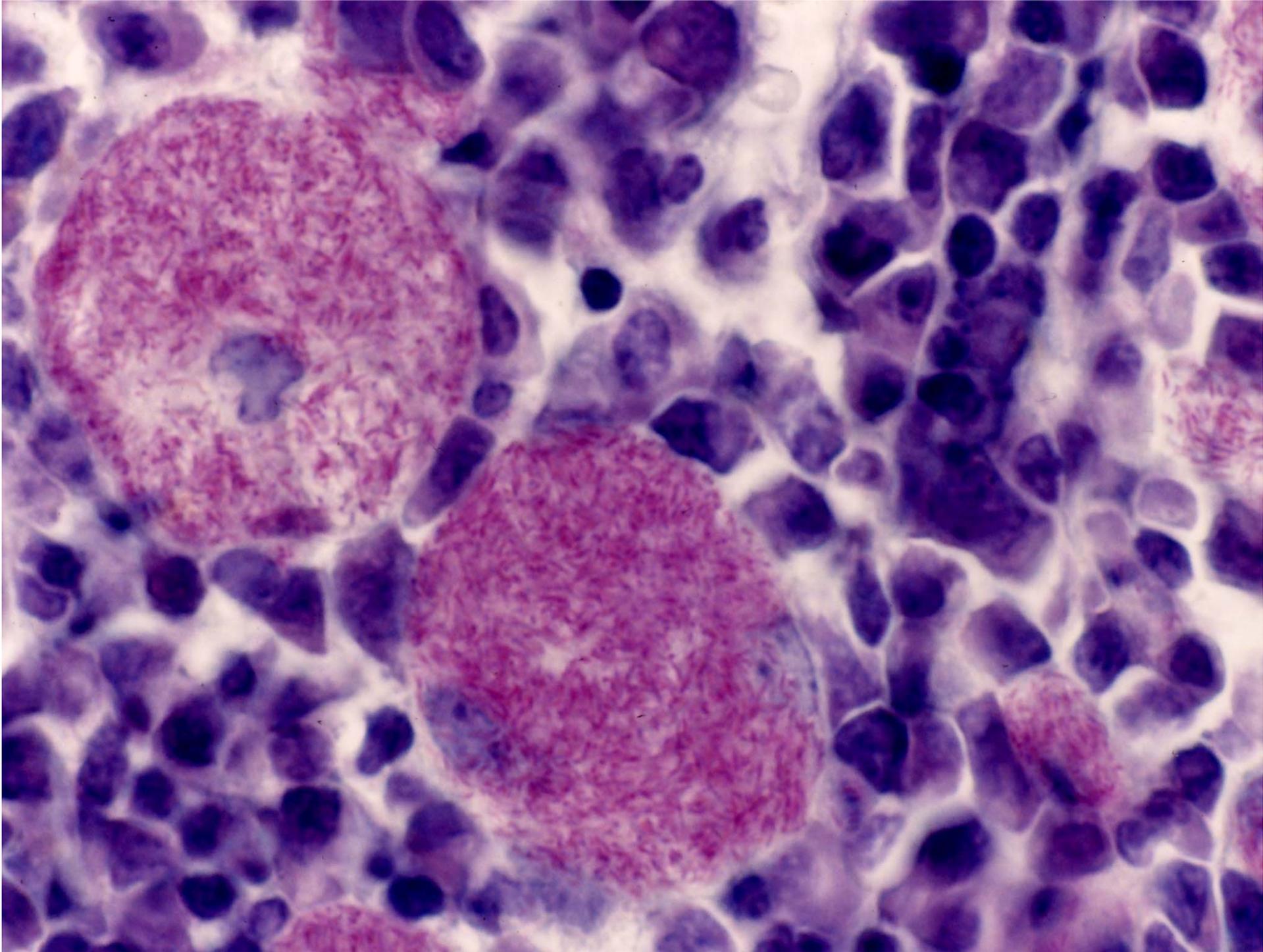


37°C



45°C







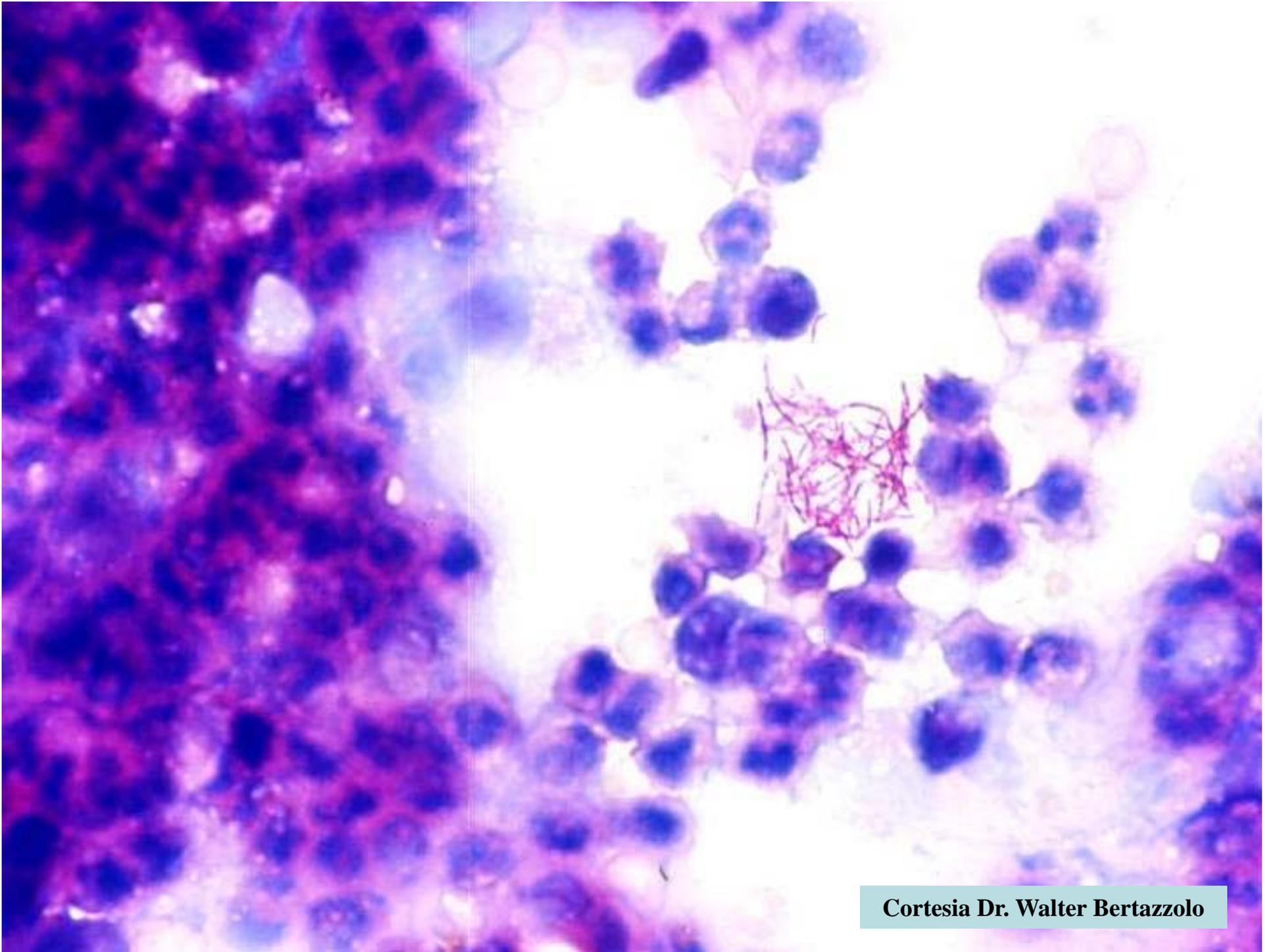
M. Atipici (*M.phlei, fortuitum, marinum...*)

Malattia localizzata

**Forme
purulente/piogranulomatose**

<http://www.abcdcatsvets.org/wp-content/uploads/2015/10/12-Mycobact-Fig.-2.jpg>

Richard Malik, University of Sydney Veterinary School



Cortesia Dr. Walter Bertazzolo

Miceti

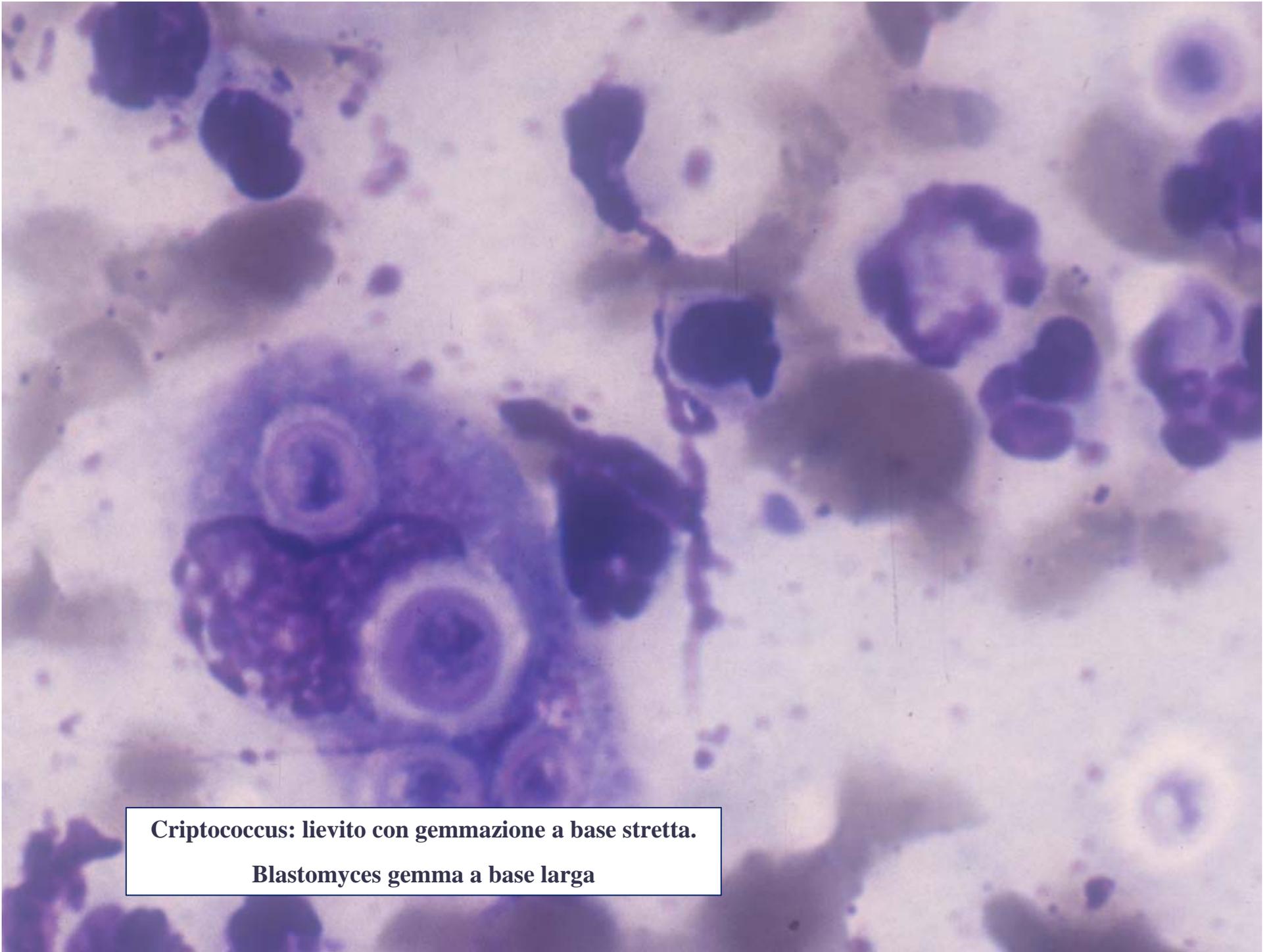


Criptococcosi



Criptococcosi

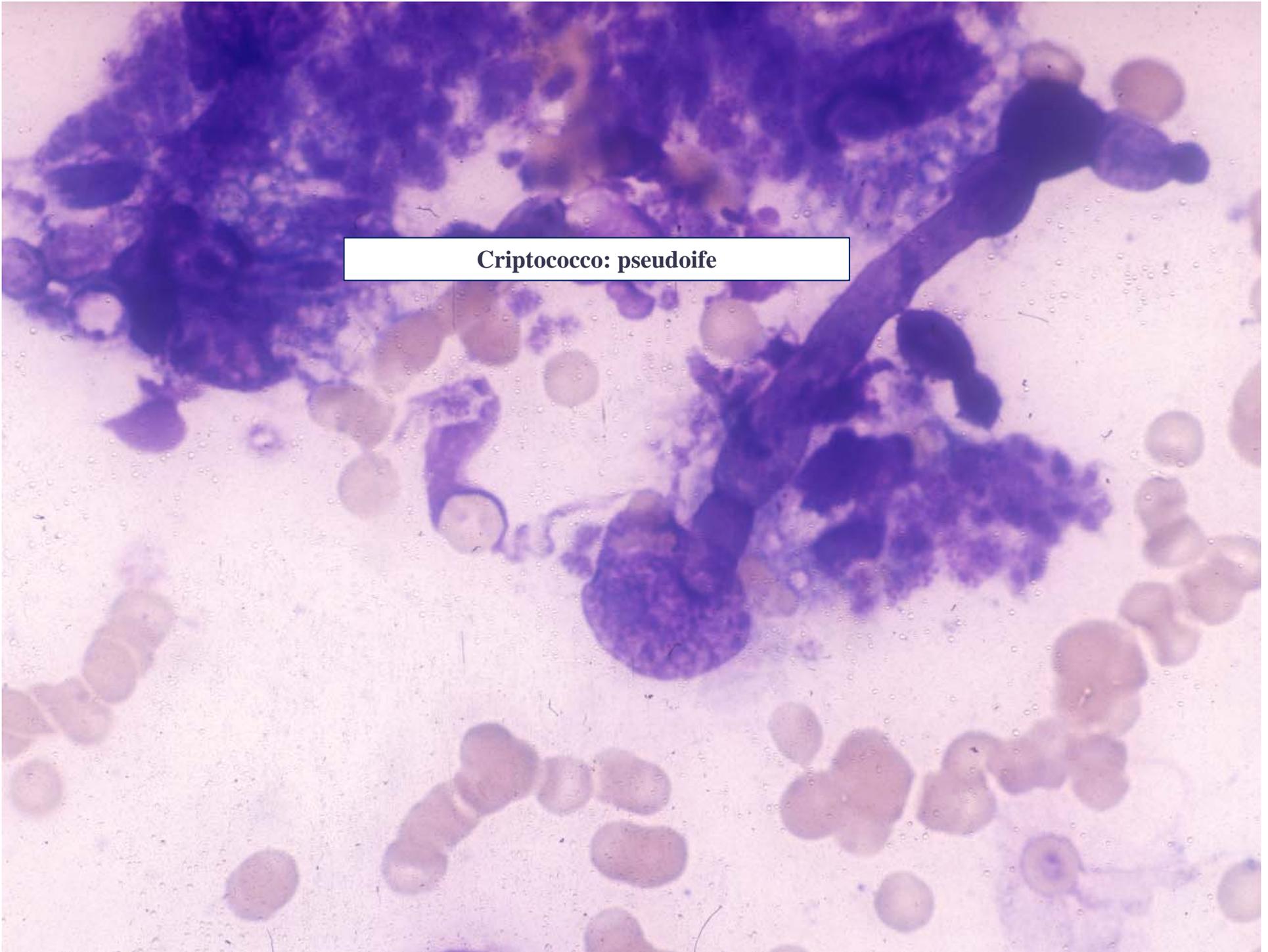




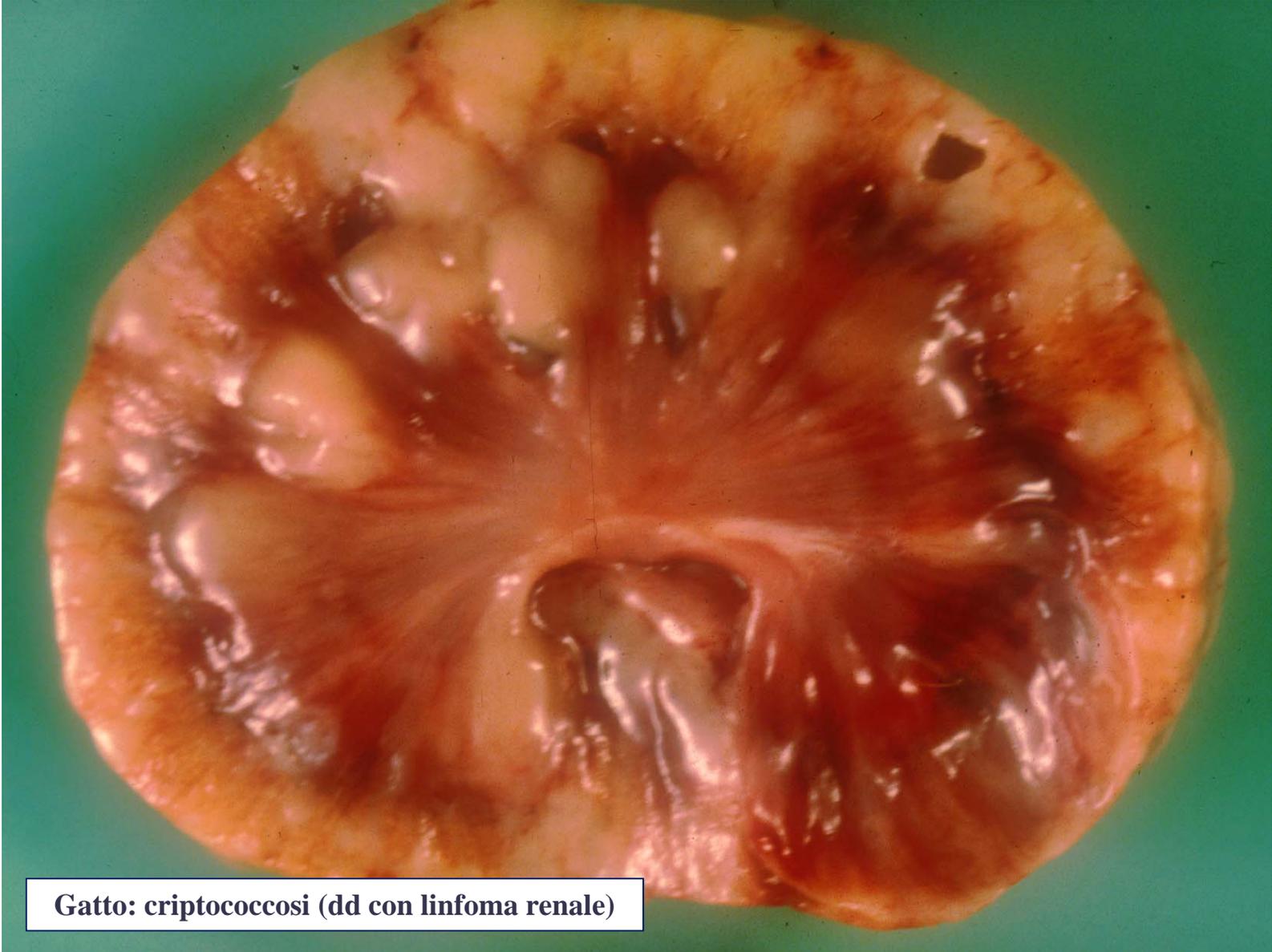
Criptococcus: lievito con gemmazione a base stretta.

Blastomyces gemma a base larga

Criptococco: pseudoife







Gatto: criptococcosi (dd con linfoma renale)



Cane: criptococcosi (linfadenopatia)

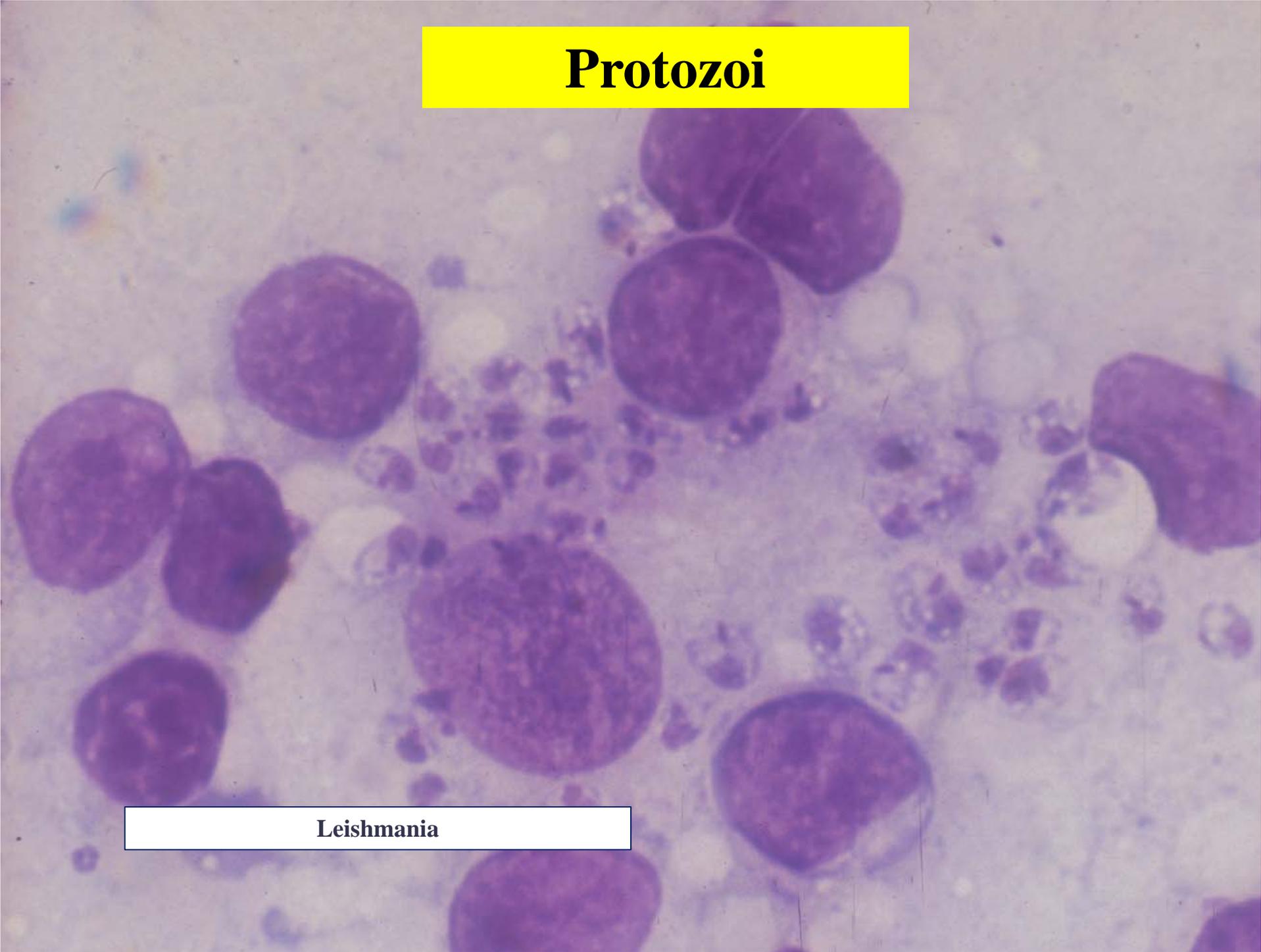
Sporotrichosi

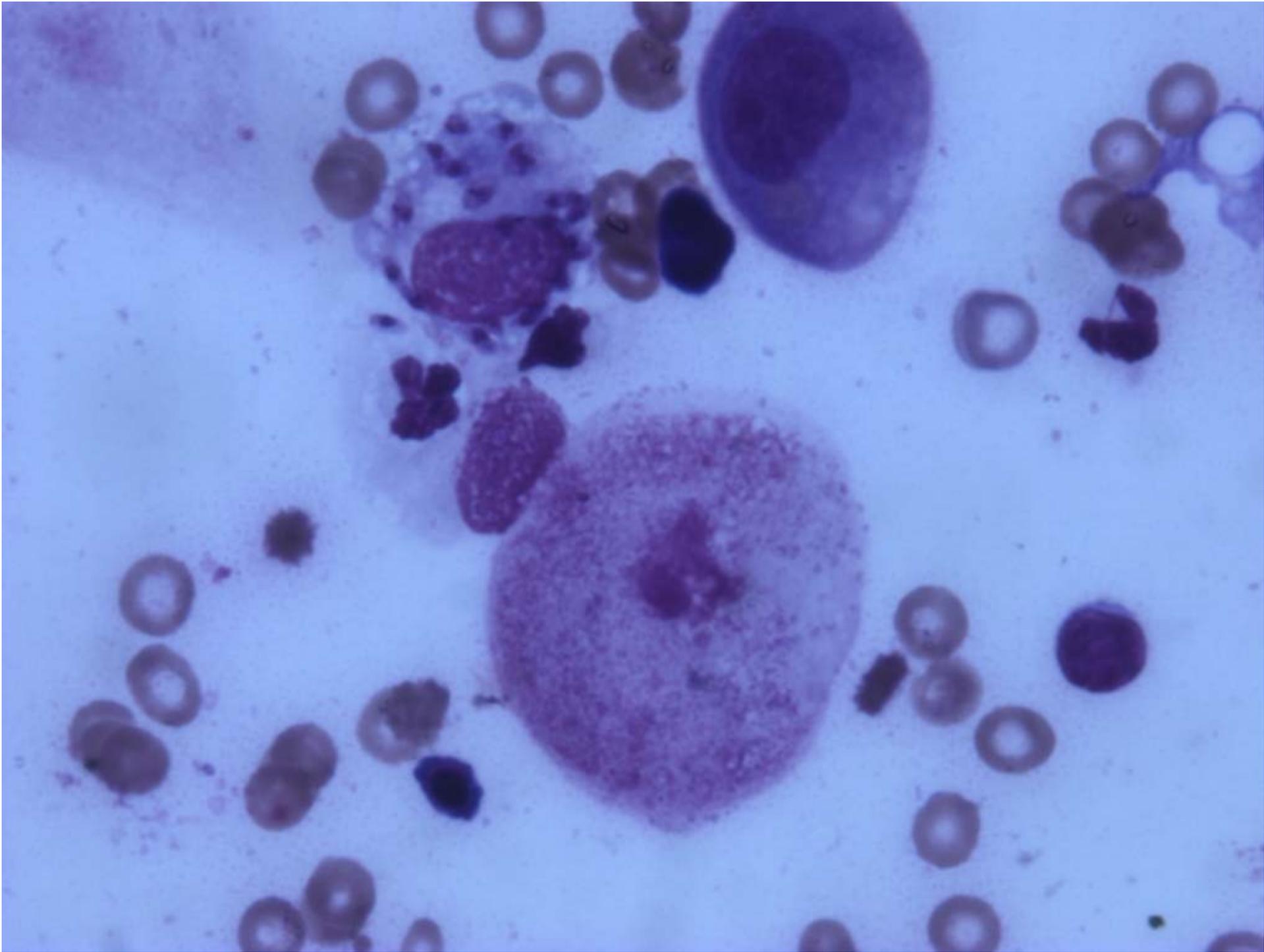


<https://www.primehealthchannel.com/sporotrichosis.html>

Protozoi

Leishmania

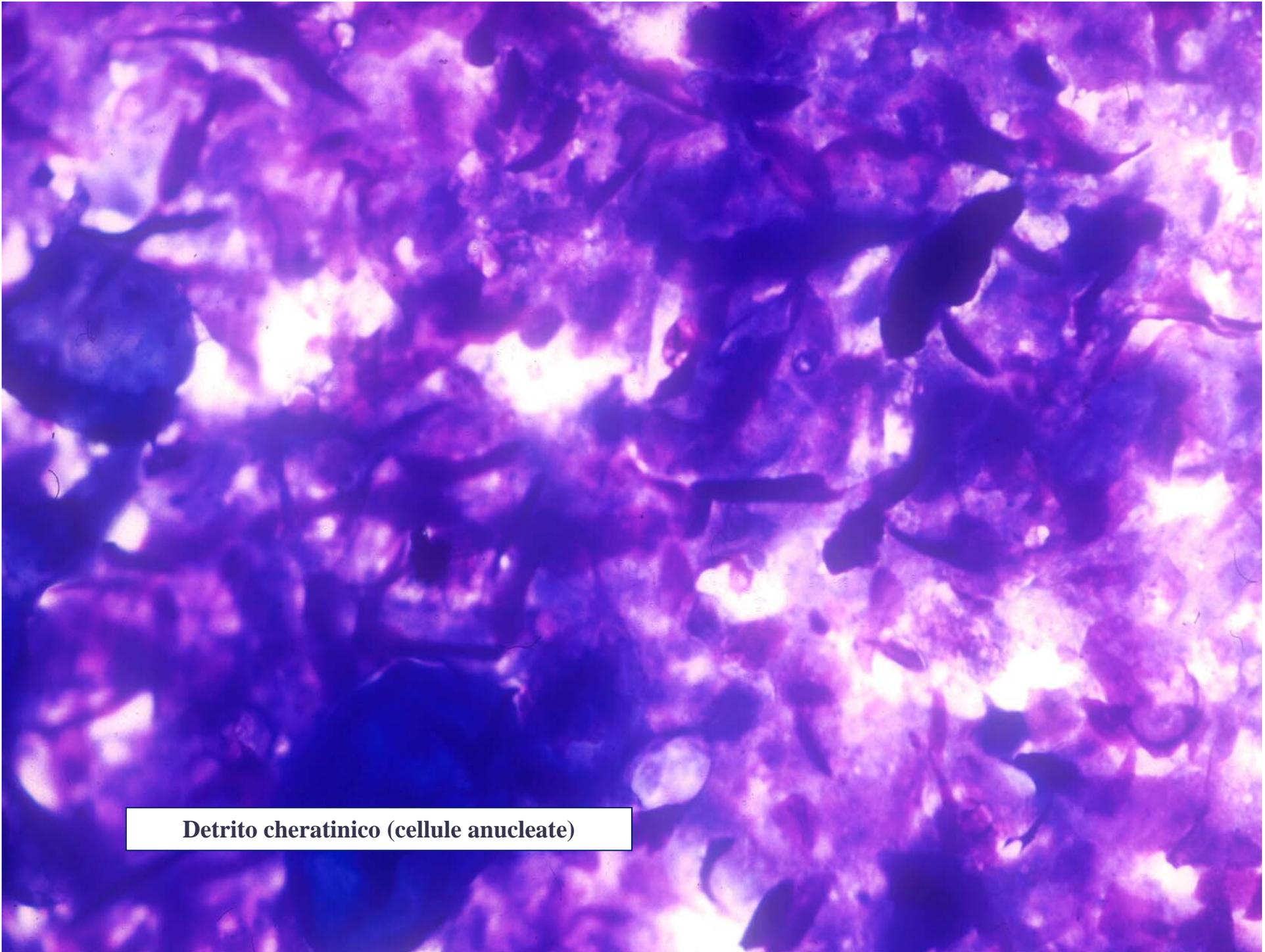
A microscopic image showing several large, round, purple-stained cells, likely Leishmania parasites, against a light purple background. The parasites are distributed across the field of view, with some appearing in clusters and others individually. The staining highlights their internal structure and cell boundaries.



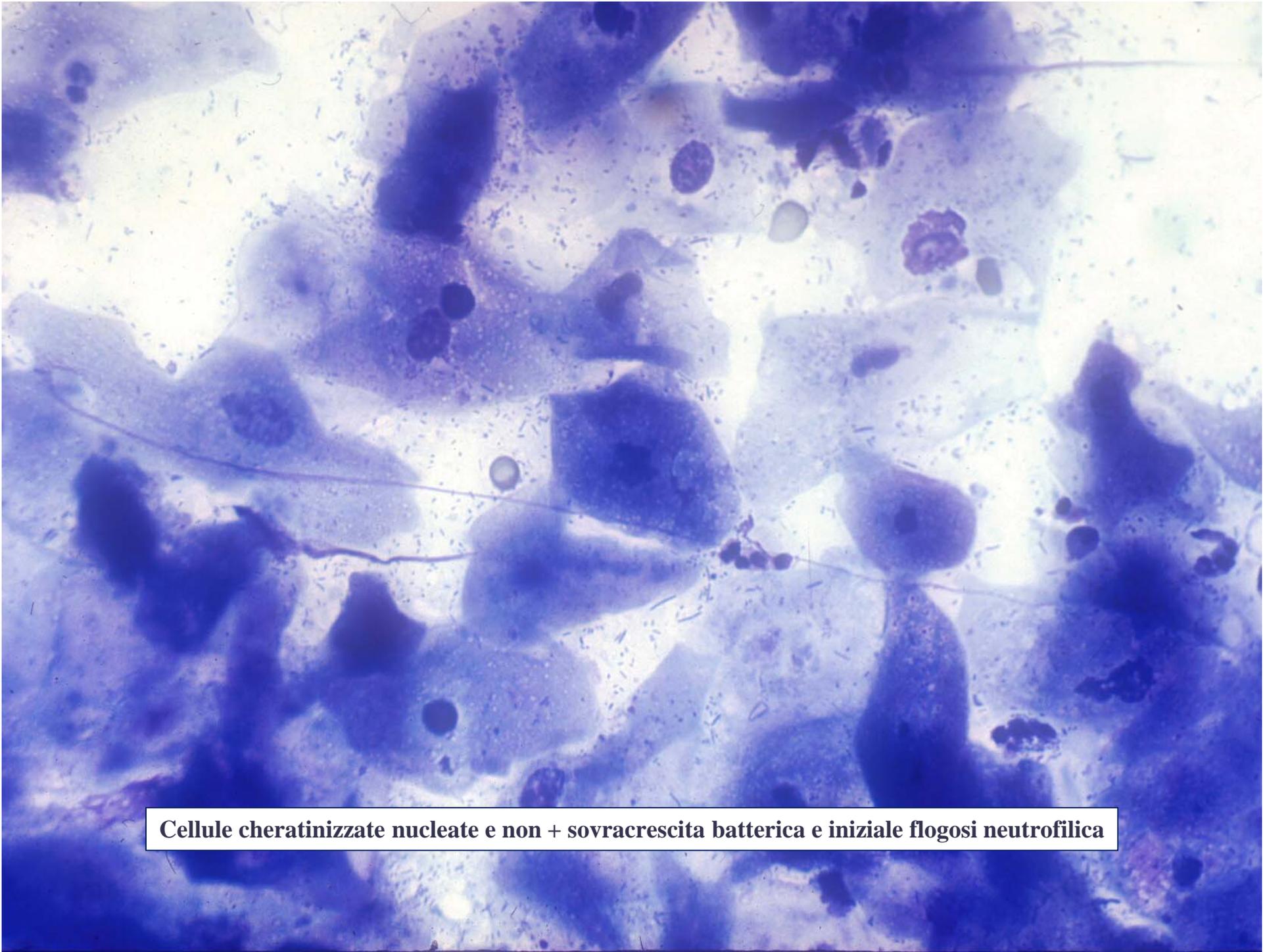
**2a- Lesioni
non infiammatorie
non neoplastiche**

Lesioni benigne a contenuto cheratinico

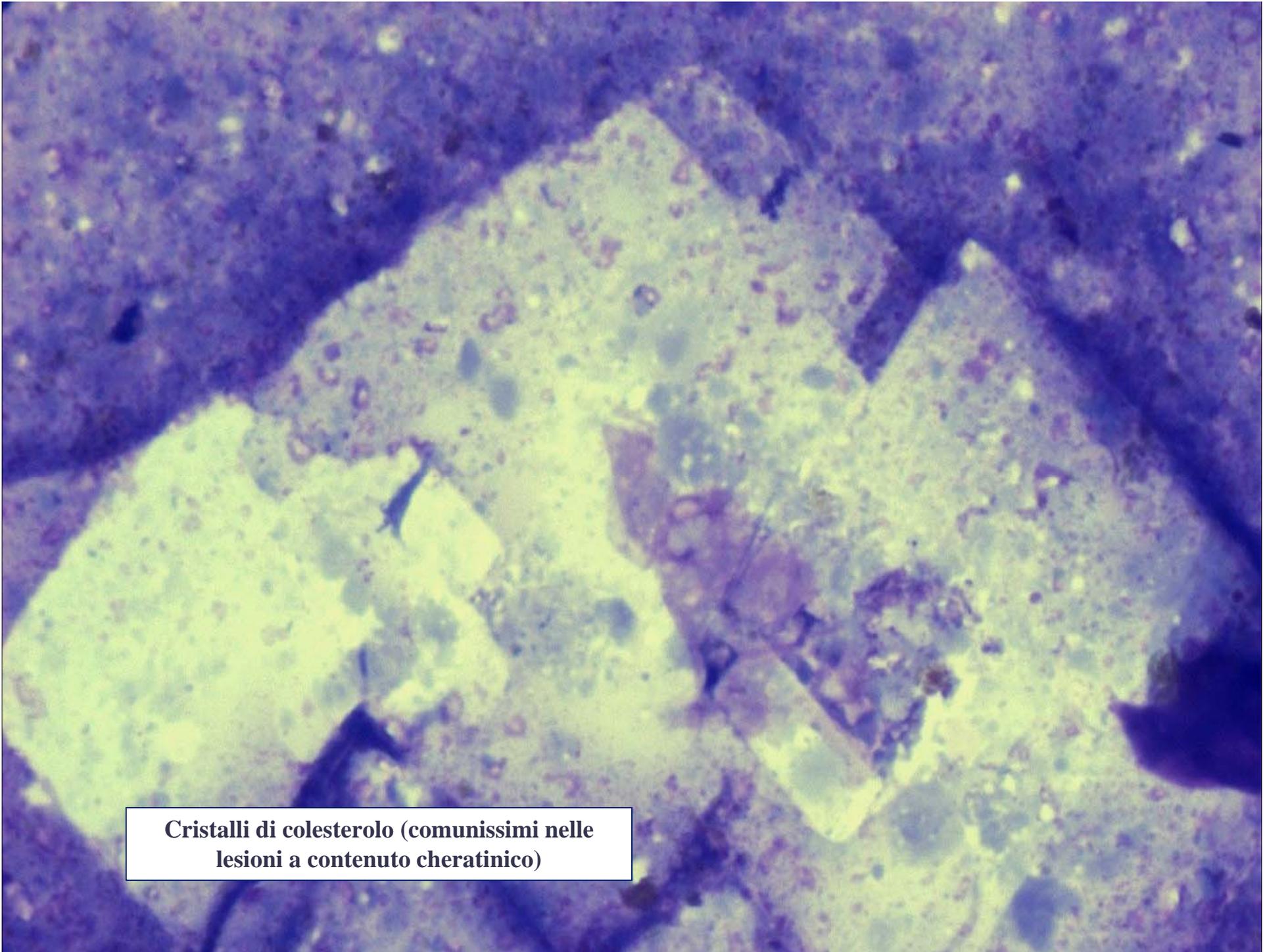




Detrito cheratinico (cellule anucleate)



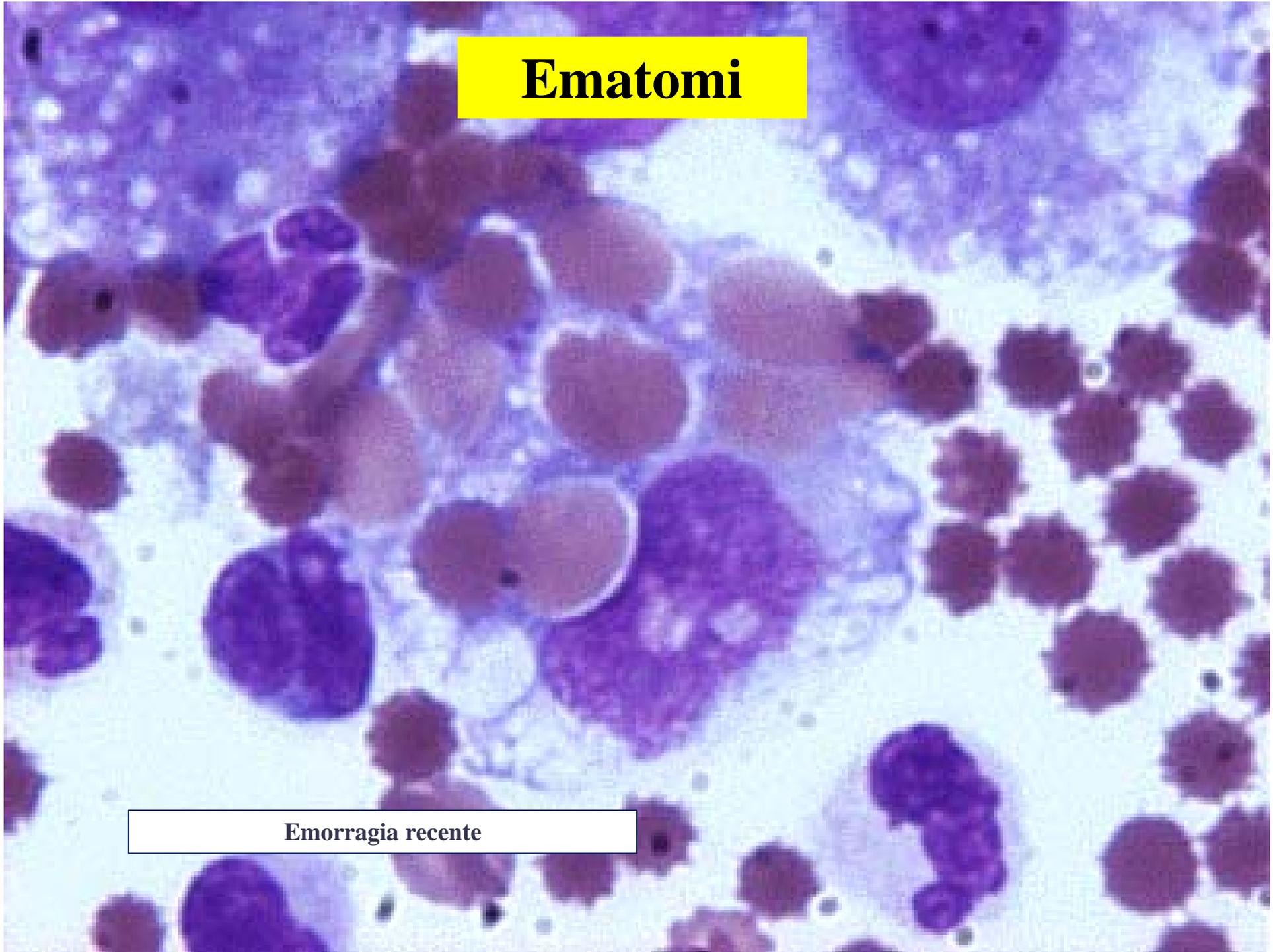
Cellule cheratinizzate nucleate e non + sovracrescita batterica e iniziale flogosi neutrofilica



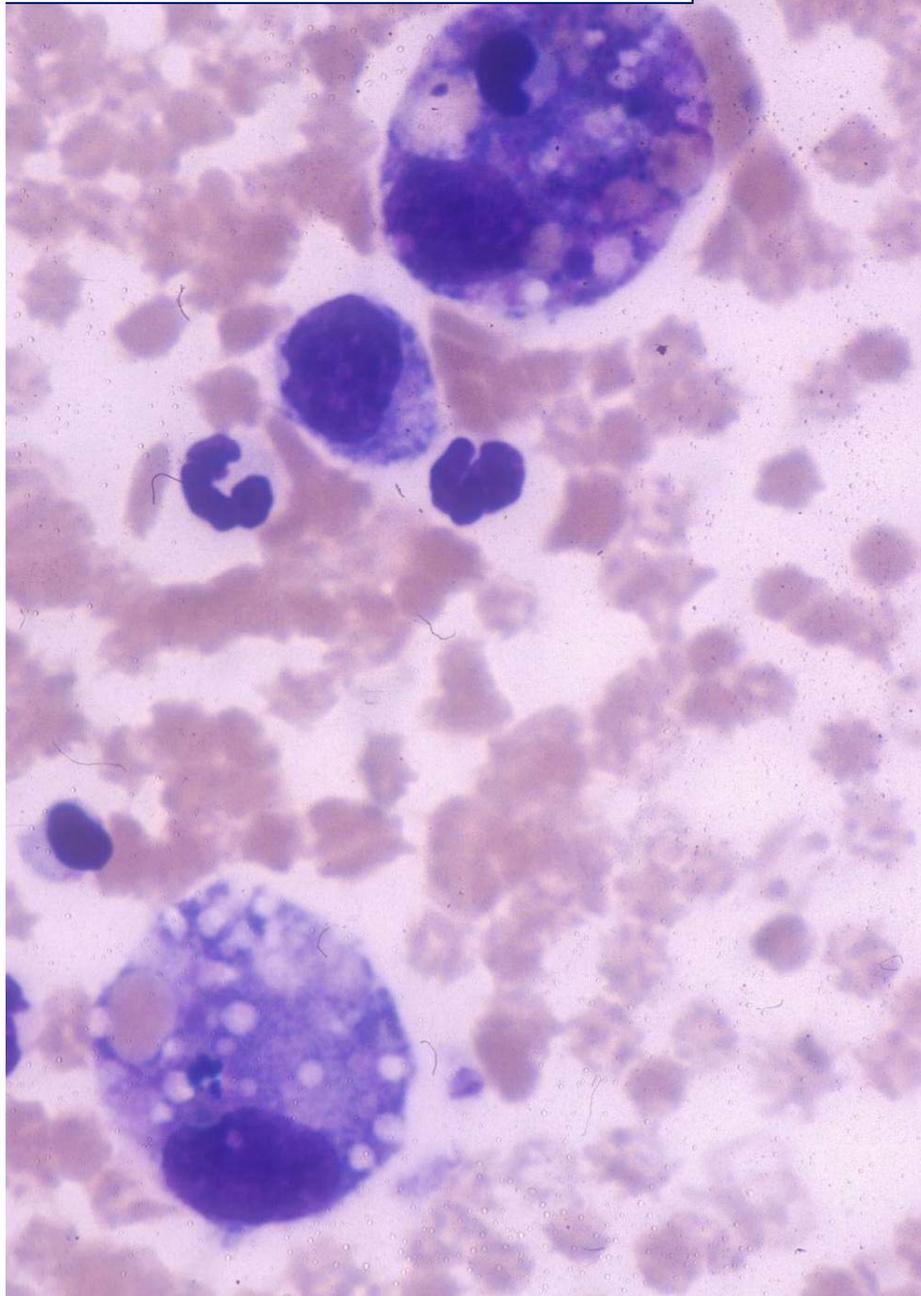
Cristalli di colesterolo (comunissimi nelle lesioni a contenuto cheratinico)

Ematomi

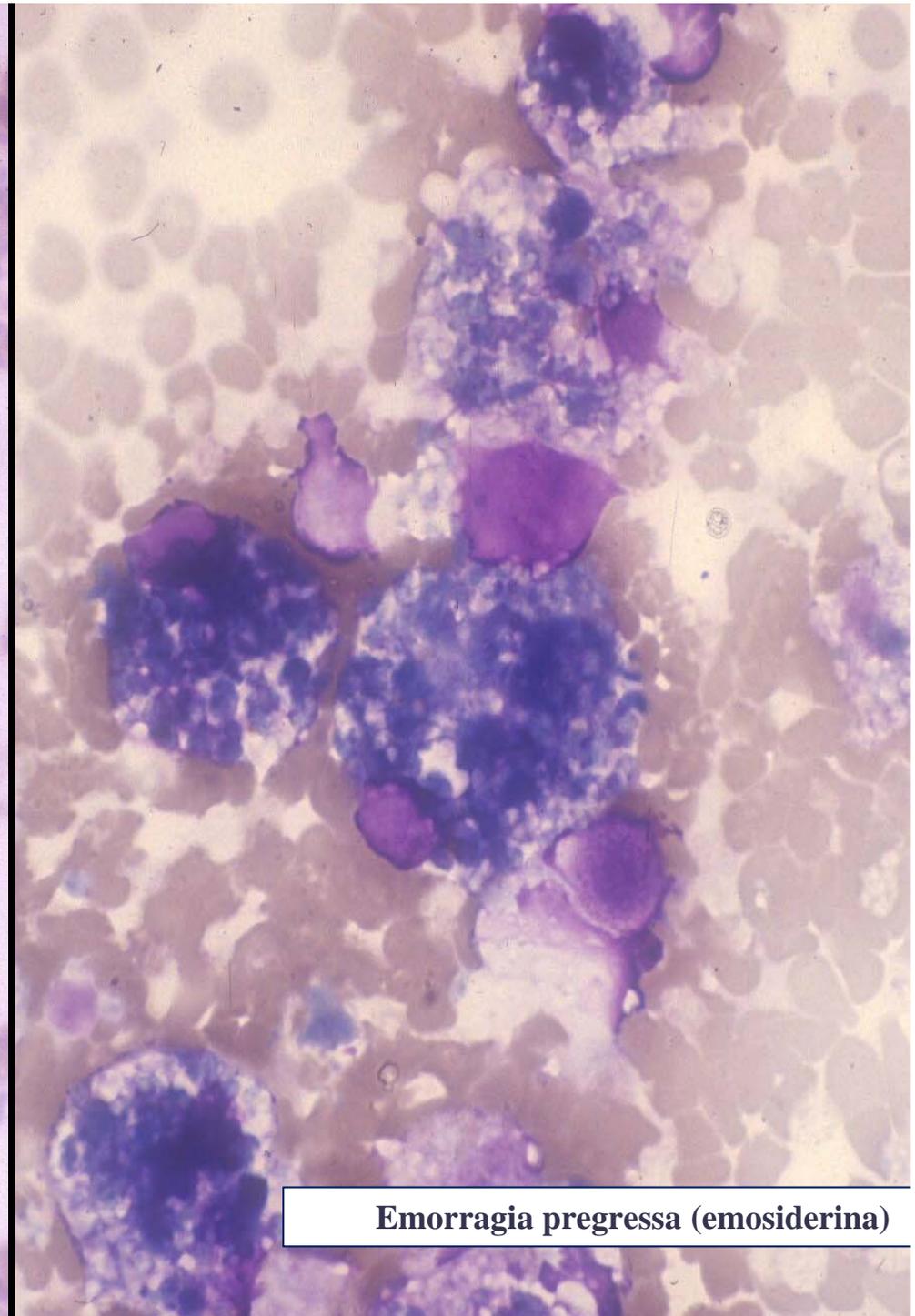
Emorragia recente

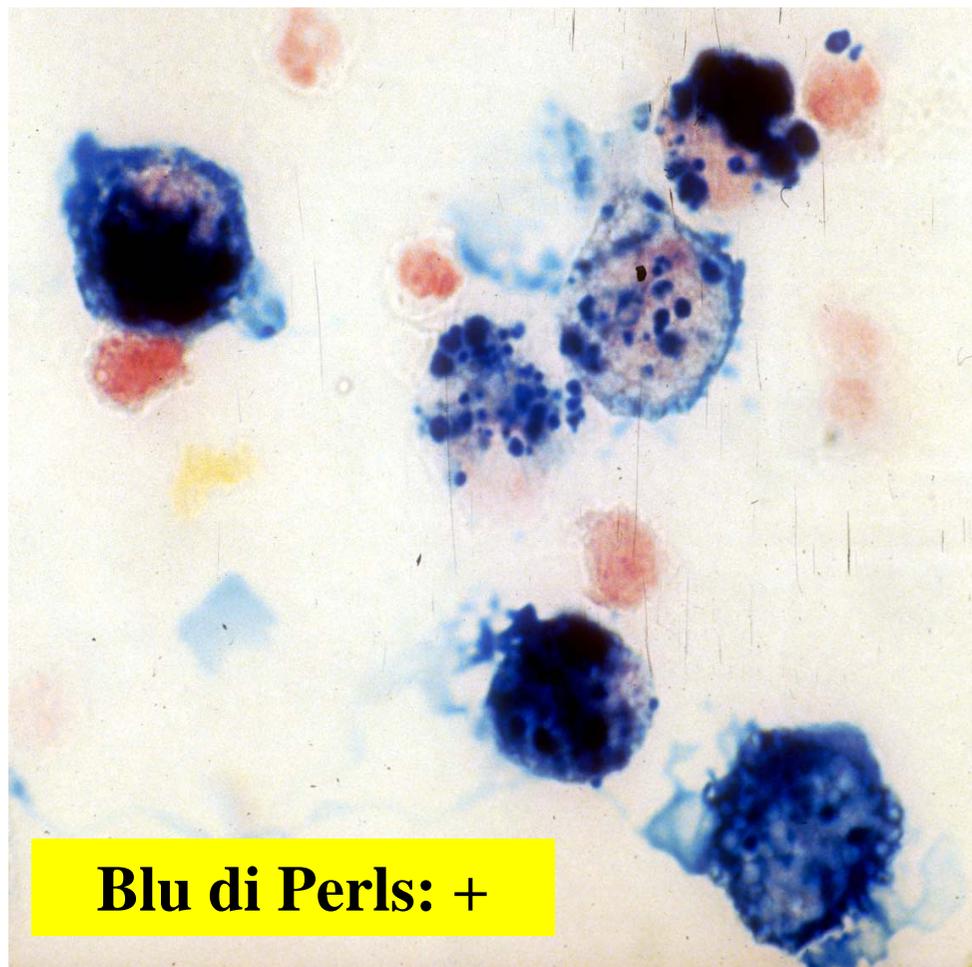


**Emorragia ricorrente
(eritrociti+emosiderina)**



Emorragia progressa (emosiderina)





Blu di Perls: +

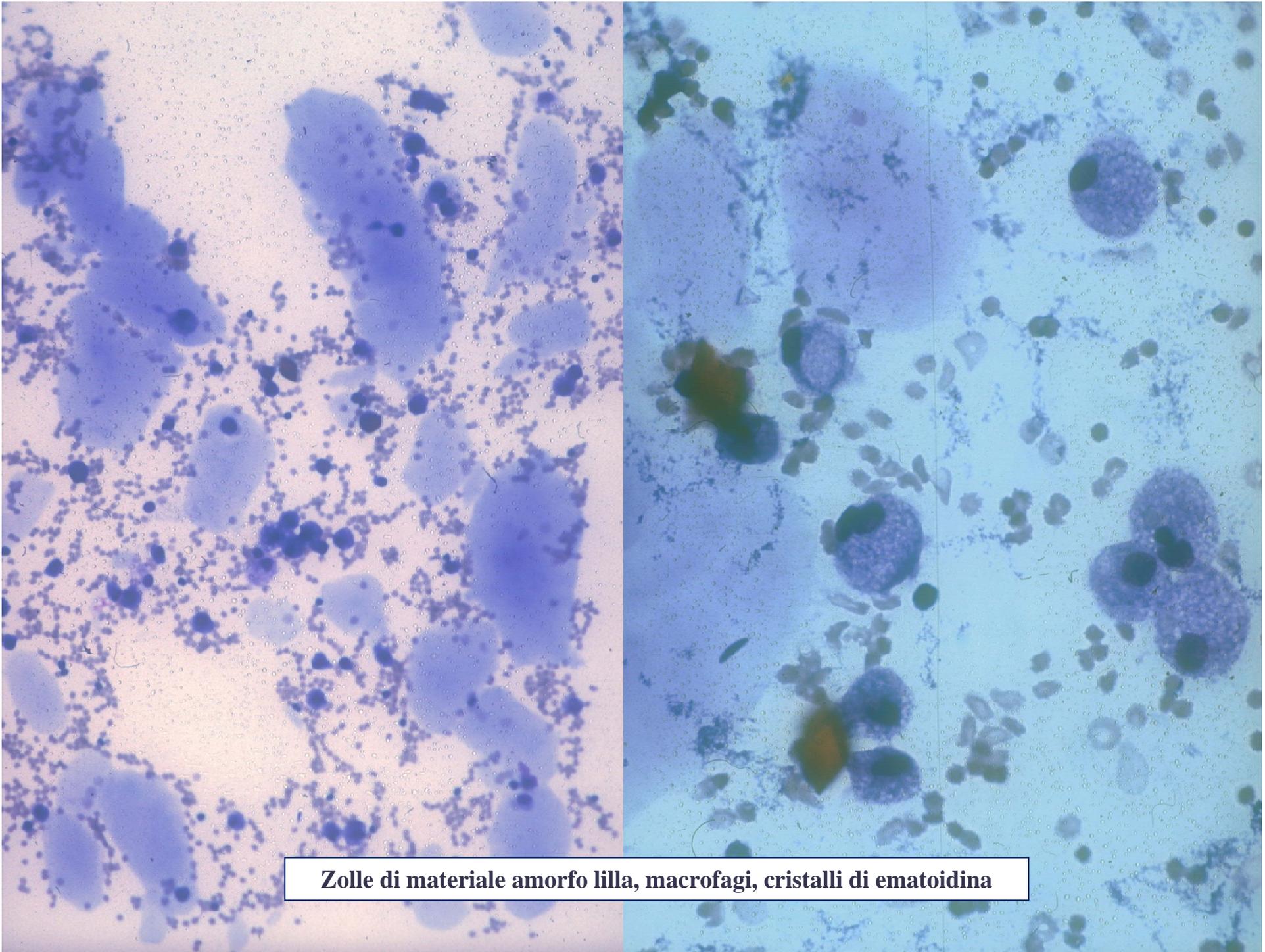
Evidenzia l'emosiderina

-Importante nel cavallo per fare dd fra emorragia da sforzo e antracosi (lavaggio broncoalveolare)

Mucocele salivare

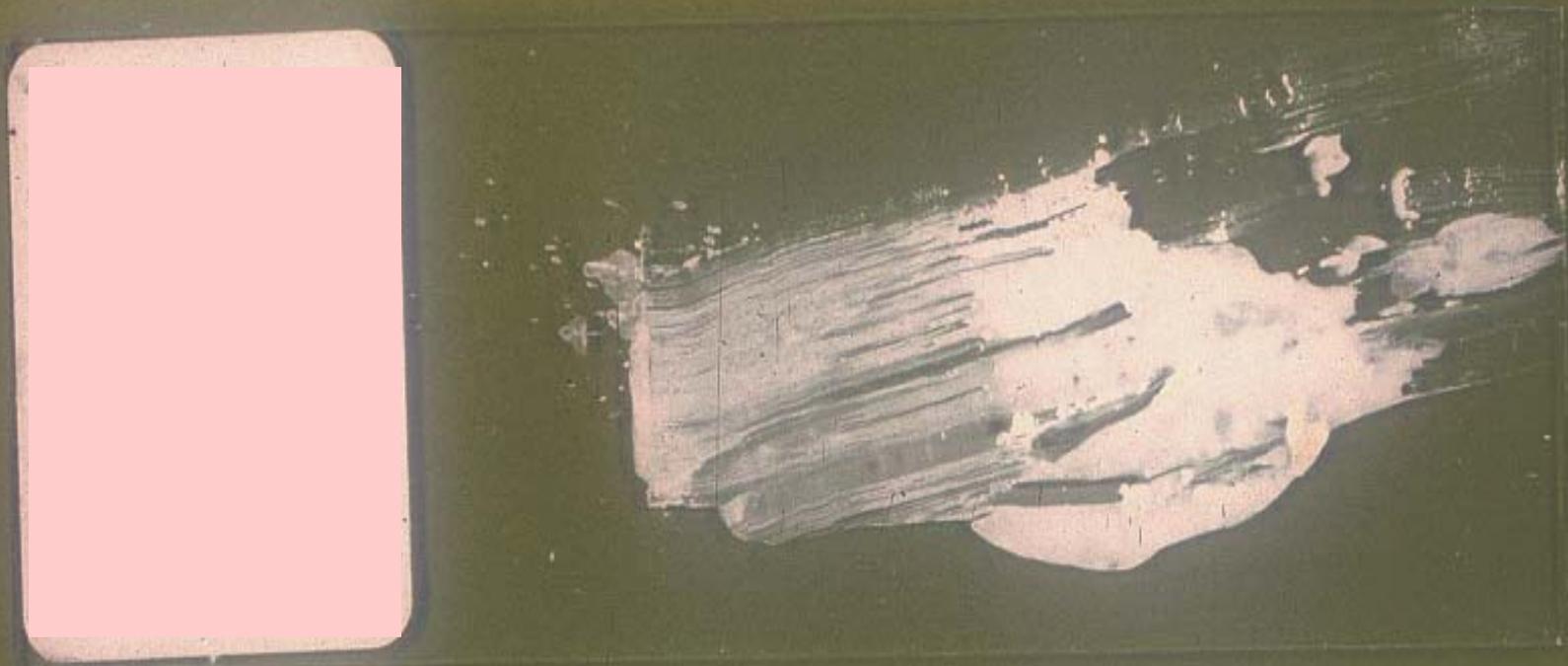
SuperFrost

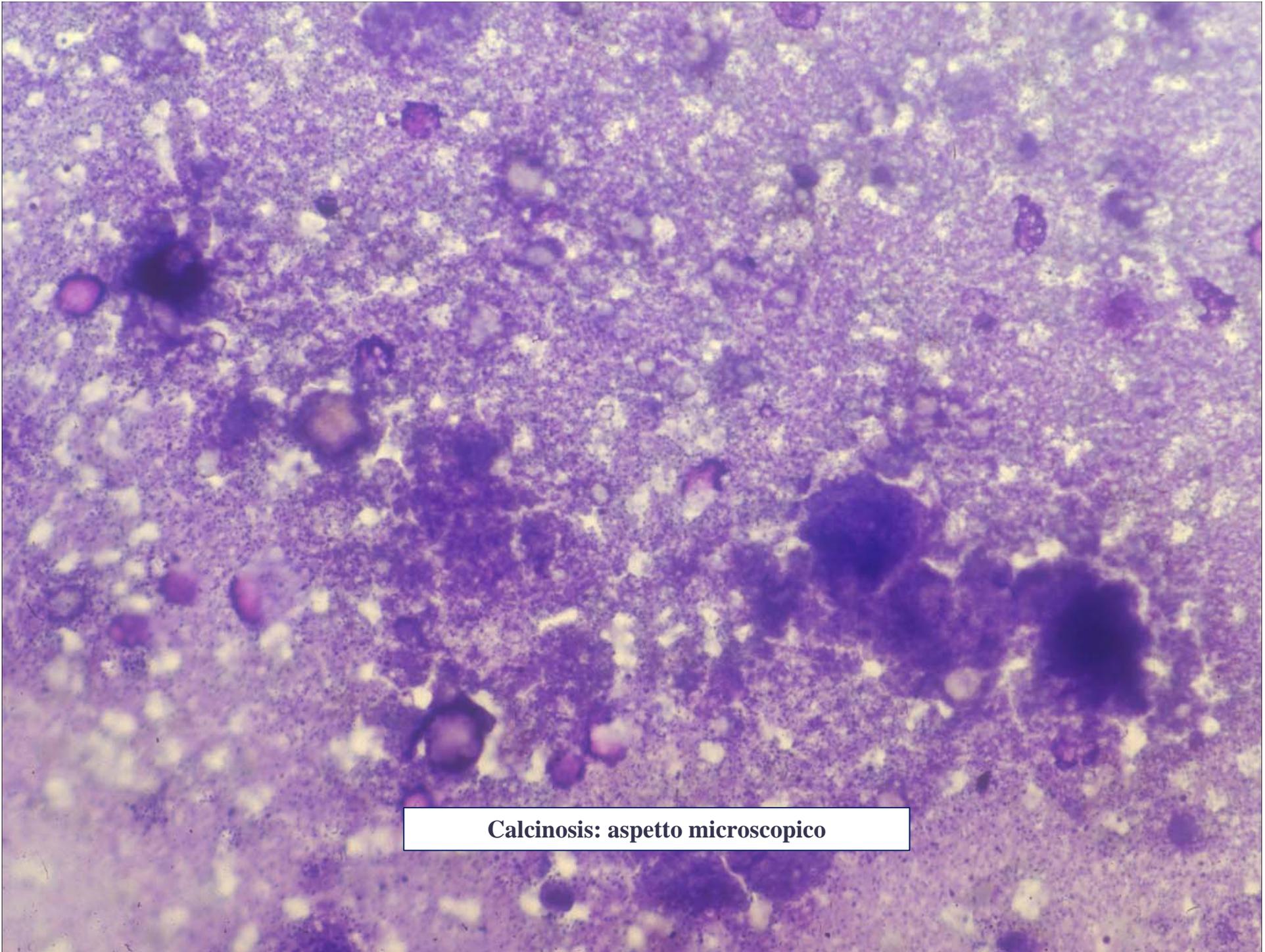
A microscopic image showing a salivary mucocele. The structure is a large, pale, oval-shaped mass with a central, darker, circular area. The surrounding tissue is stained and appears granular. The image is oriented vertically on a slide.



Zolle di materiale amorfo lilla, macrofagi, cristalli di ematoidina

Calcinosis circumscripta





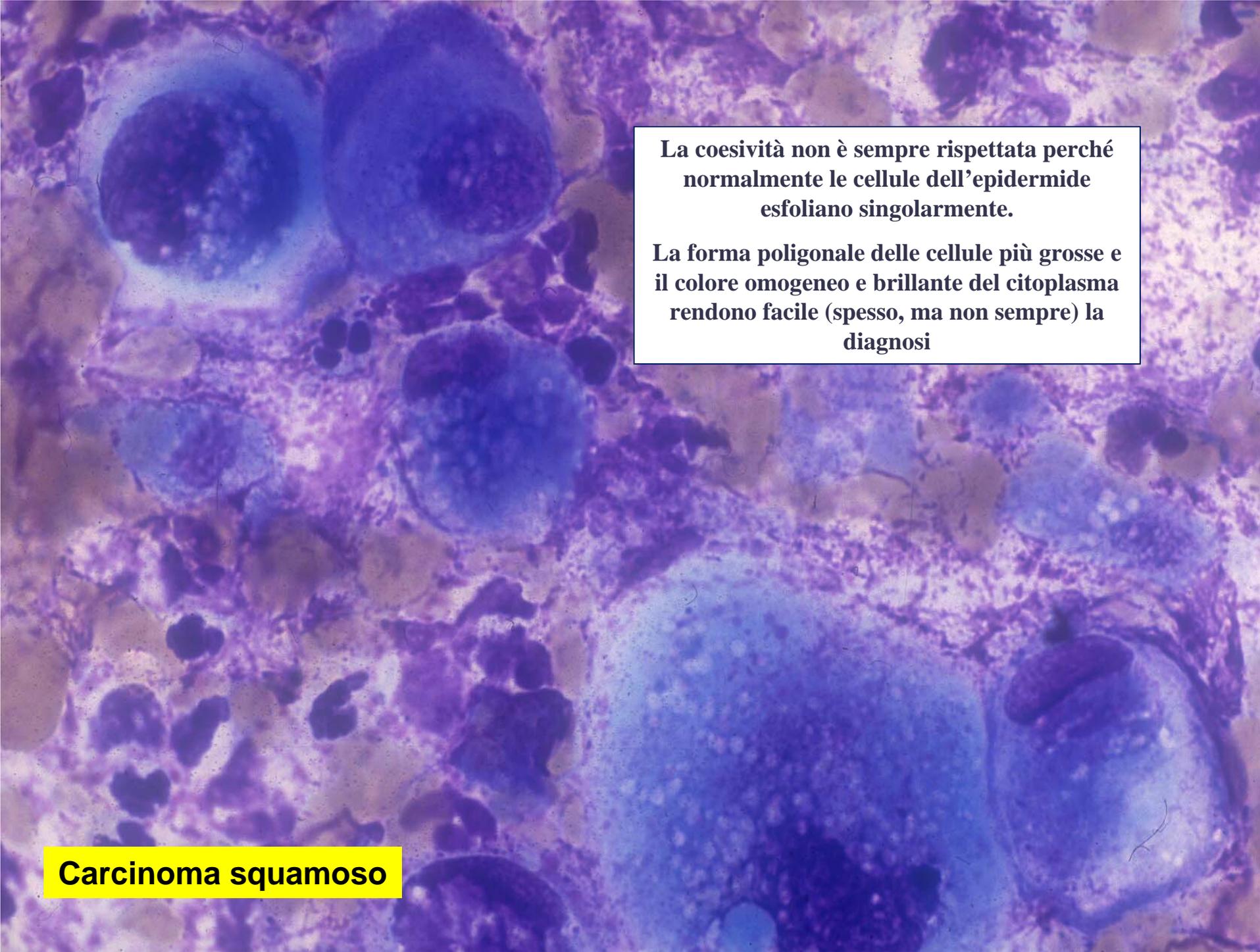
Calcinosis: aspetto microscopico

2b- Lesioni neoplastiche

Tumori epiteliali



Le cellule sono attaccate fra loro (coesive)



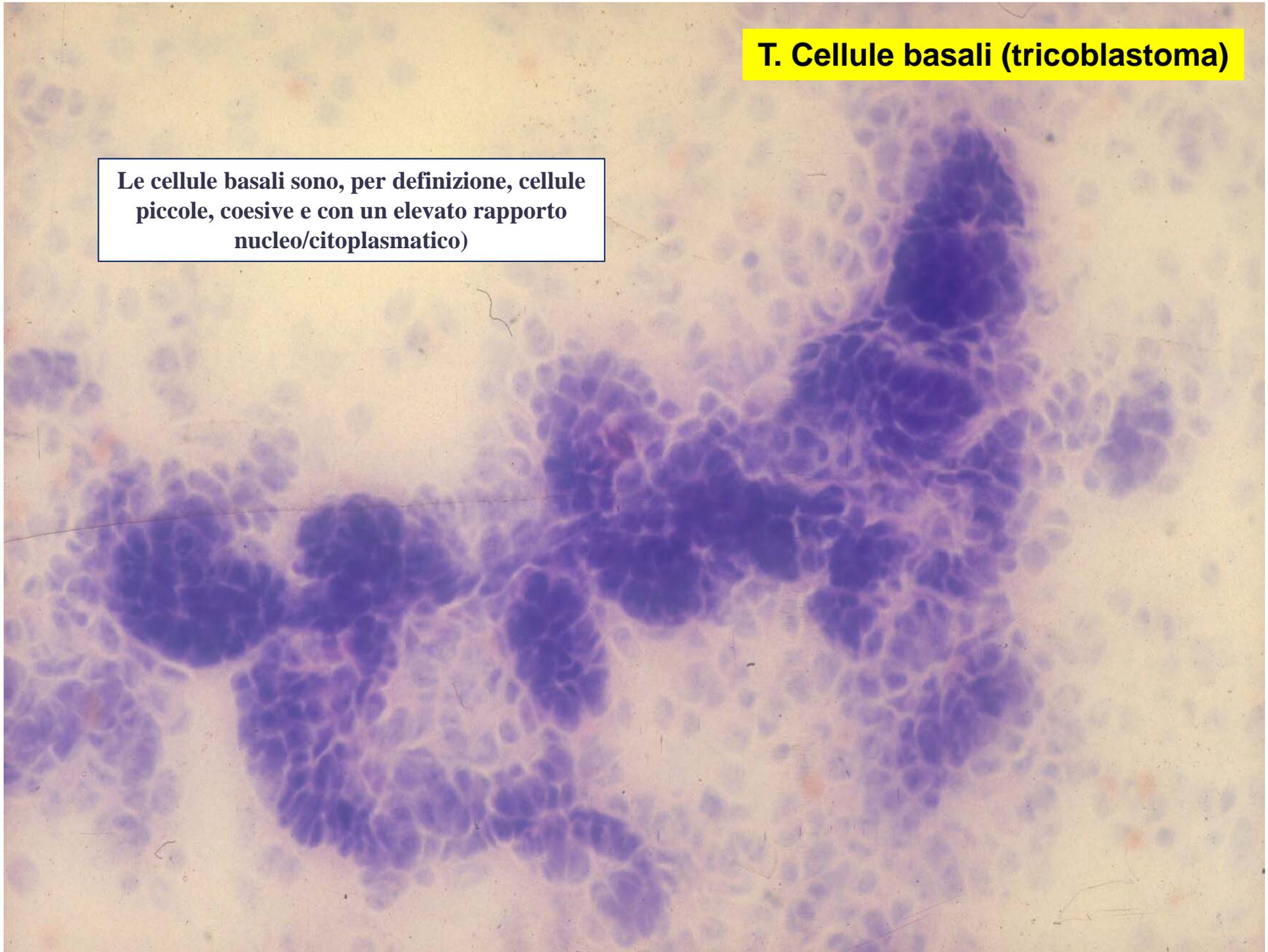
La coesività non è sempre rispettata perché normalmente le cellule dell'epidermide esfoliano singolarmente.

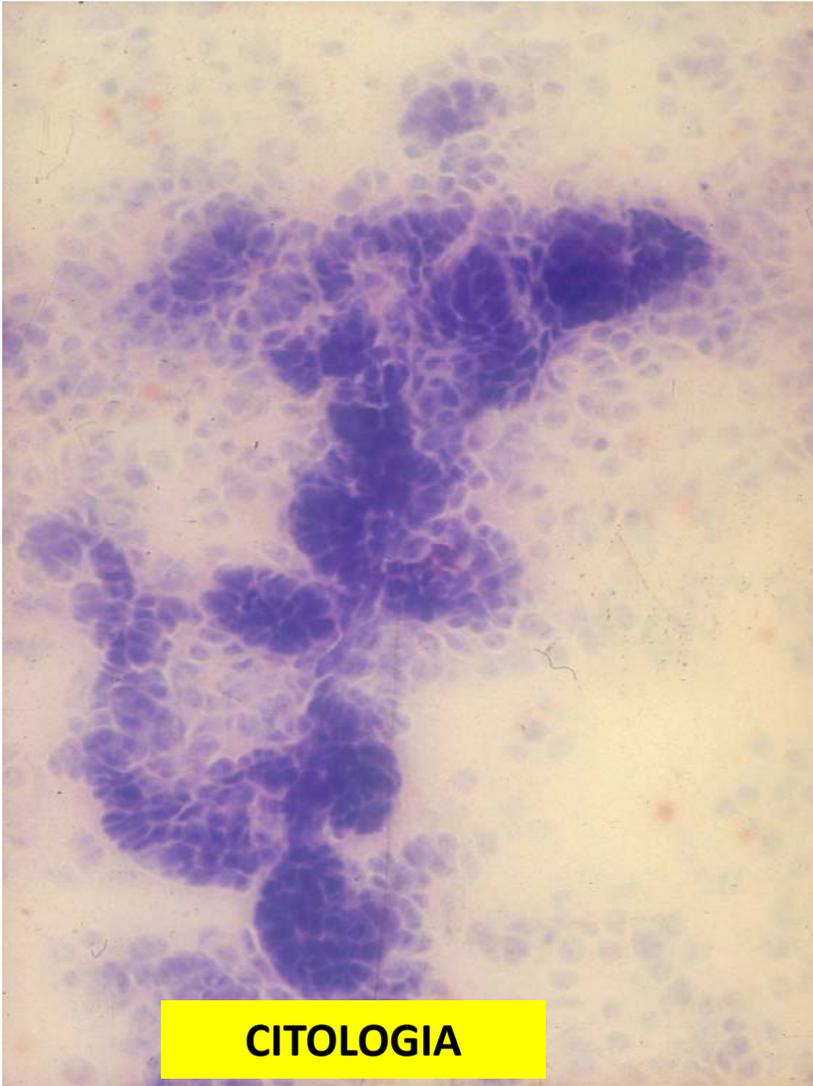
La forma poligonale delle cellule più grosse e il colore omogeneo e brillante del citoplasma rendono facile (spesso, ma non sempre) la diagnosi

Carcinoma squamoso

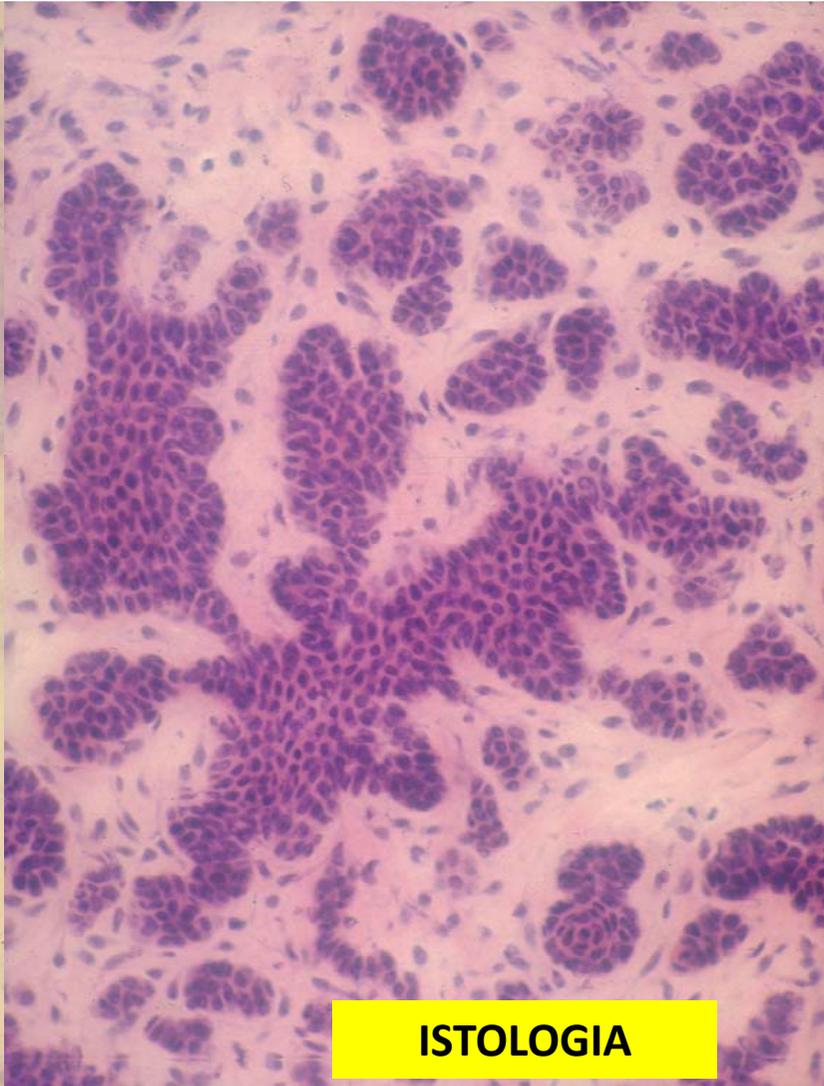
T. Cellule basali (tricoblastoma)

Le cellule basali sono, per definizione, cellule piccole, coesive e con un elevato rapporto nucleo/citoplasmatico)





CITOLOGIA



ISTOLOGIA

Tumori sebacei



Adenoma sebaceo: cellule basali accompagnano cellule schiumose mature.

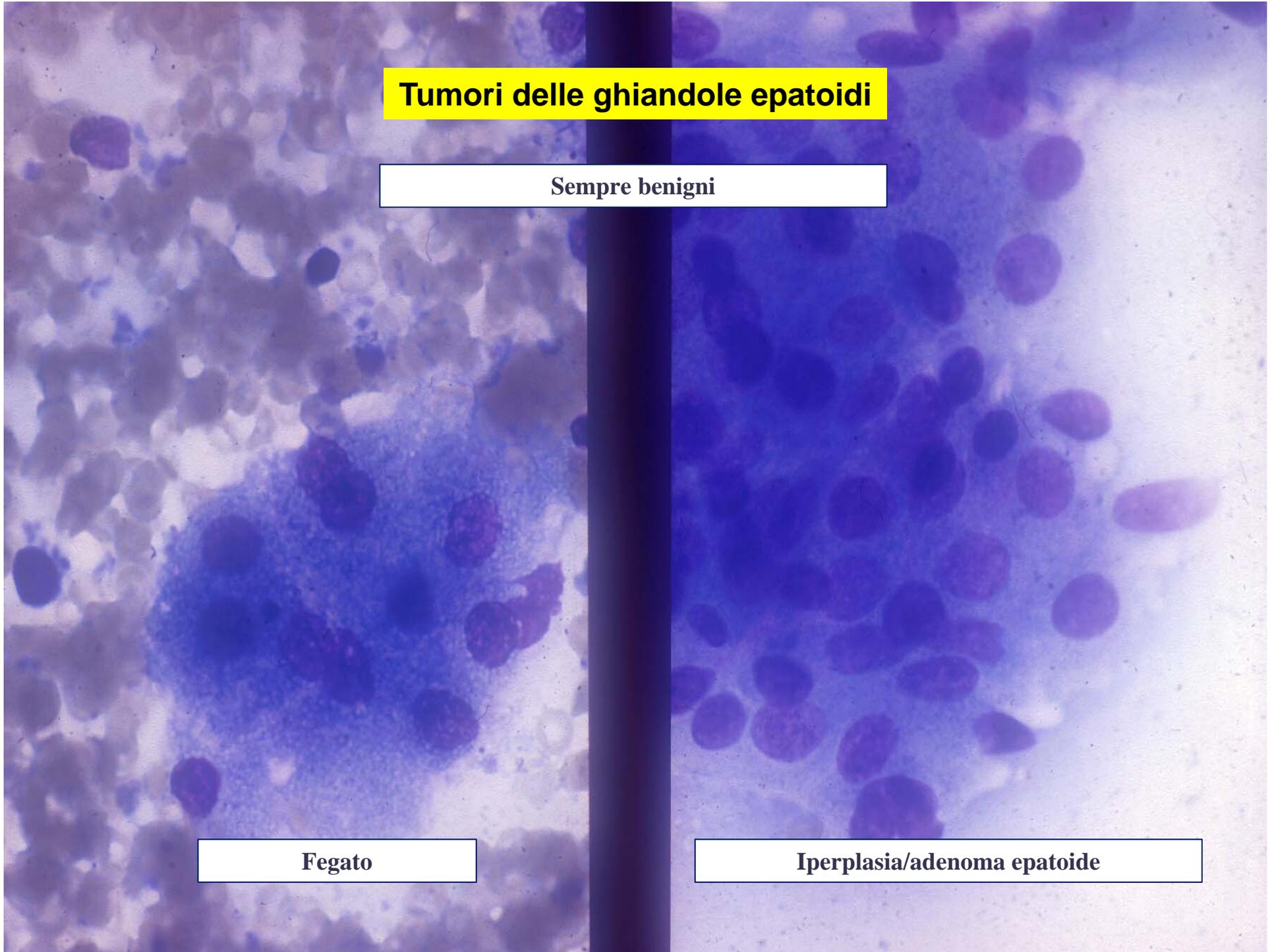
C'è variabilità fra le cellule, ma non è maligno in quanto ricapitola la maturazione della ghiandola sebacea

Tumori delle ghiandole epatoidi

Sempre benigni

Fegato

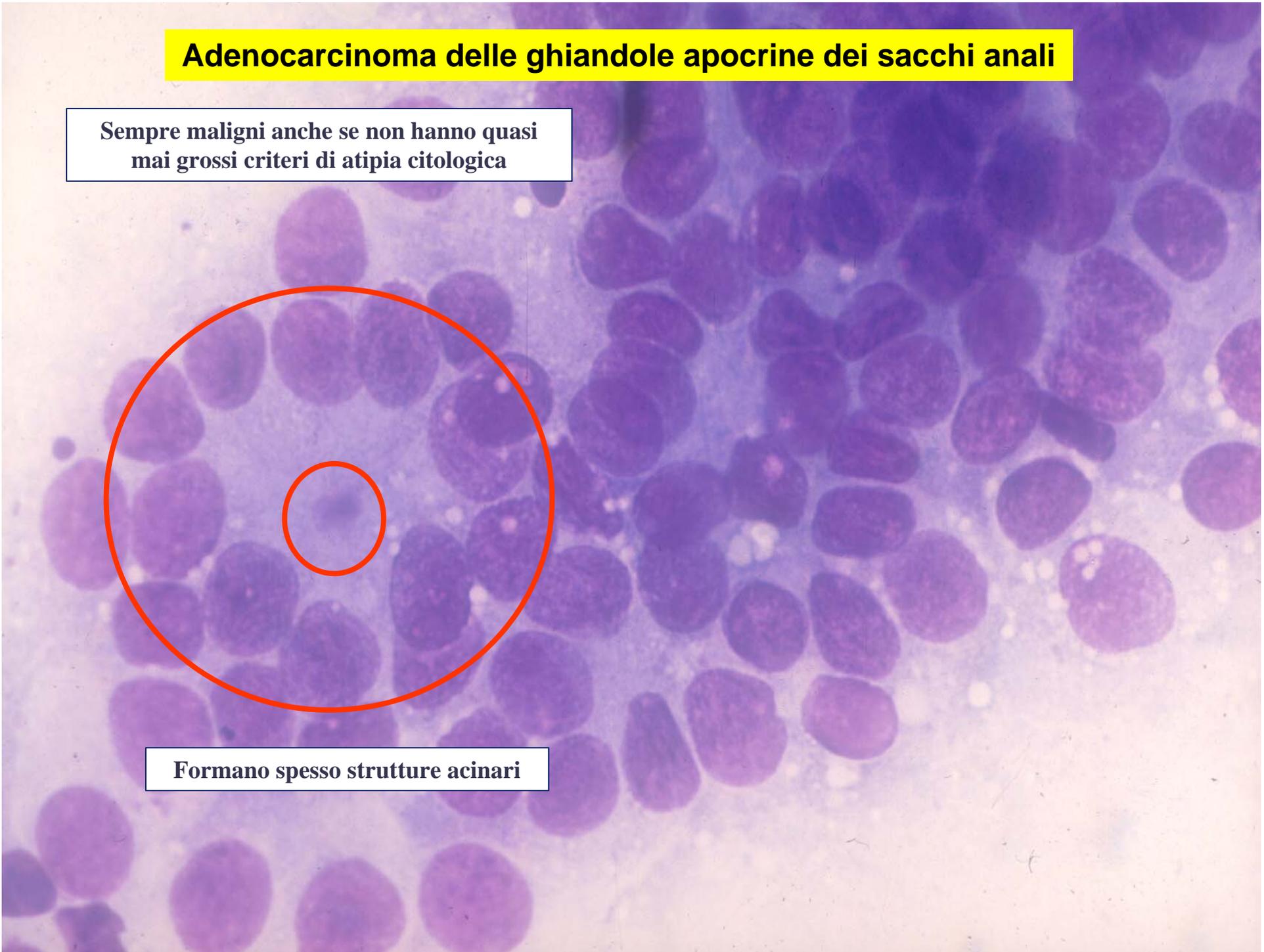
Iperplasia/adenoma epatoide



Adenocarcinoma delle ghiandole apocrine dei sacchi anali

Sempre maligni anche se non hanno quasi mai grossi criteri di atipia citologica

Formano spesso strutture acinari



Tumori a cellule fusate

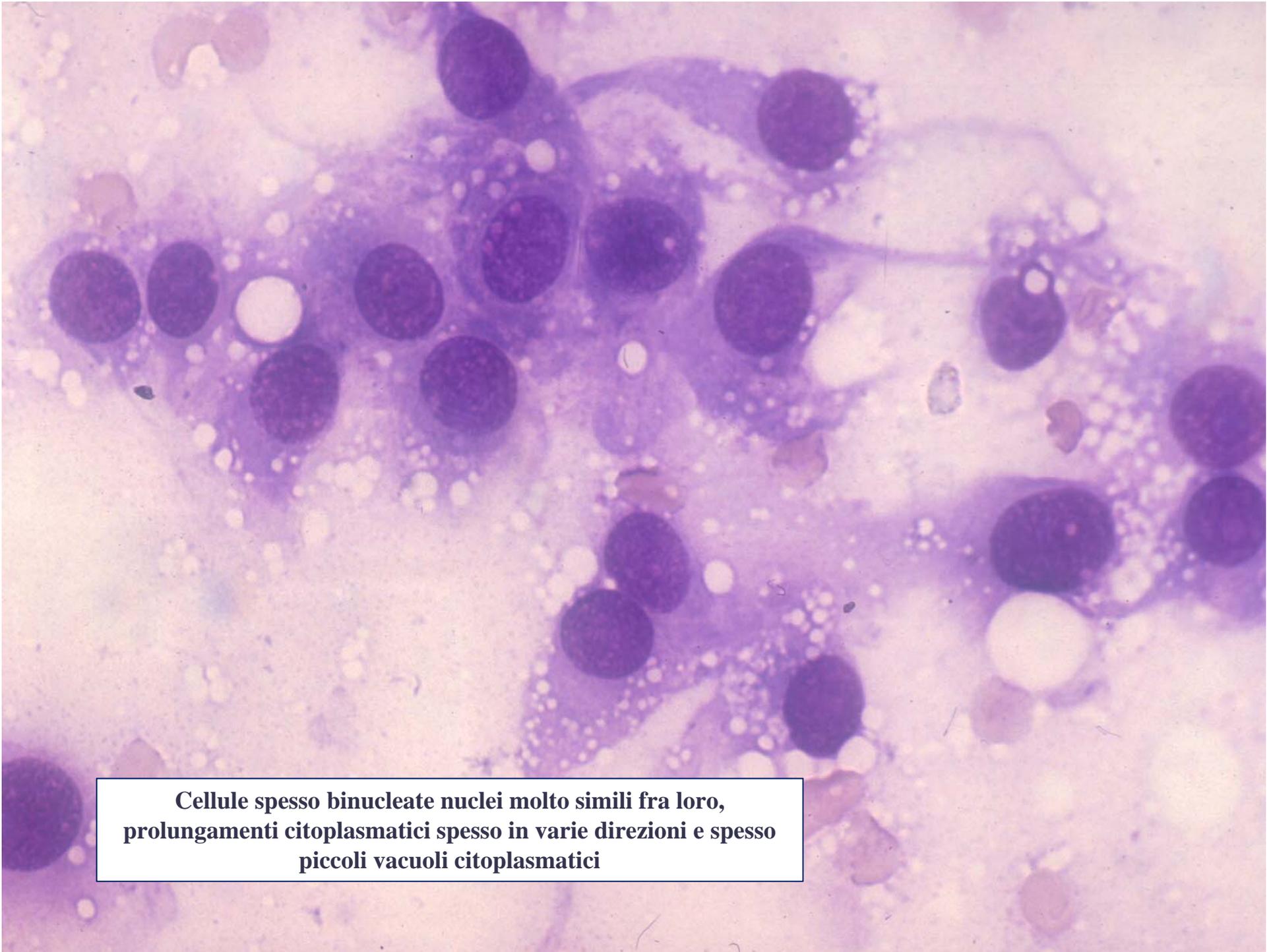


Le cellule sono singole e allungate.

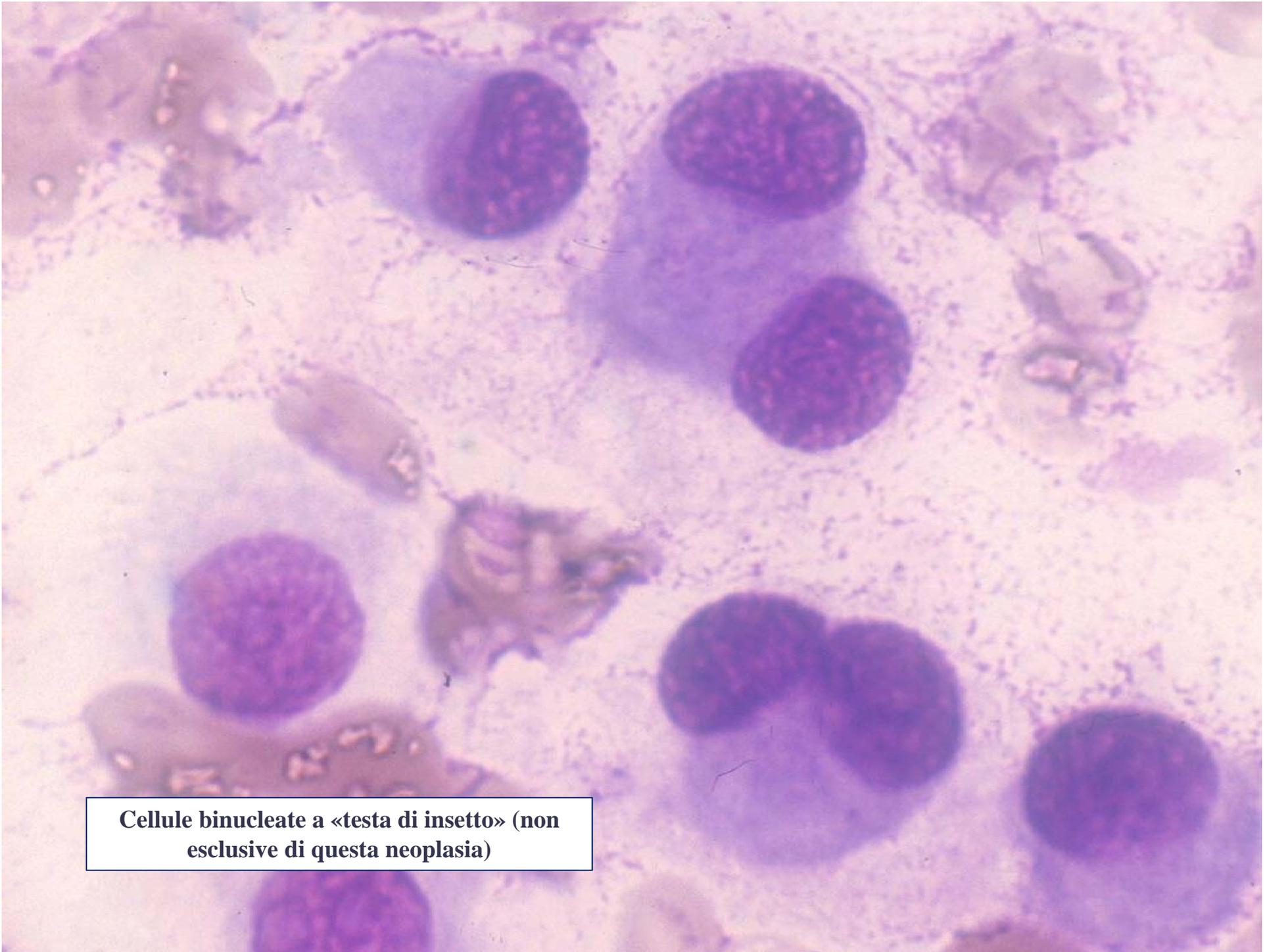
Pochi sono i tumori a cellule fusate facilmente diagnosticabili con precisione. Infatti di solito si fa diagnosi generica di «sarcoma», ma ci sono eccezioni

Tumori perivascolari

Buona cellularità e un certo grado di
«coesività»



**Cellule spesso binucleate nuclei molto simili fra loro,
prolungamenti citoplasmatici spesso in varie direzioni e spesso
piccoli vacuoli citoplasmatici**

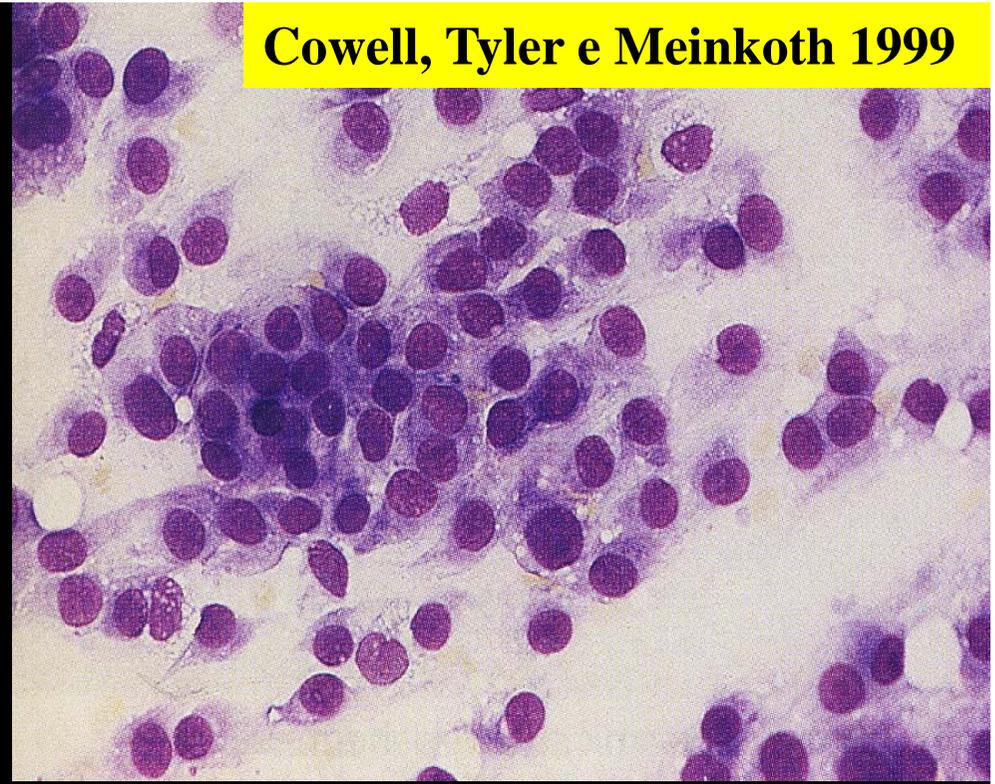


**Cellule binucleate a «testa di insetto» (non
esclusive di questa neoplasia)**

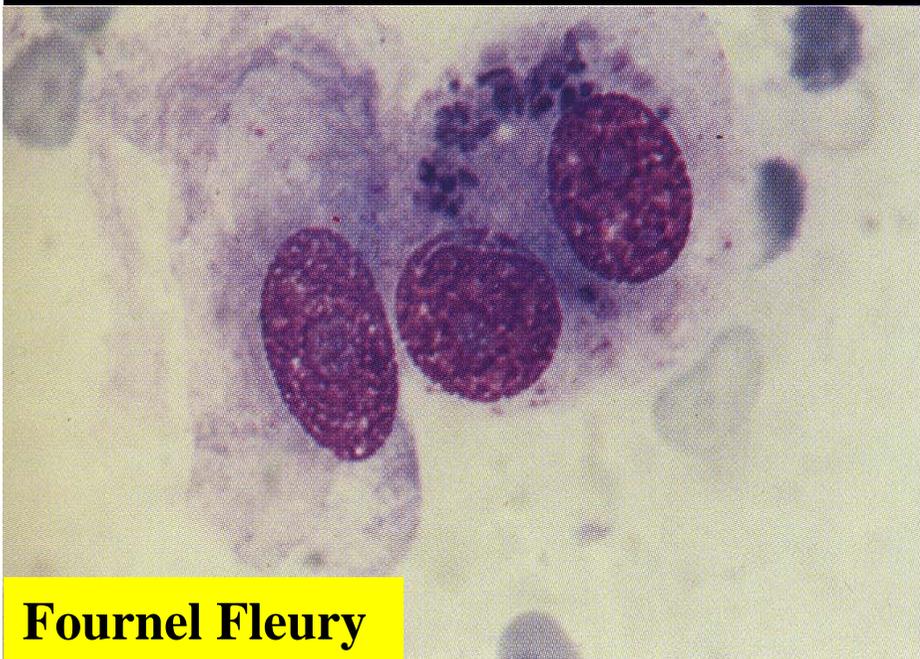
www.vdic.com



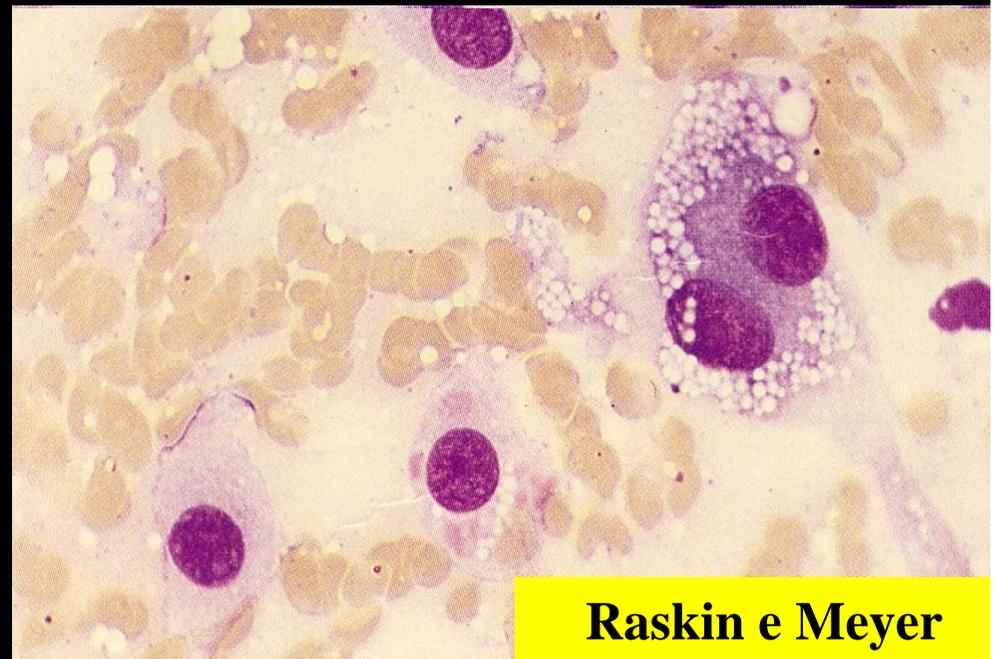
Cowell, Tyler e Meinkoth 1999



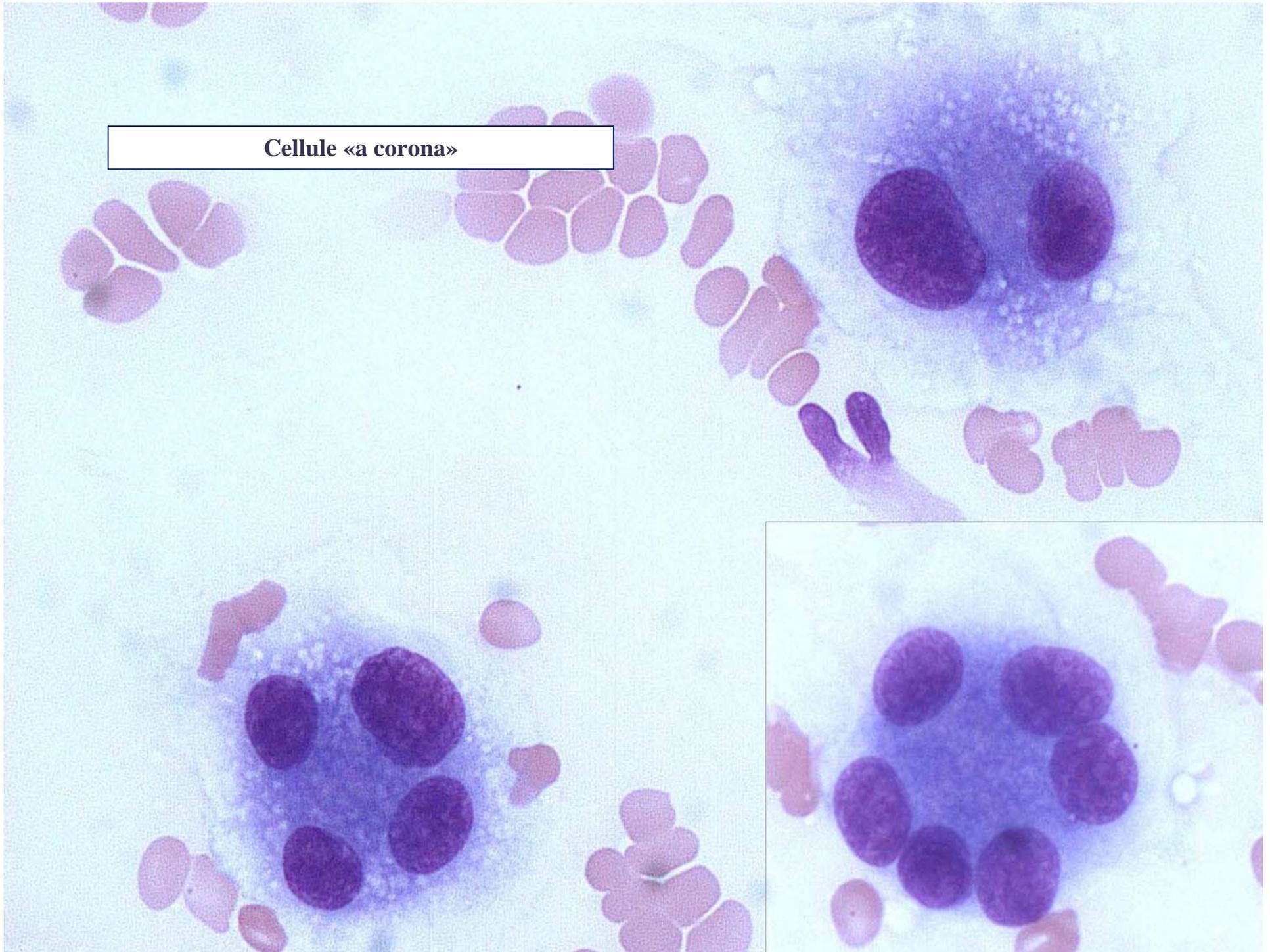
Fournel Fleury



Raskin e Meyer

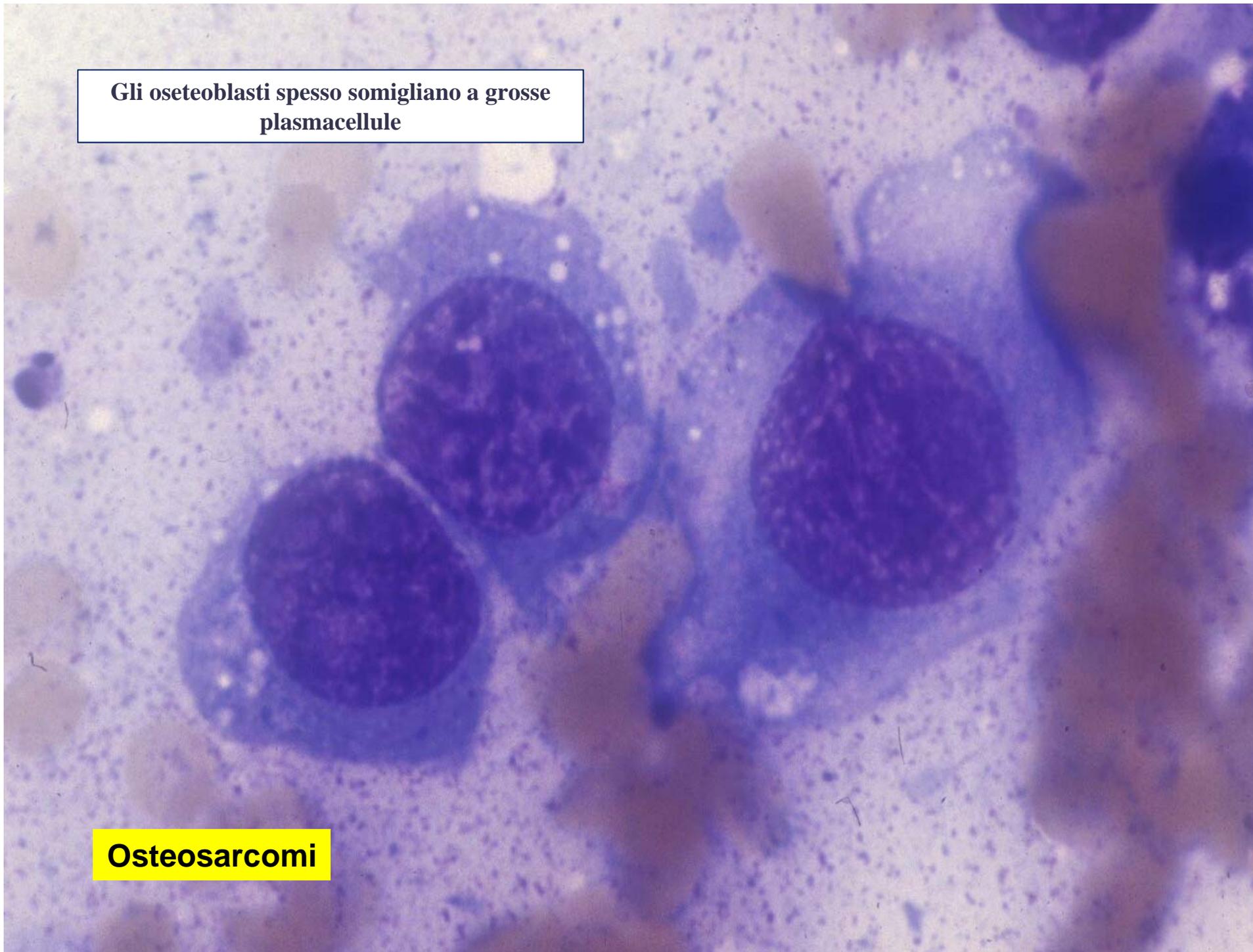


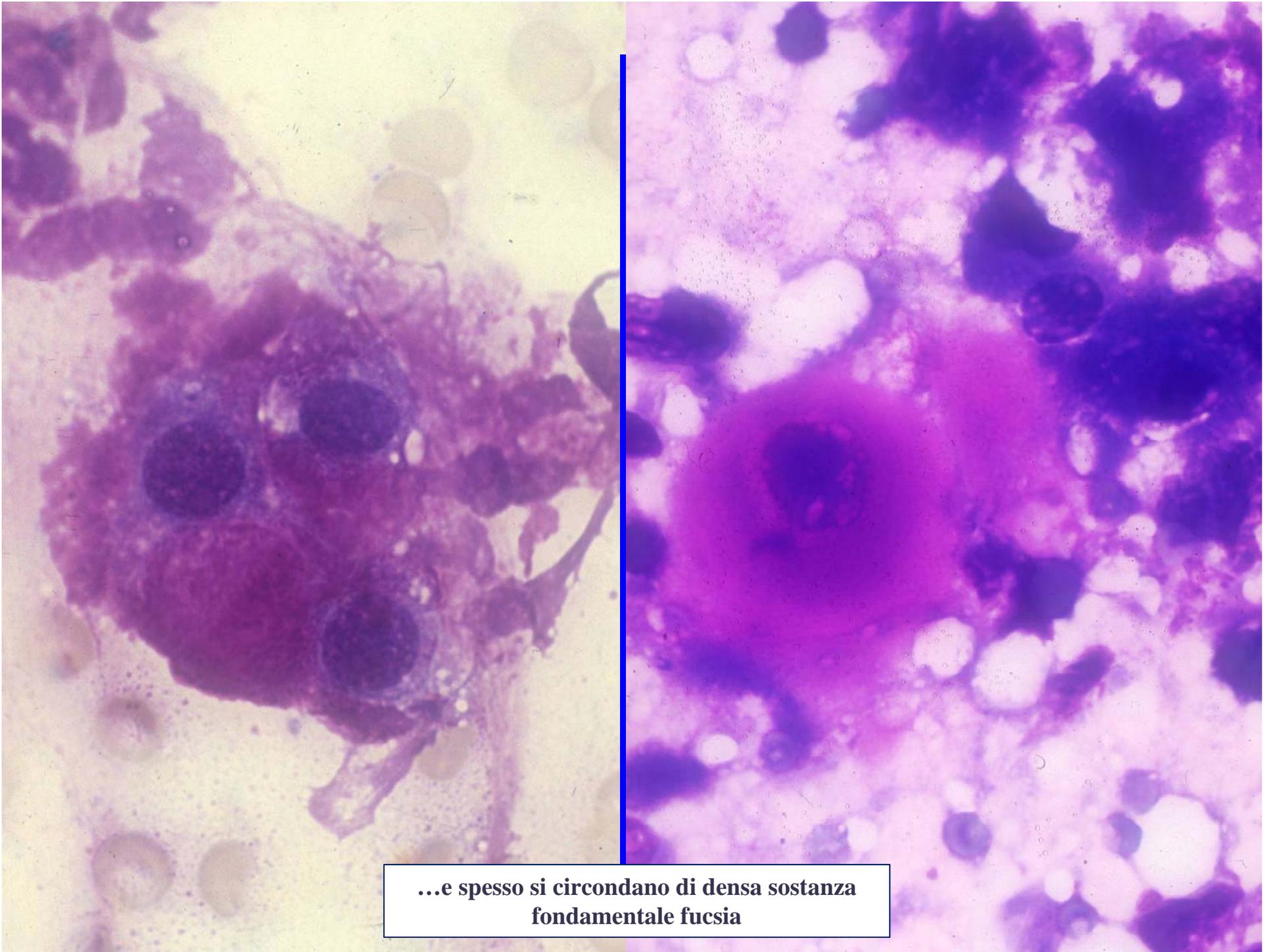
Cellule «a corona»



Gli osteoblasti spesso somigliano a grosse plasmacellule

Osteosarcomi





**...e spesso si circondano di densa sostanza
fondamentale fucsia**

Tumori a cellule rotonde



Le cellule sono rotonde, sono tante e spesso sembrano unite ma non hanno legami fra loro

TUMORI A CELLULE ROTONDE

1- mastocitoma

2- istiocitoma (del cane giovane)

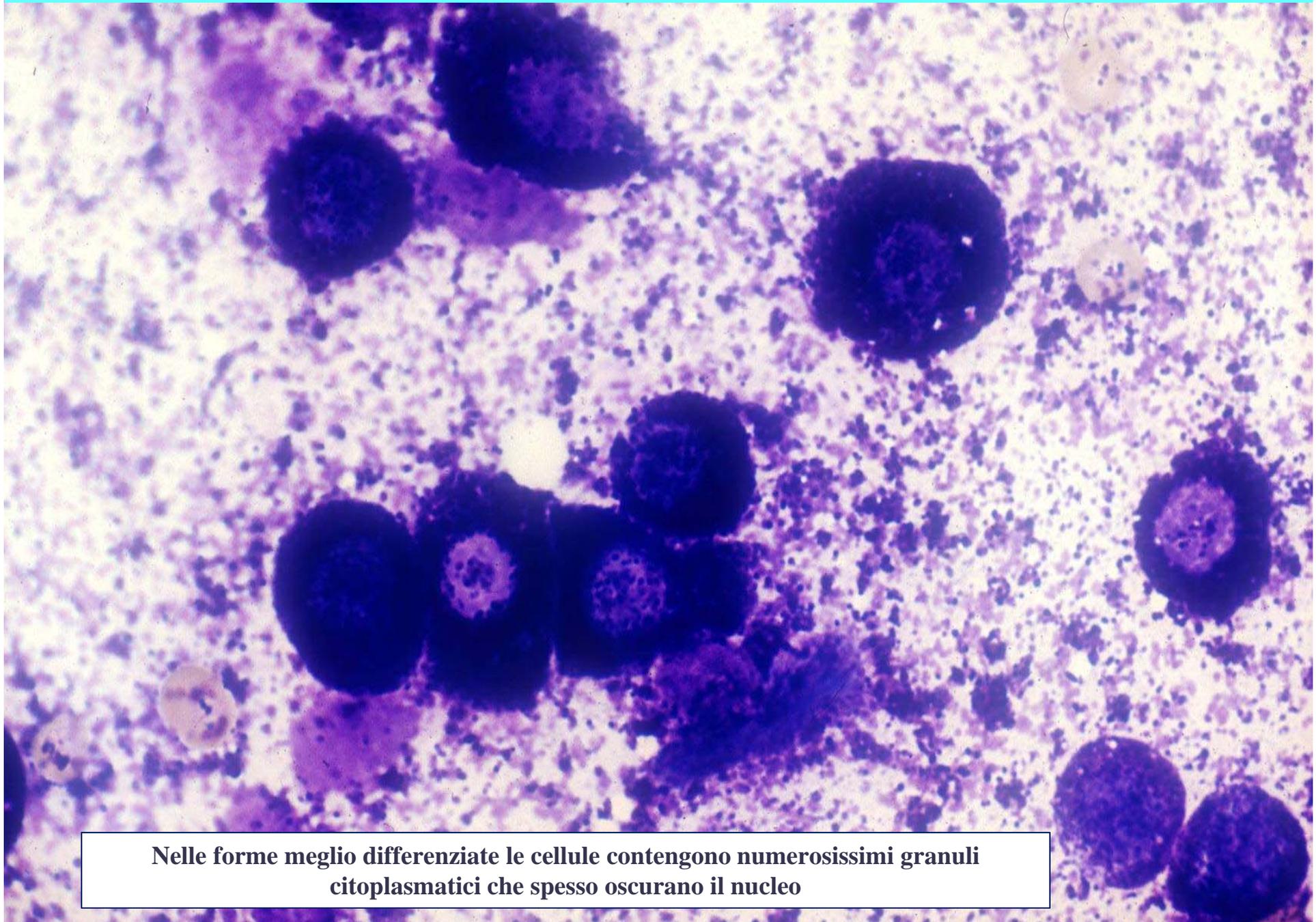
3- TVT (Sticker)

4- linfoma

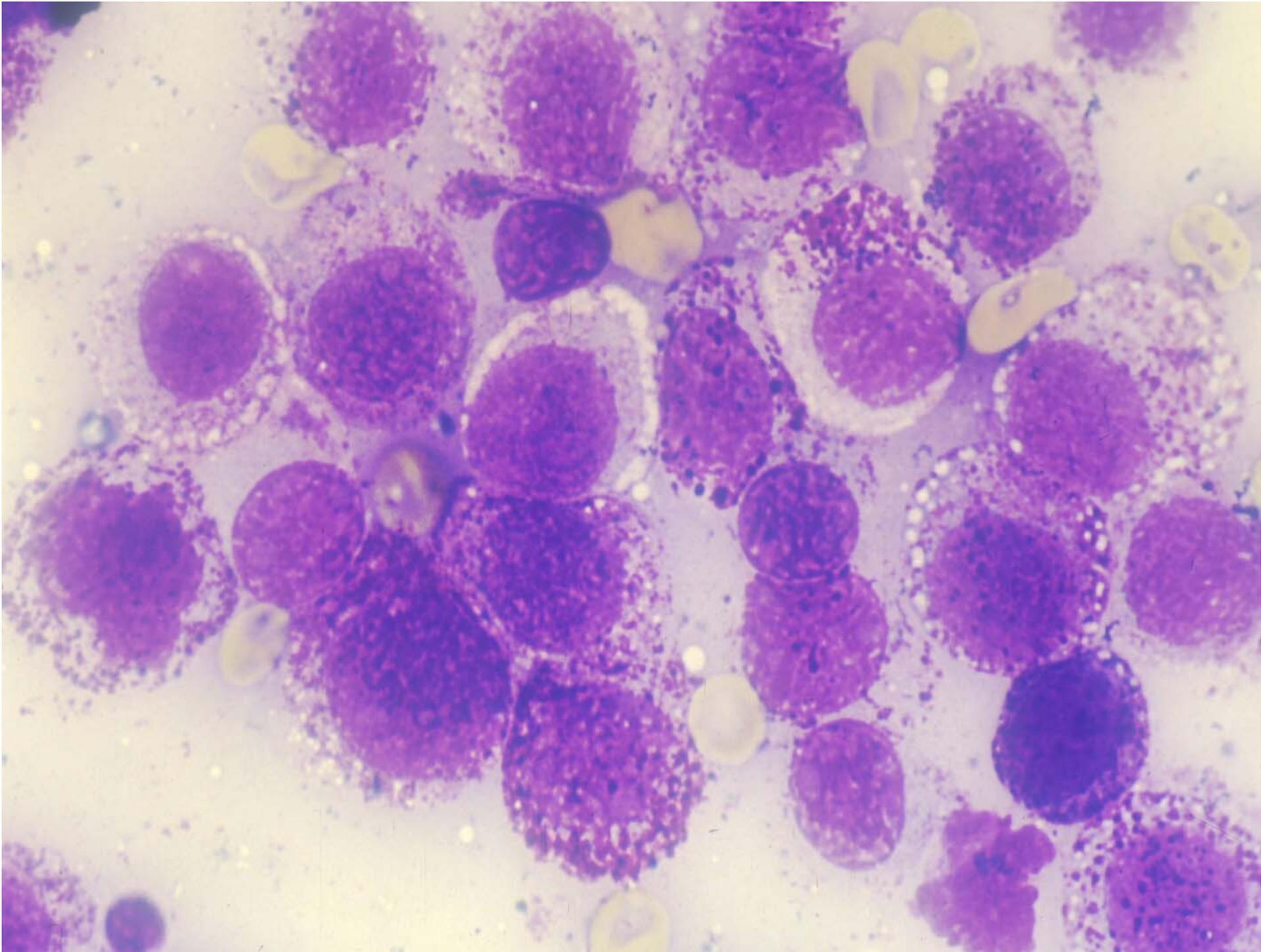
5- tumori delle plasmacellule

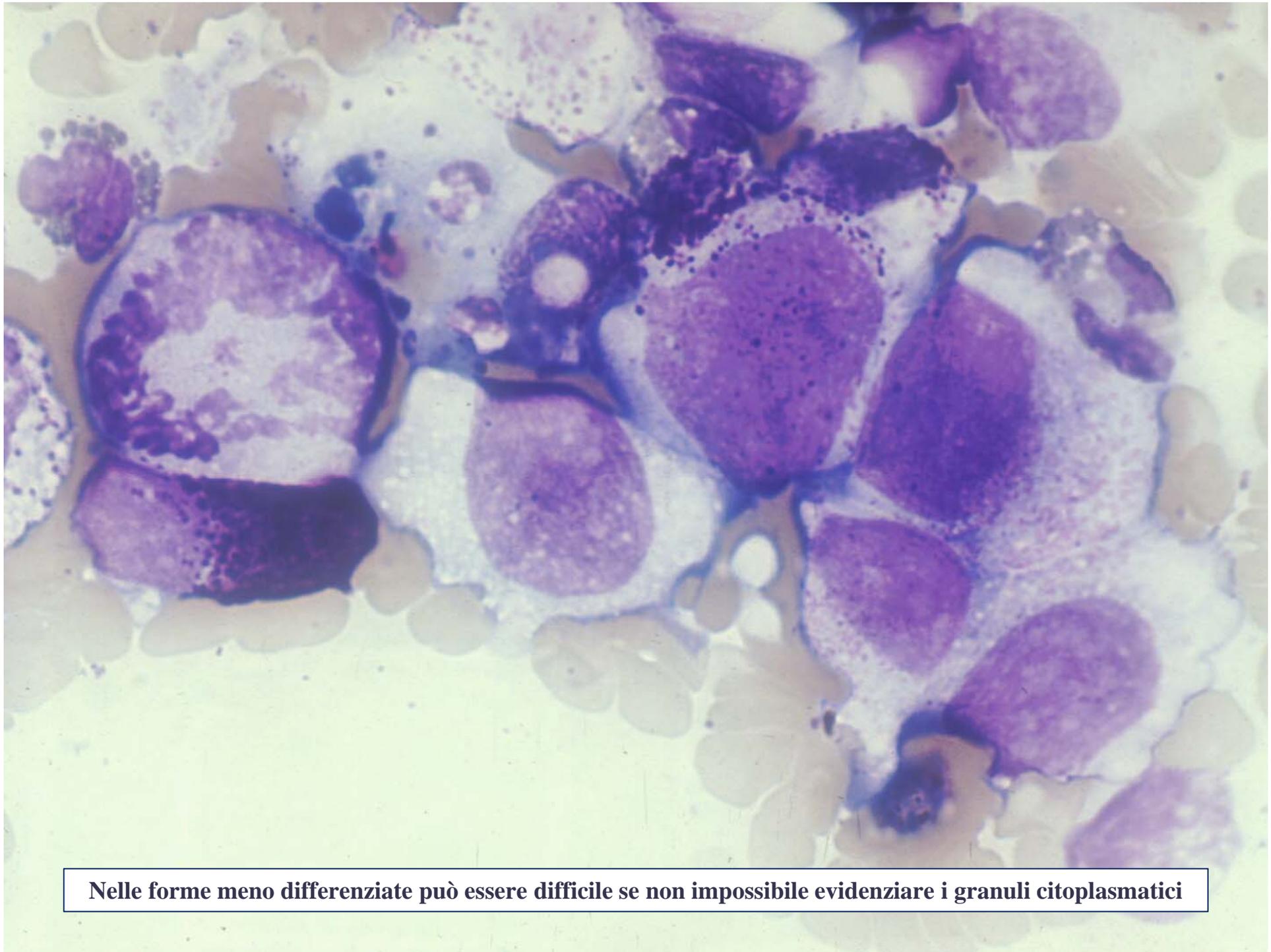
6- tumori istiocitari

1 - Mastocitoma

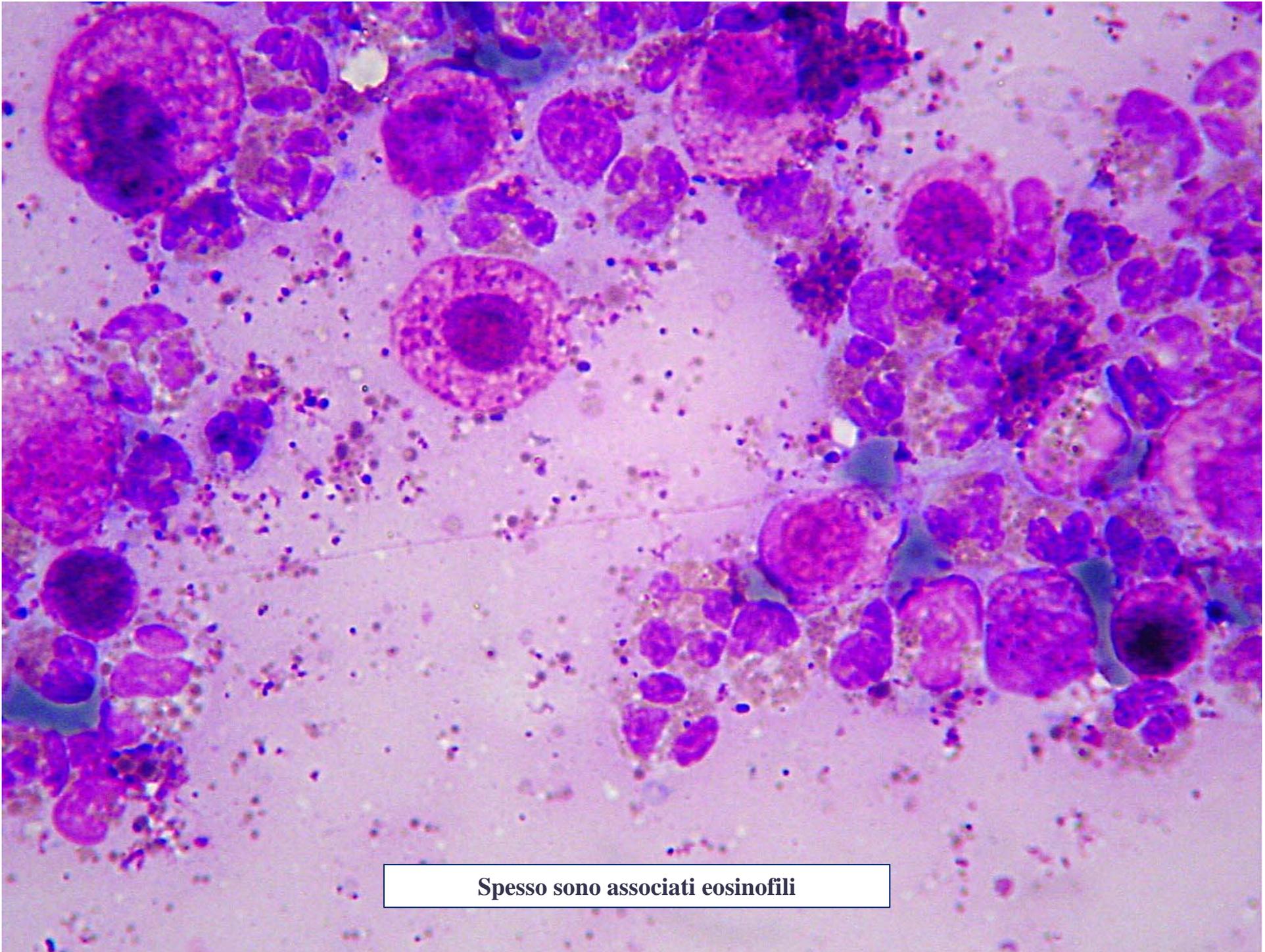


Nelle forme meglio differenziate le cellule contengono numerosissimi granuli citoplasmatici che spesso oscurano il nucleo

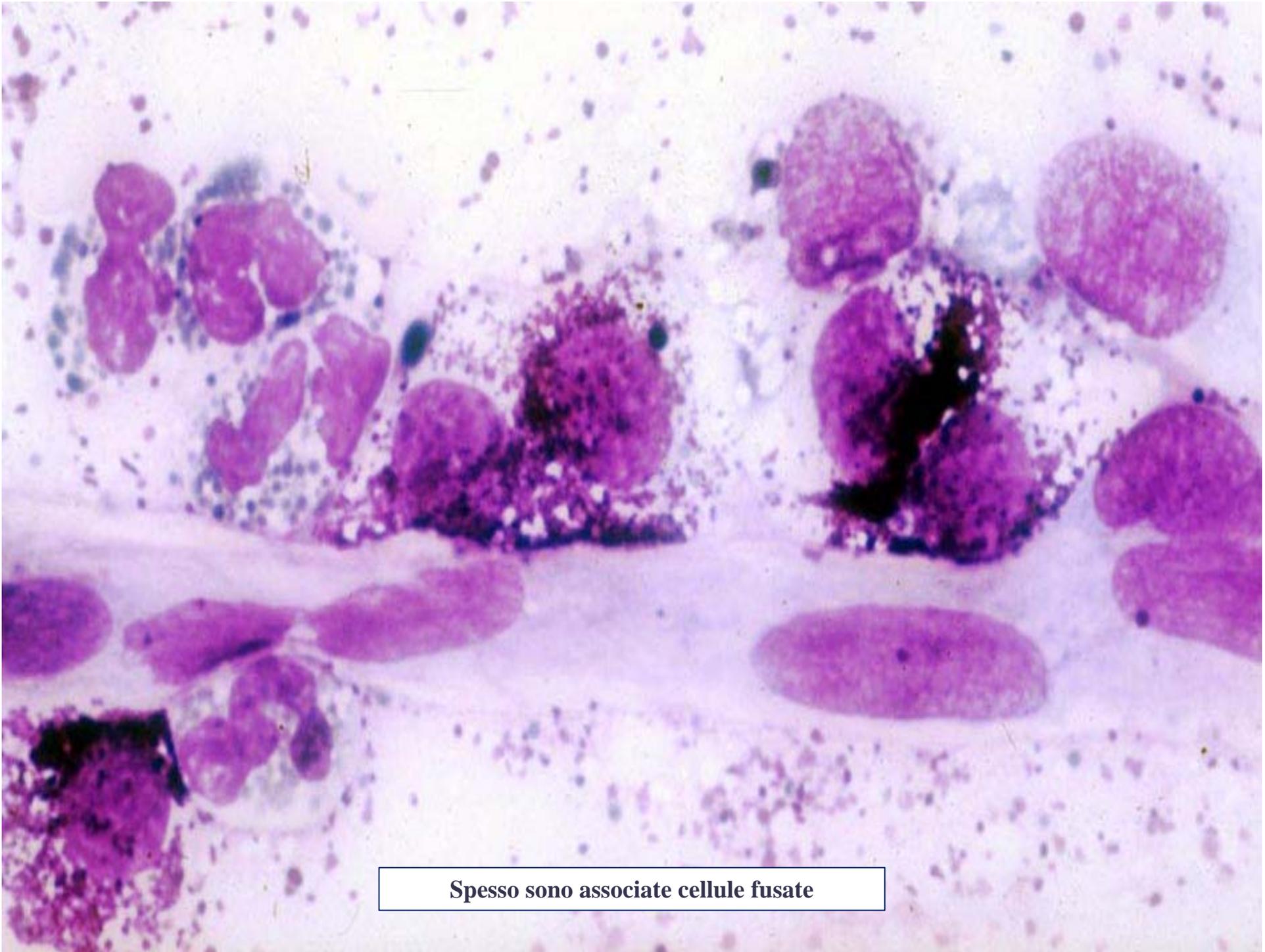




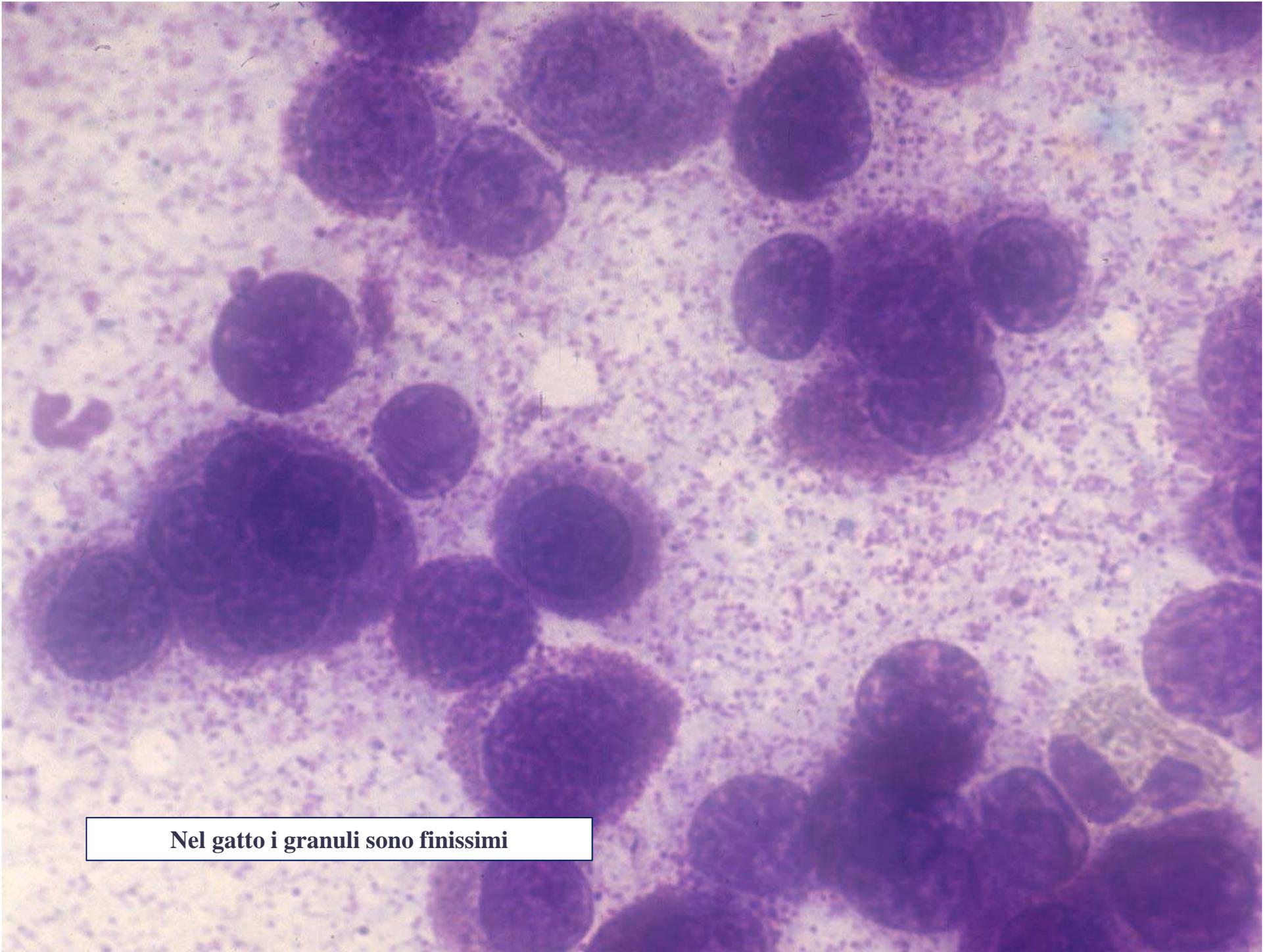
Nelle forme meno differenziate può essere difficile se non impossibile evidenziare i granuli citoplasmatici



Spesso sono associati eosinofili

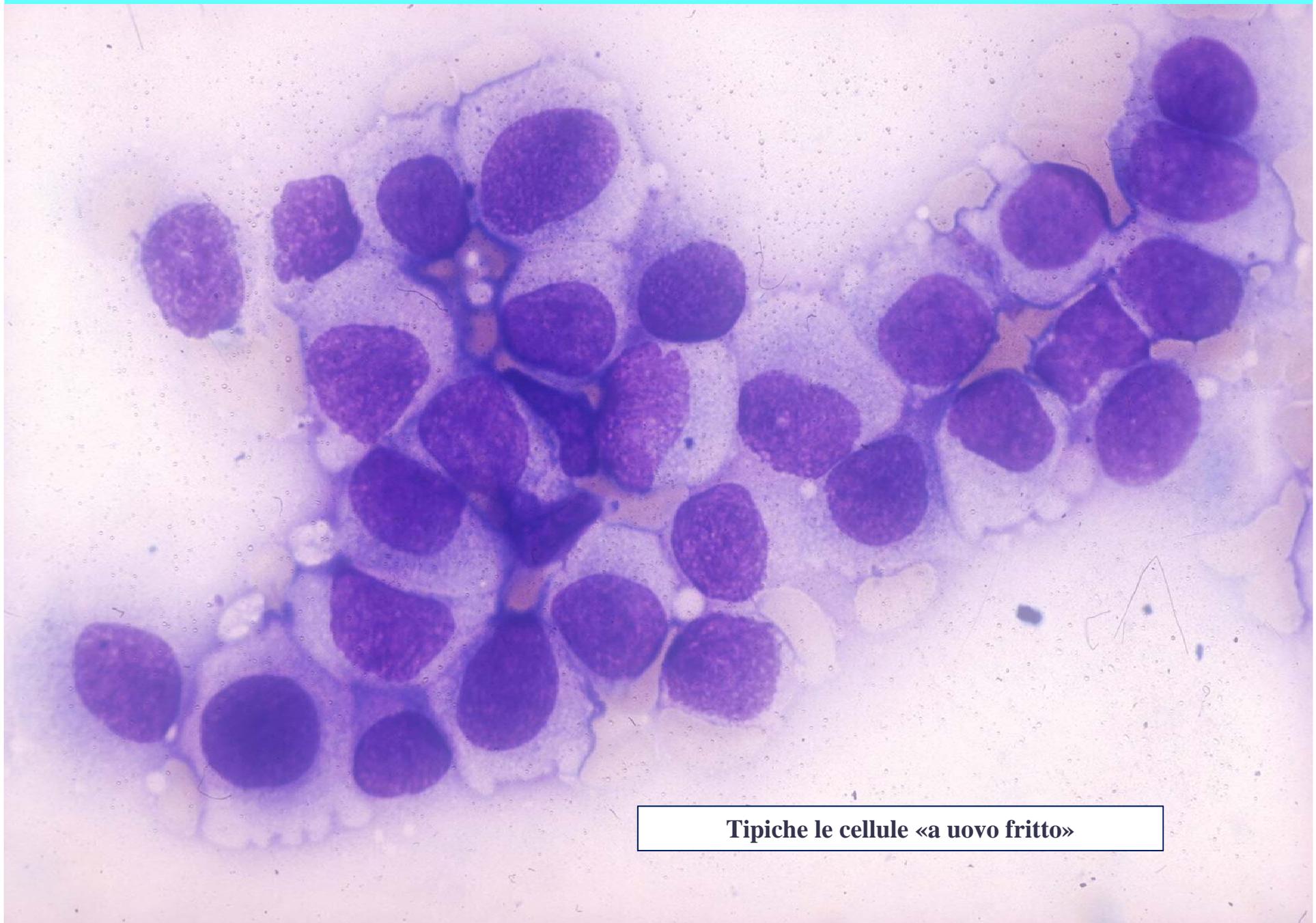


Spesso sono associate cellule fusate



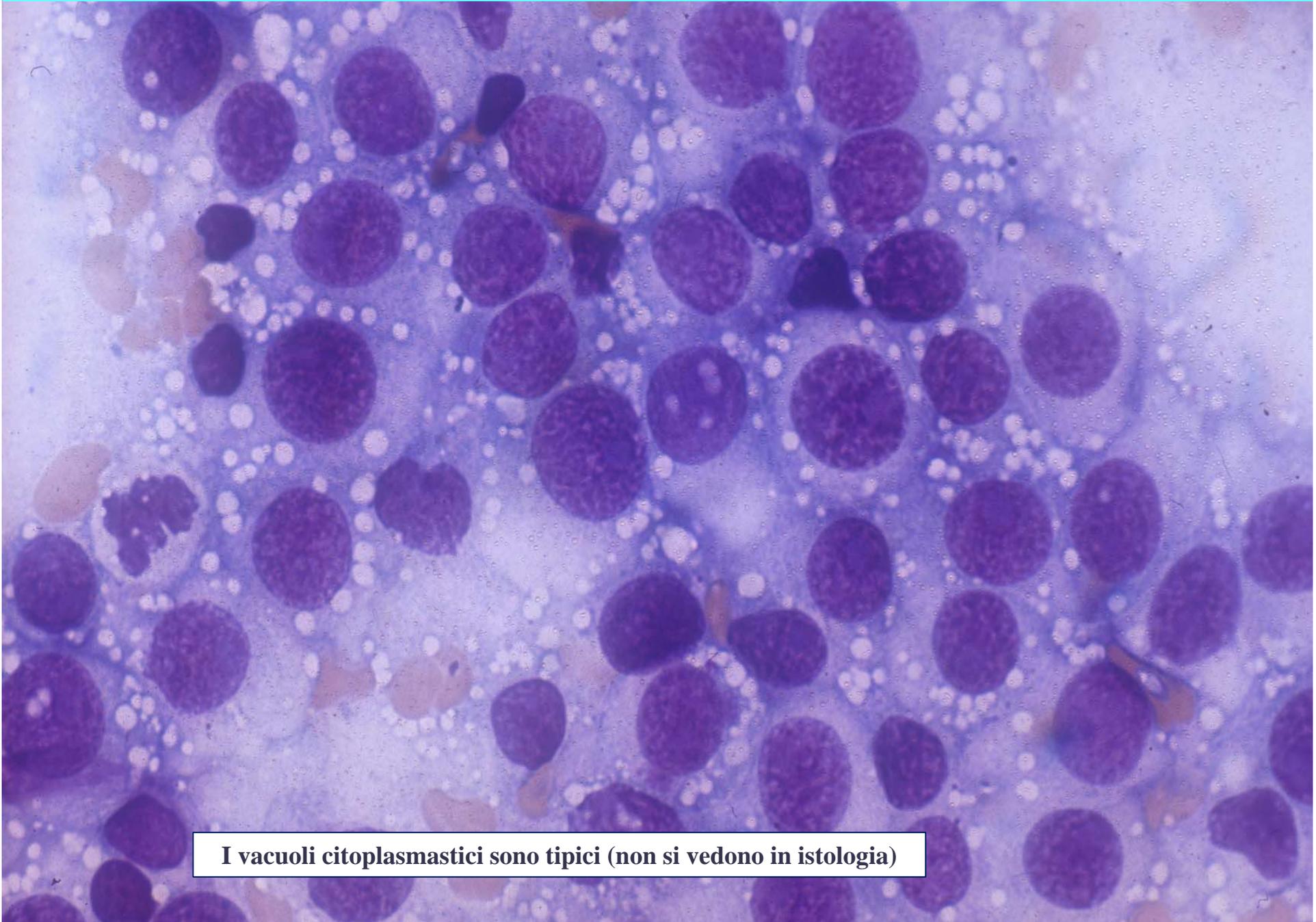
Nel gatto i granuli sono finissimi

2 – Istiocitoma (del cane giovane)



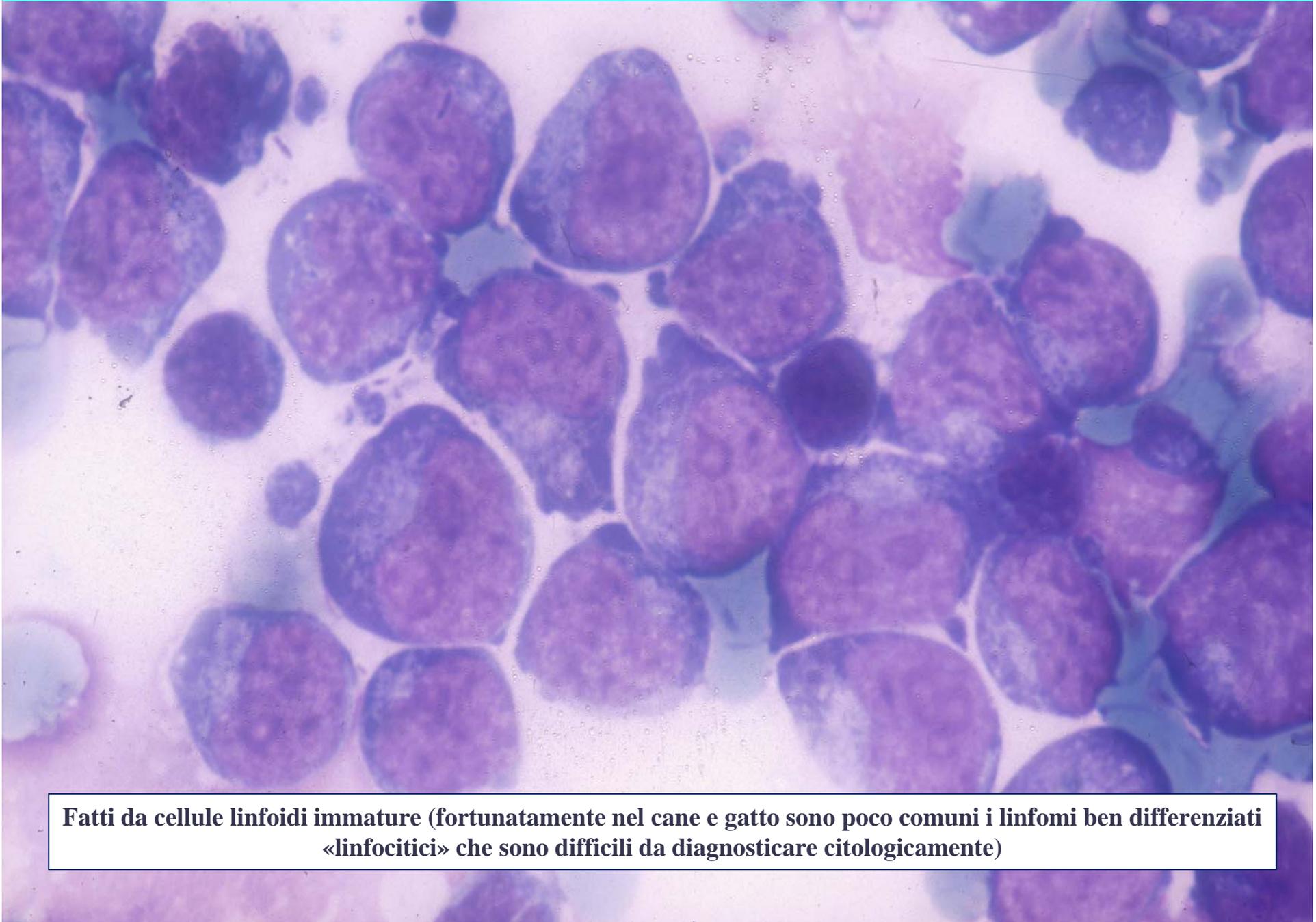
Tipiche le cellule «a uovo fritto»

3 – Sarcoma di Sticker (TVT)



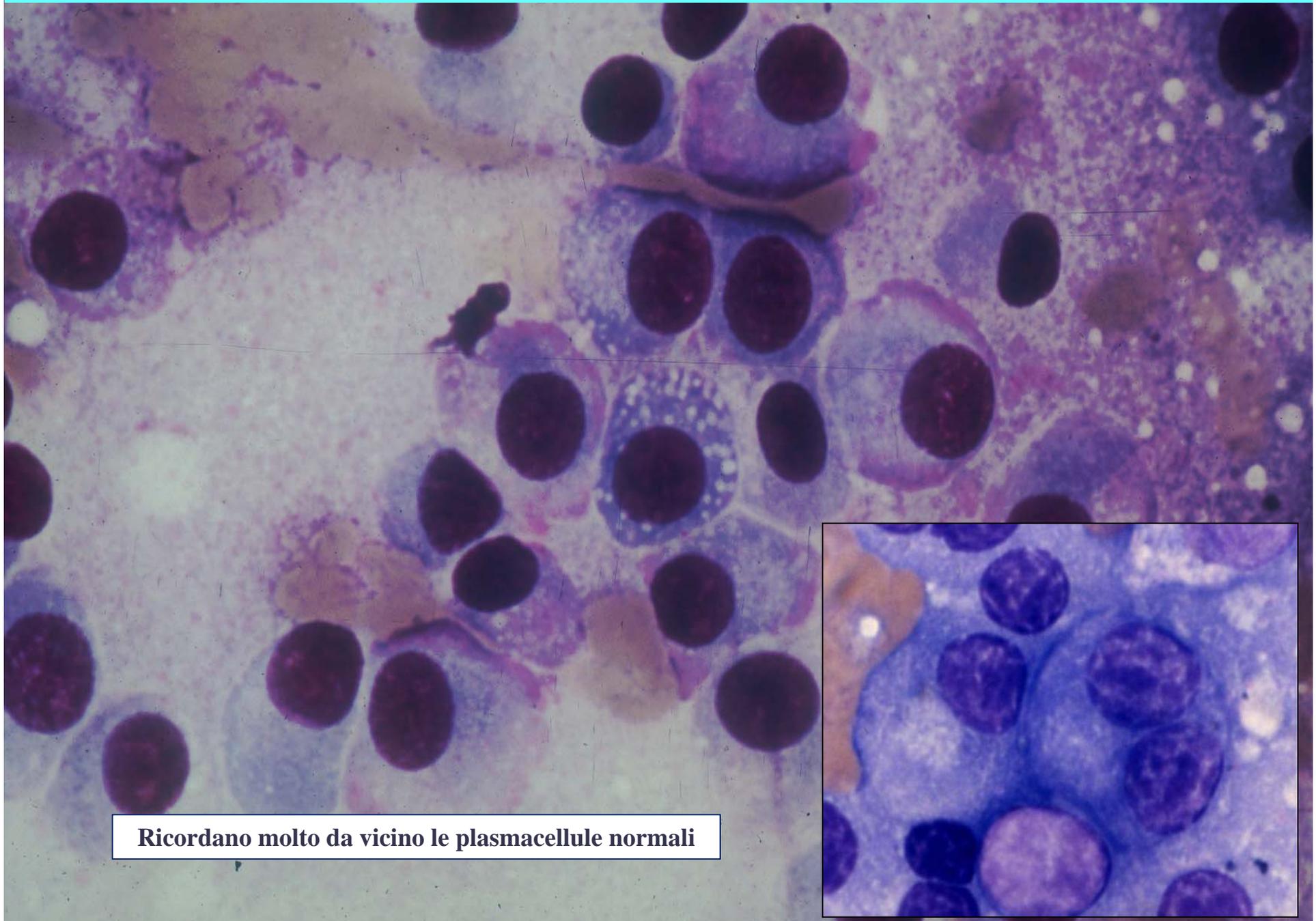
I vacuoli citoplasmatici sono tipici (non si vedono in istologia)

4 – Linfoma



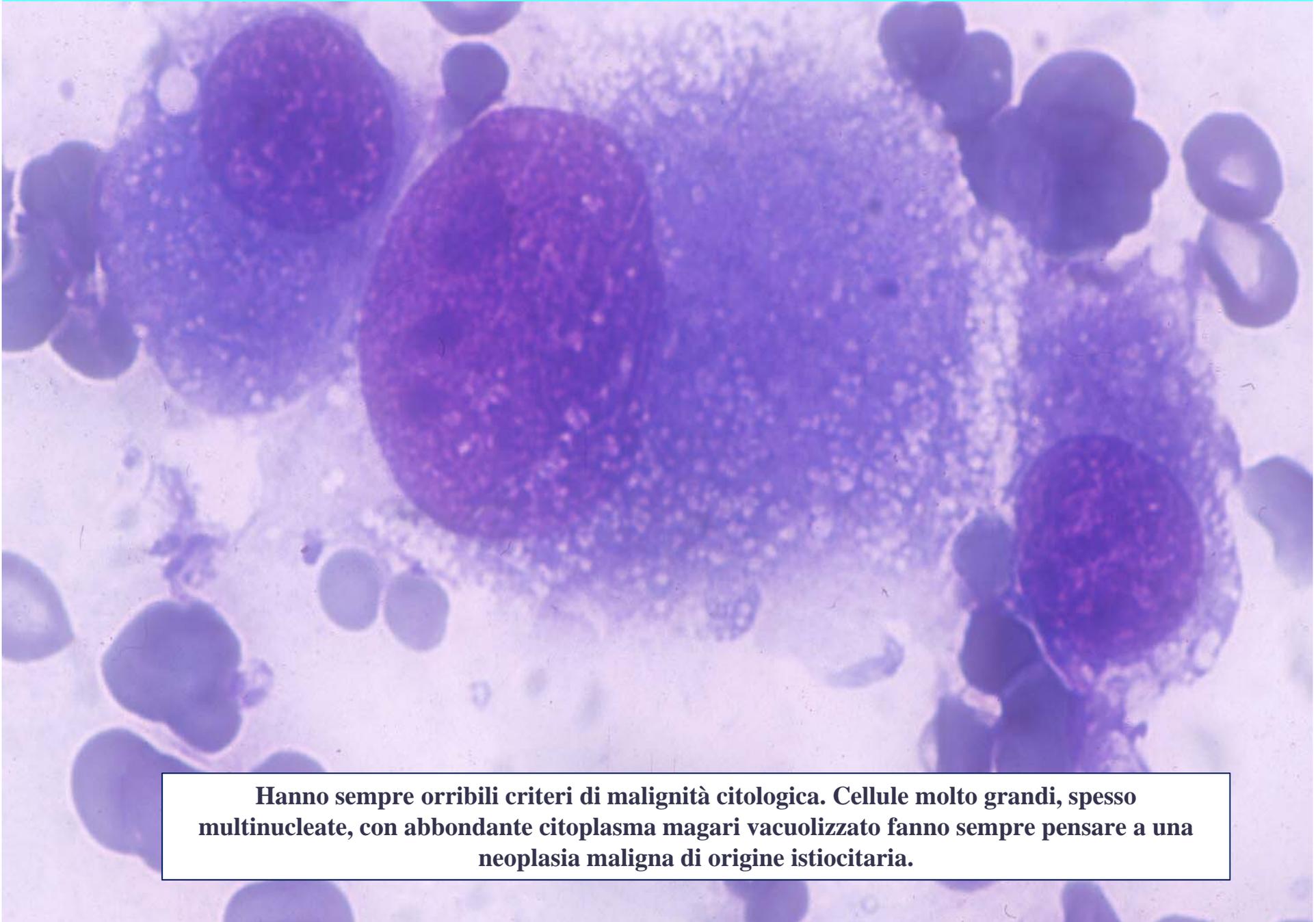
Fatti da cellule linfoidi immature (fortunatamente nel cane e gatto sono poco comuni i linfomi ben differenziati «linfocitici» che sono difficili da diagnosticare citologicamente)

5 – tumori delle plasmacellule



Ricordano molto da vicino le plasmacellule normali

6 – sarcomi istiocitari



Hanno sempre orribili criteri di malignità citologica. Cellule molto grandi, spesso multinucleate, con abbondante citoplasma magari vacuolizzato fanno sempre pensare a una neoplasia maligna di origine istiocitaria.

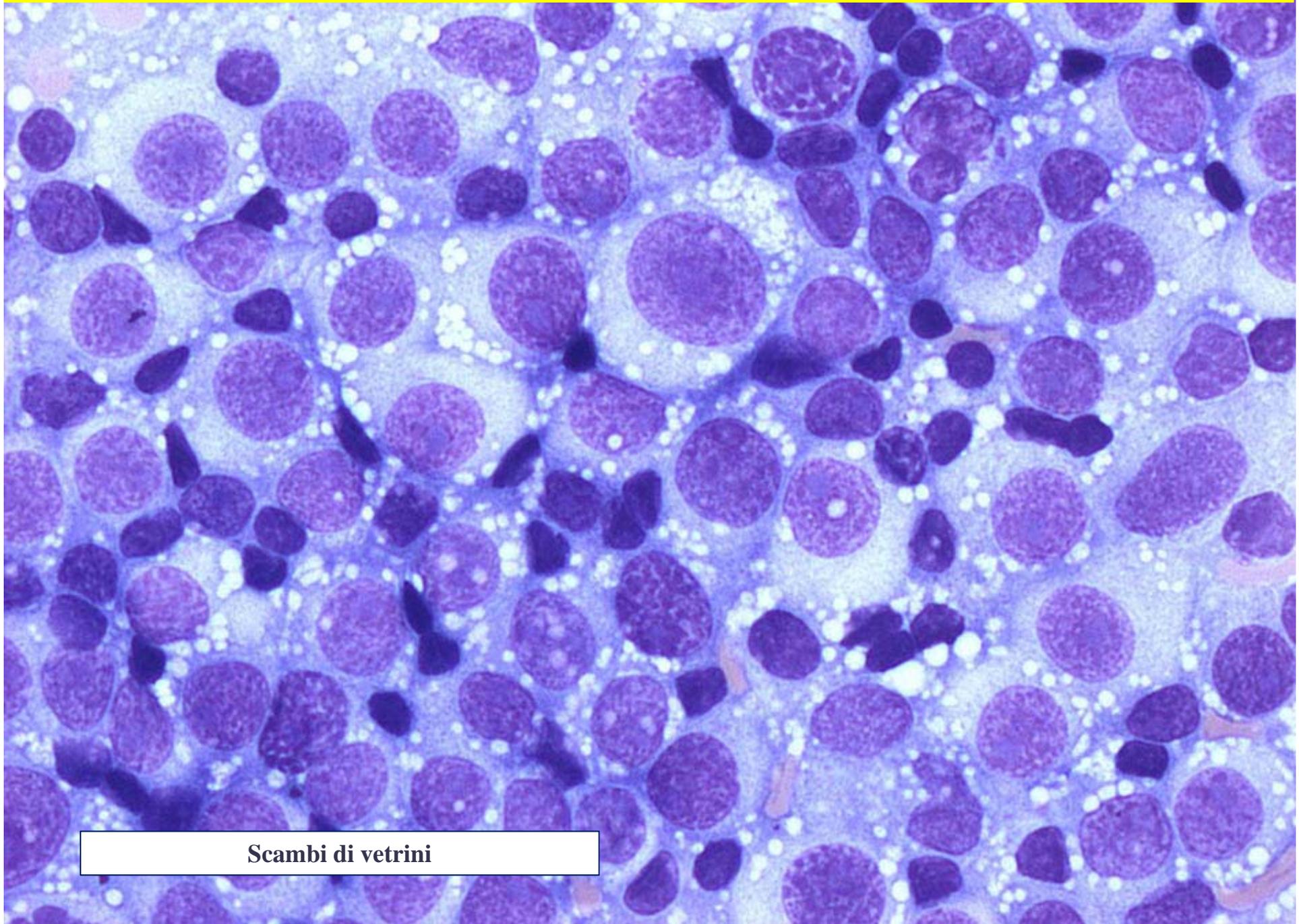
Seminario regionale SCIVAC – Moncalieri 16 giugno 2019

La citologia delle cose anche comuni dove è facile sbagliare. **Ovvero...**

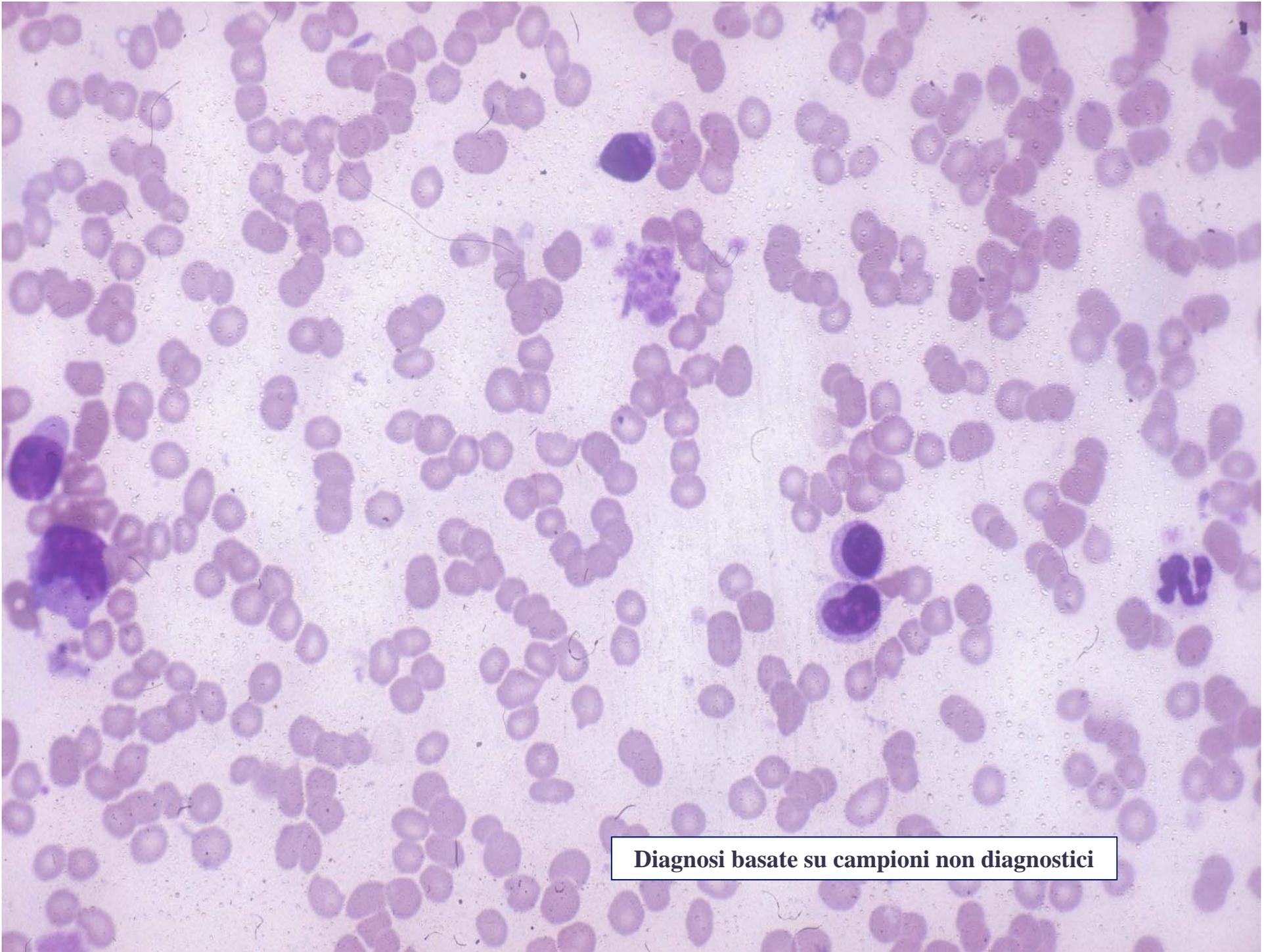


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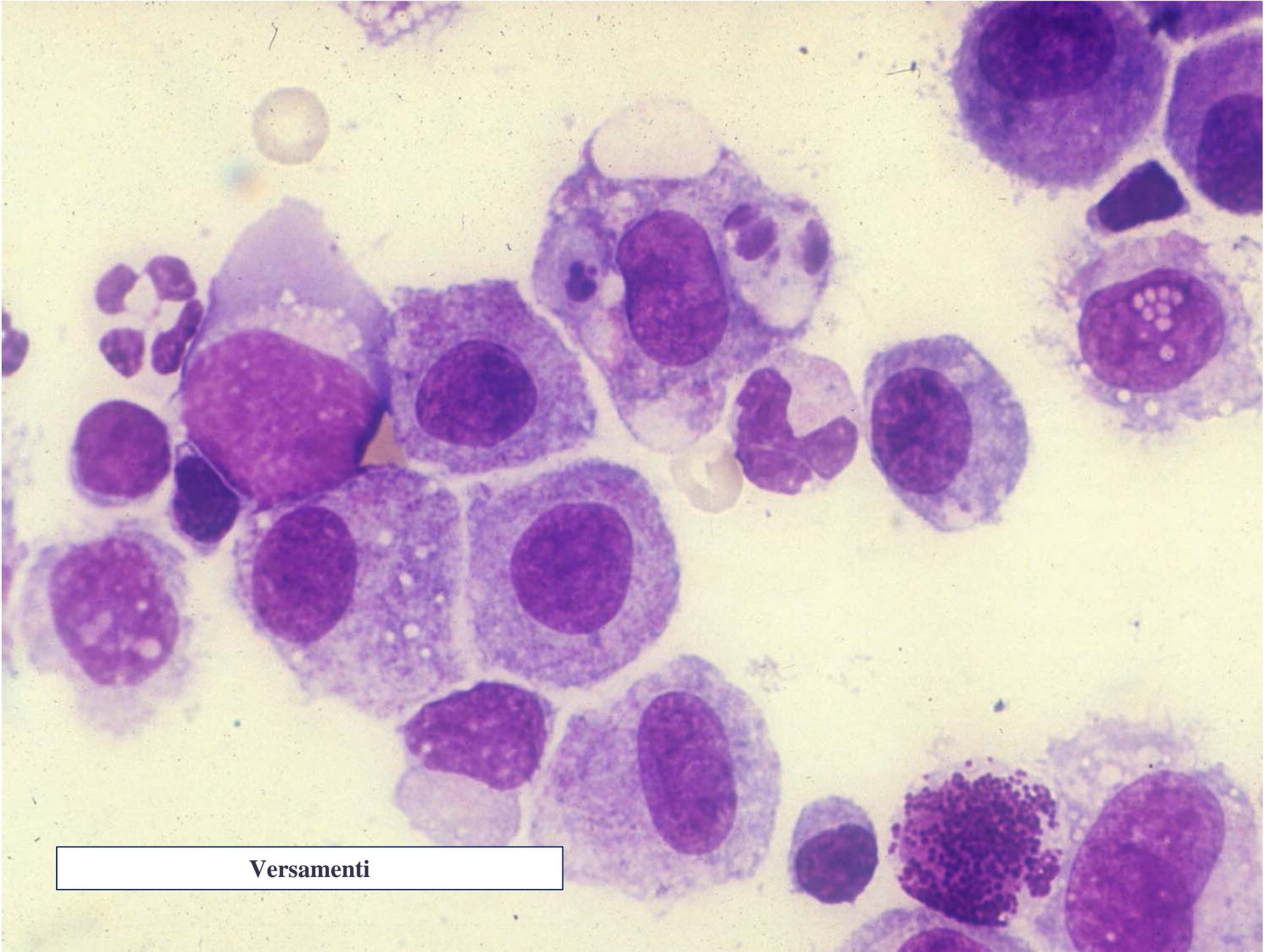
Casi 0



Scambi di vetrini

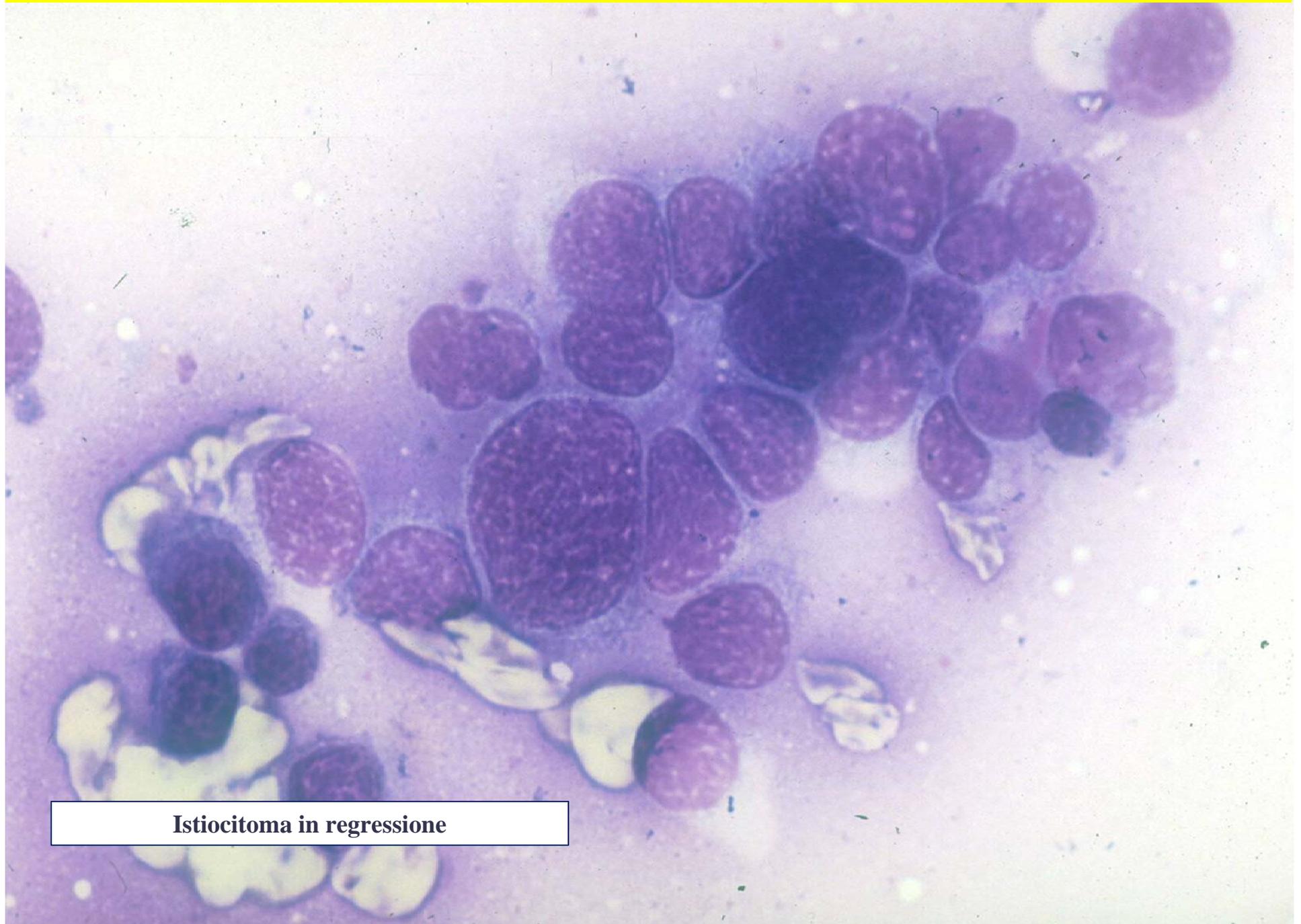


Diagnosi basate su campioni non diagnostici



Versamenti

Caso 1

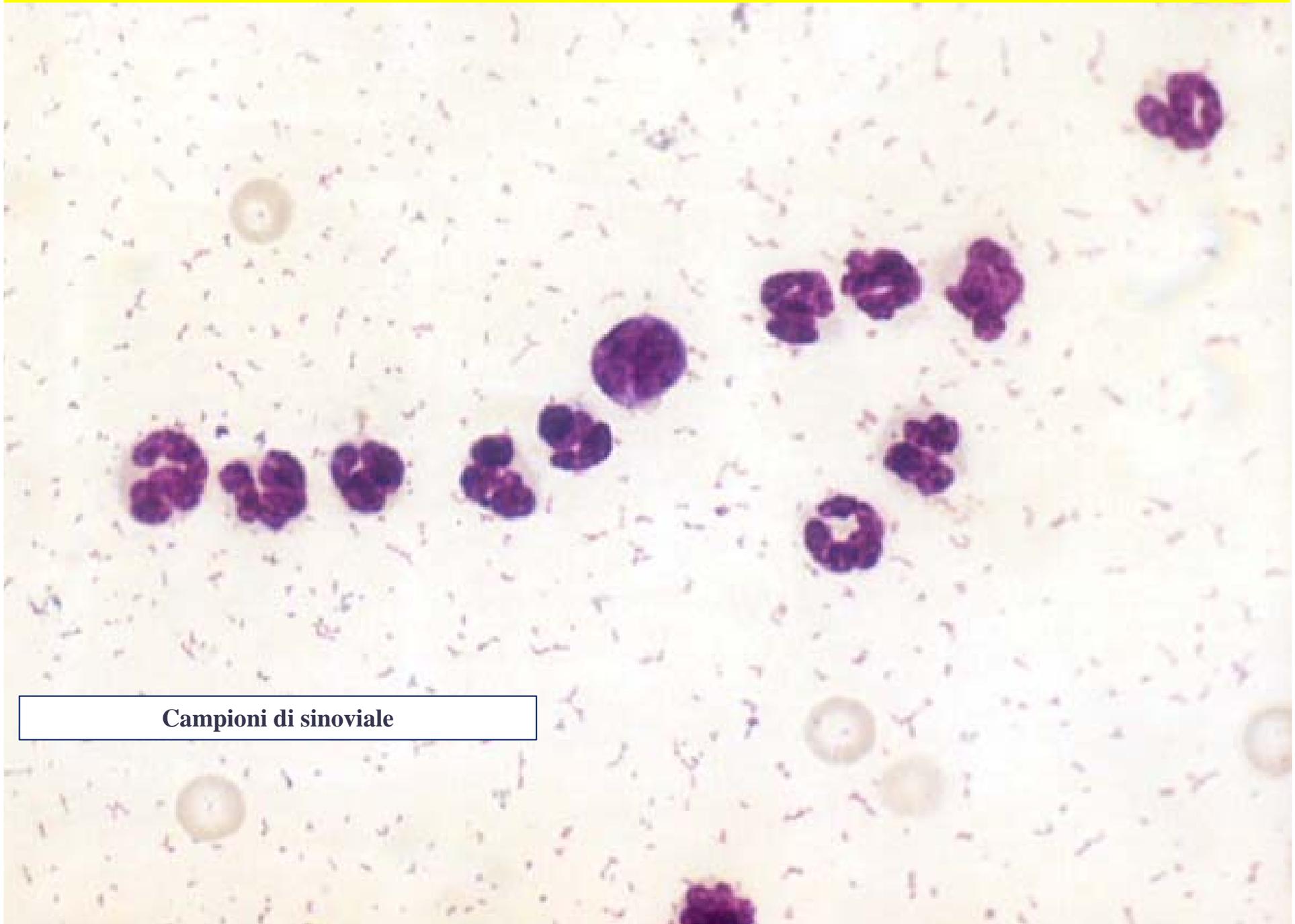


Istiocitoma in regressione

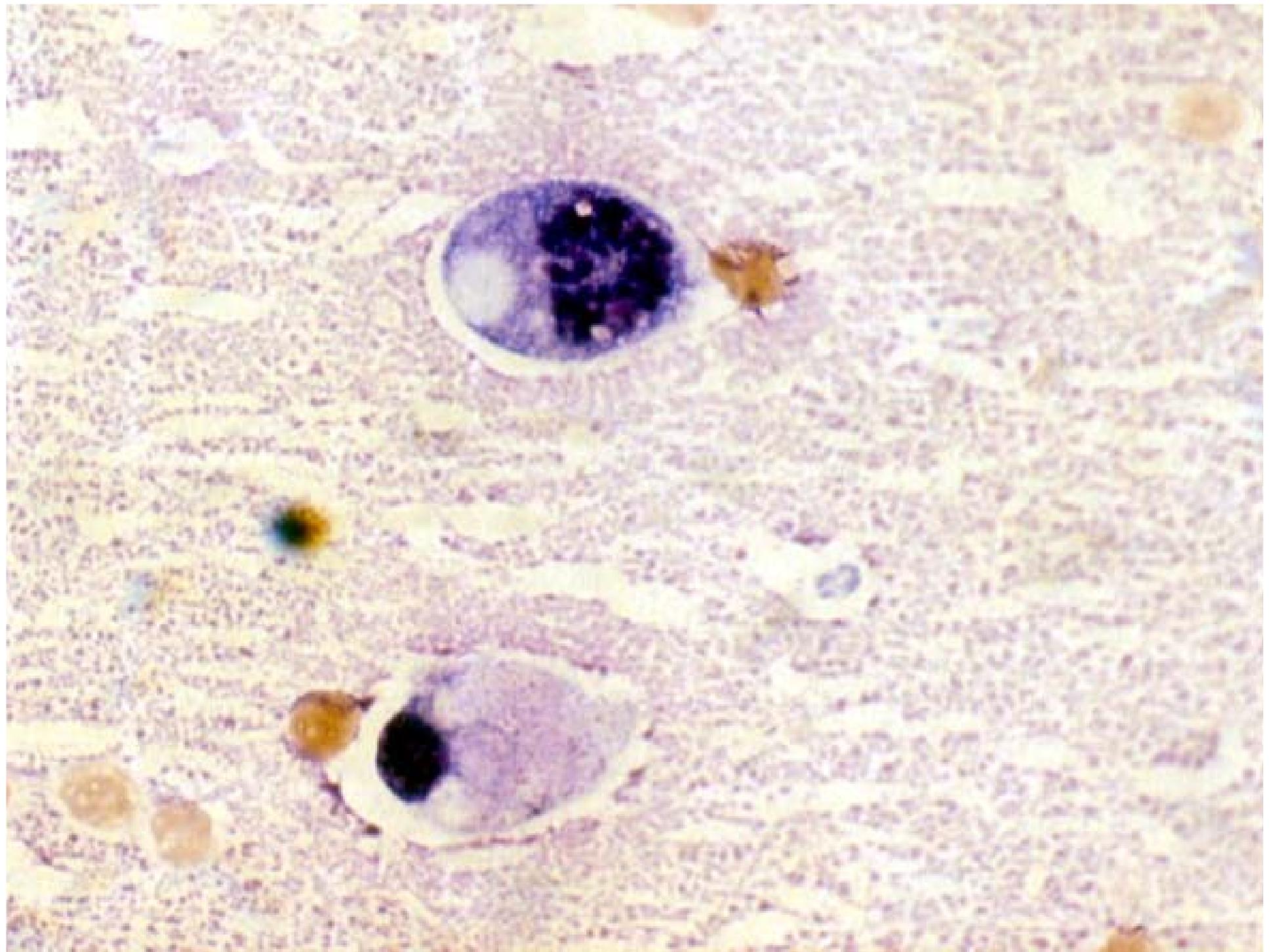


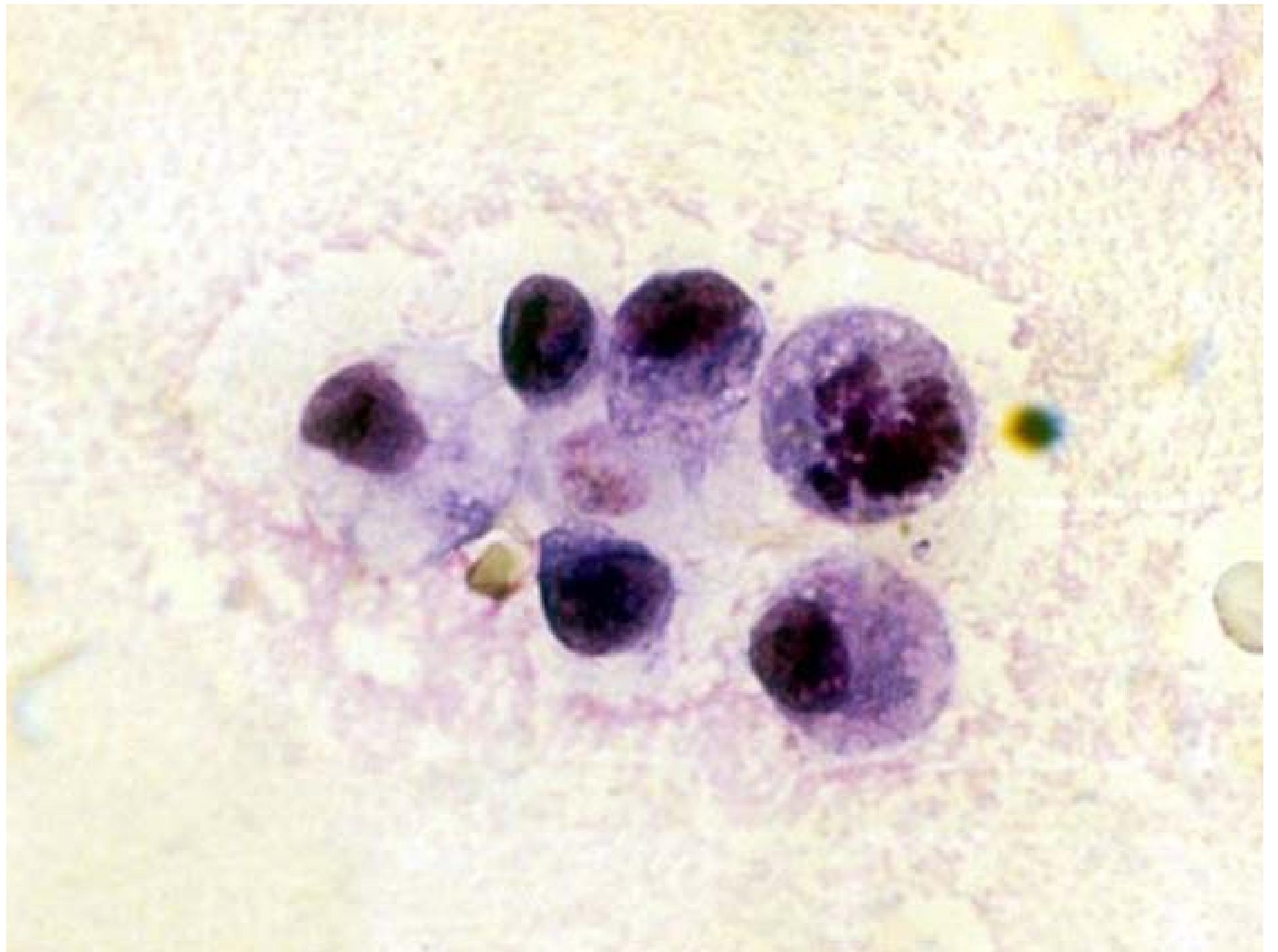
Tipico aspetto macroscopico dell'istiocitoma

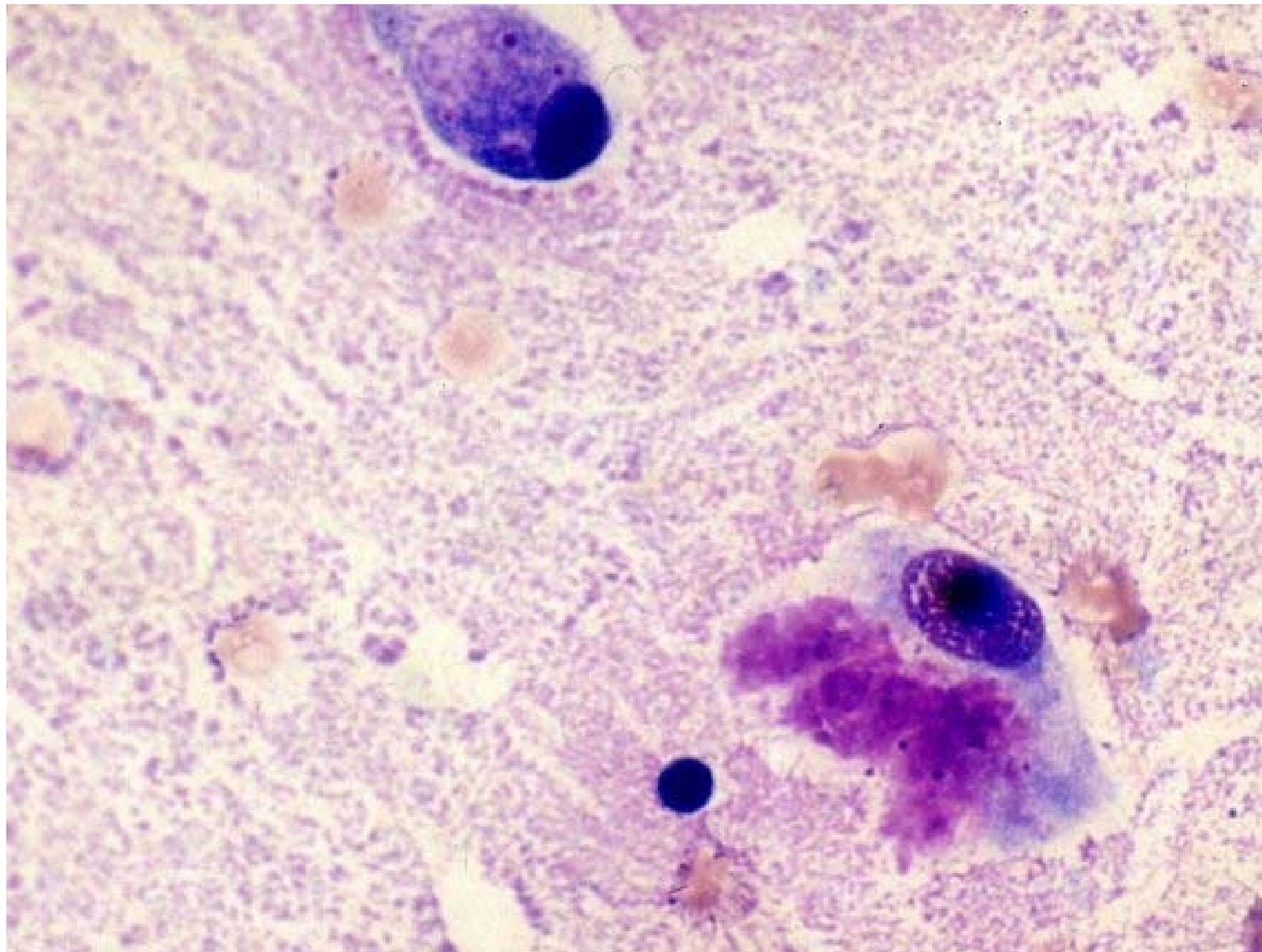
Caso 2

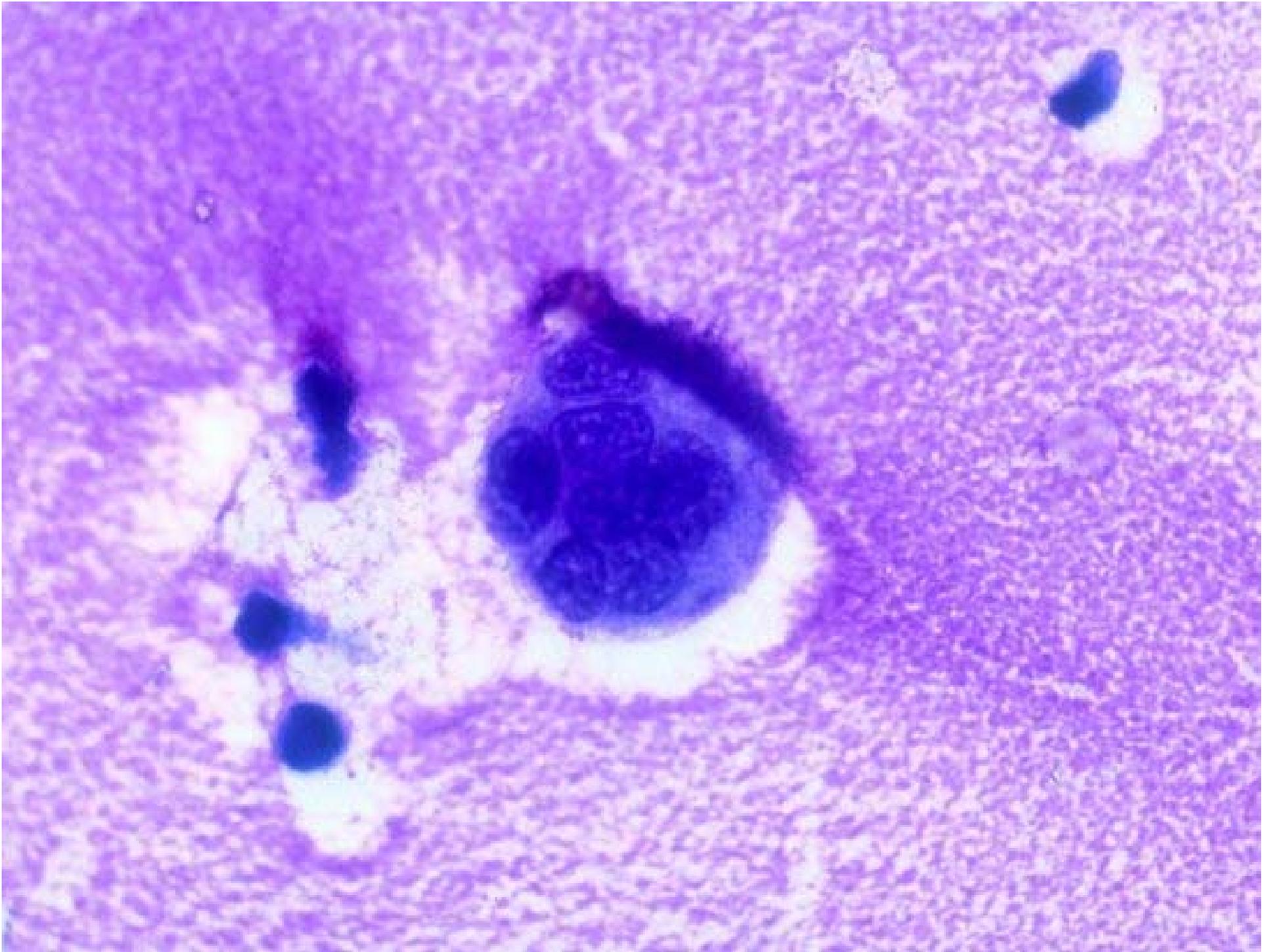


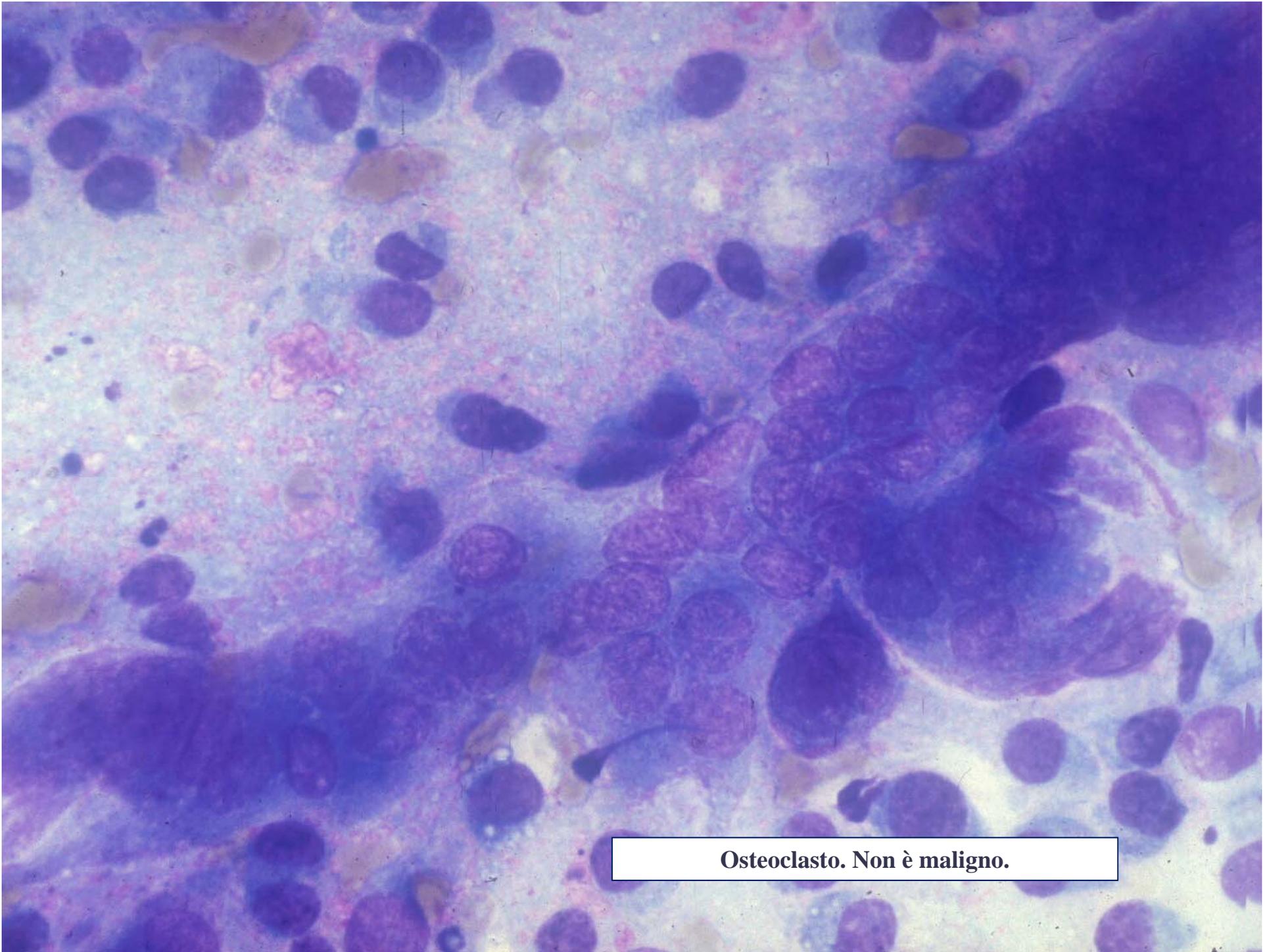
Campioni di sinoviale











Osteoclasto. Non è maligno.



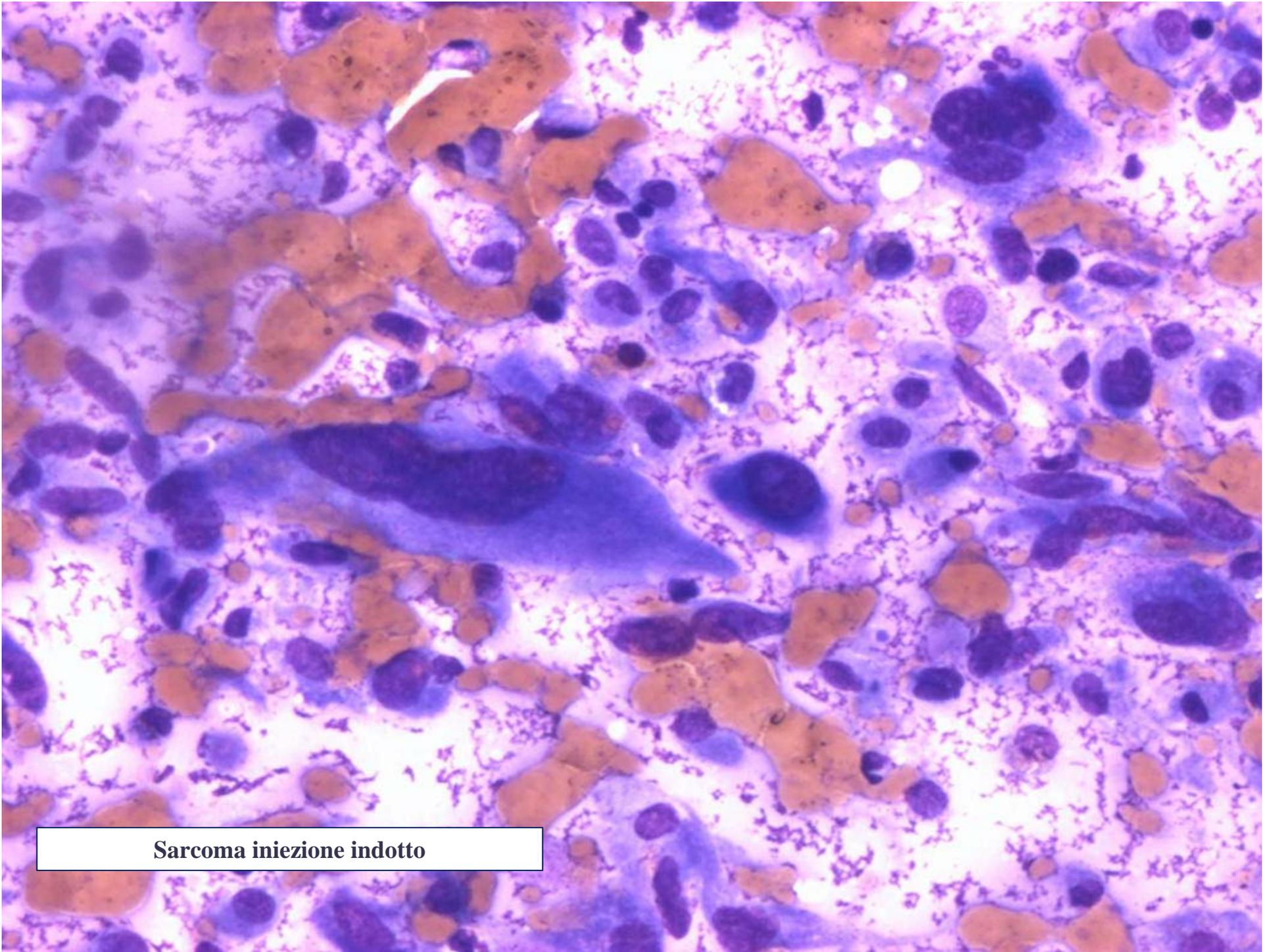
Sarcoma iniezione indotto



Sarcoma iniezione indotto

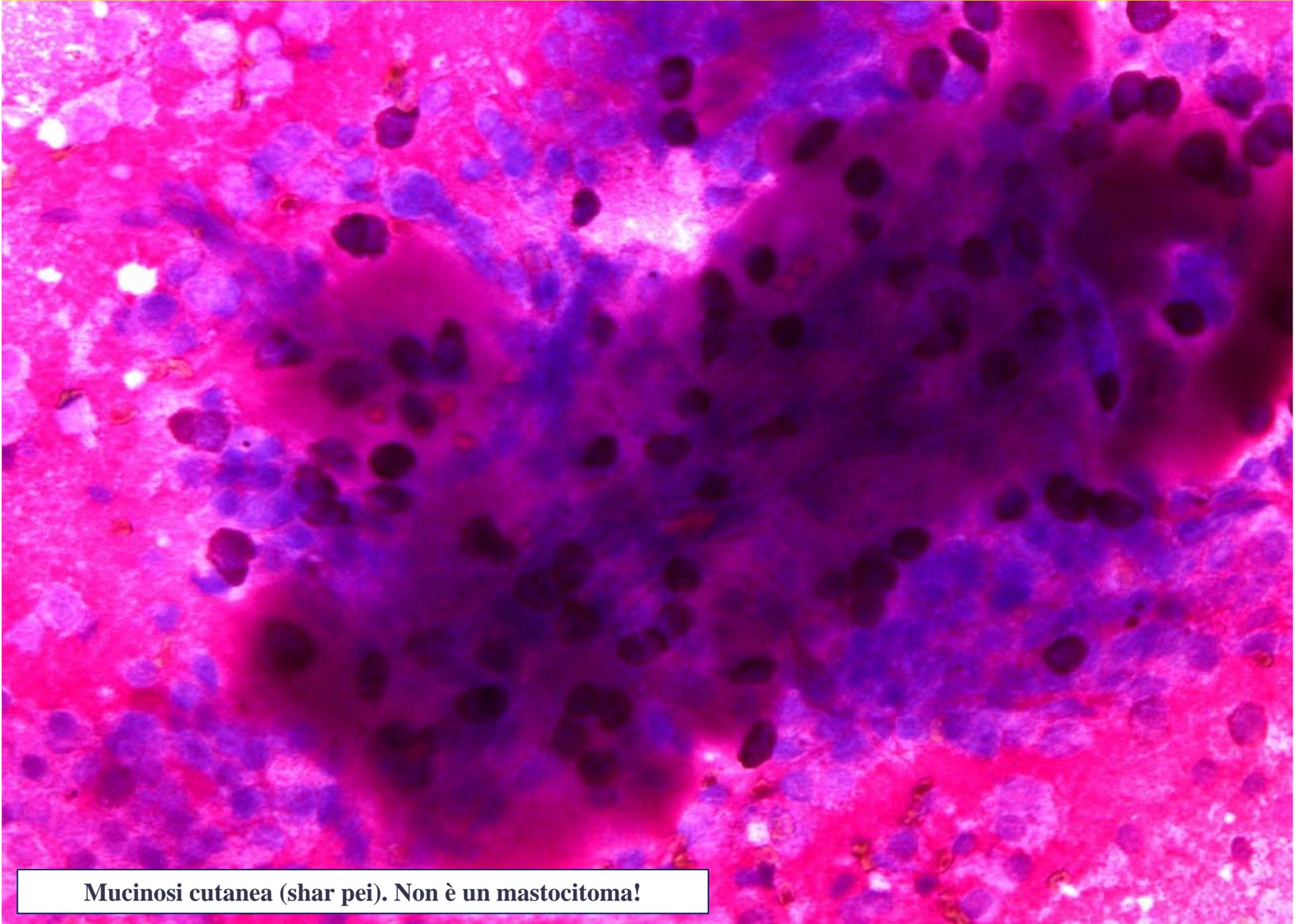


Sarcoma iniezione indotto



Sarcoma iniezione indotto

Caso 3

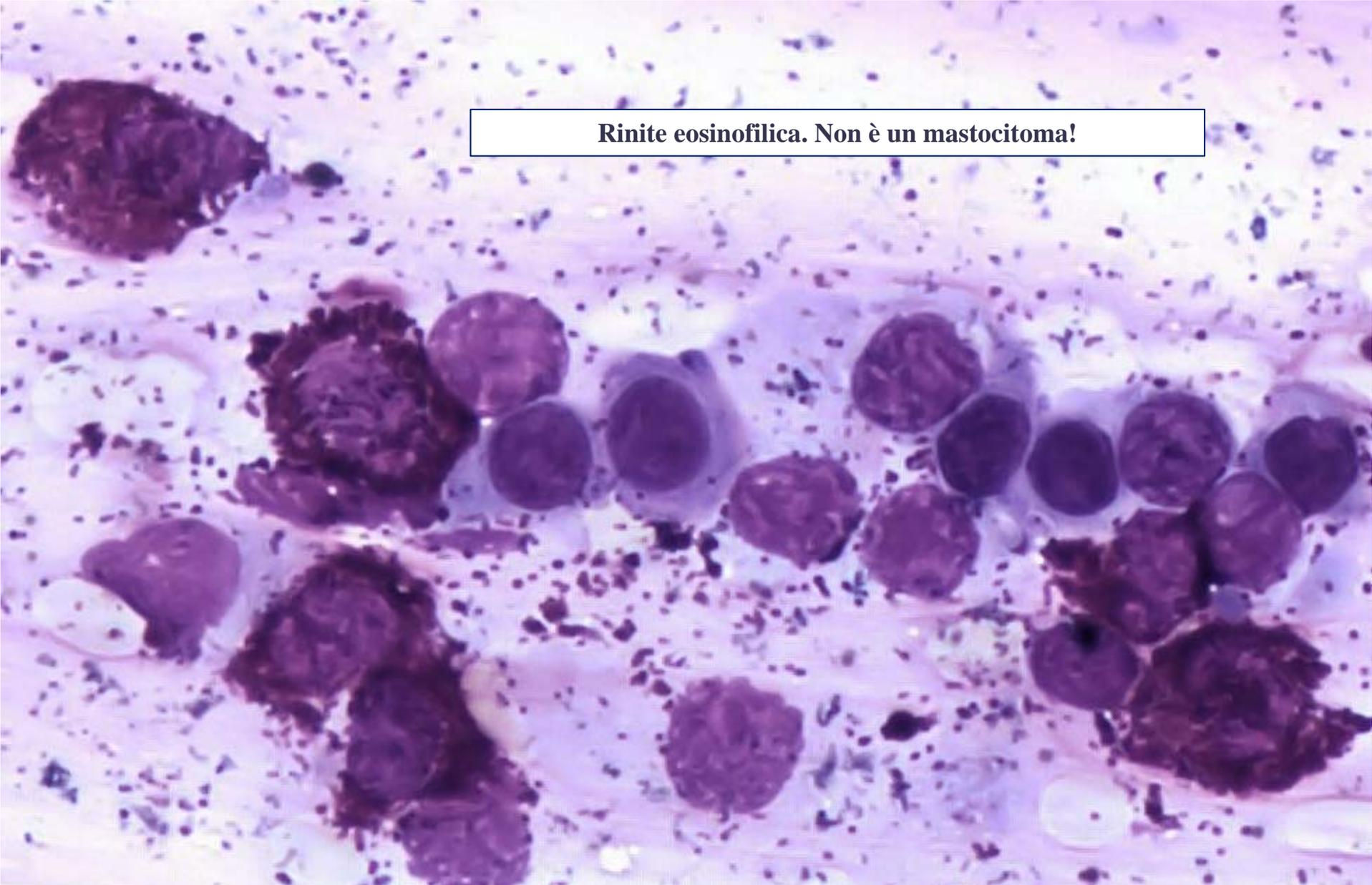


Mucinosi cutanea (shar pei). Non è un mastocitoma!



Mucinosi cutanea (shar pei)

<http://www.traditionalsharpei.com/Cutaneous%20Mucinosis%20Treatment.html>

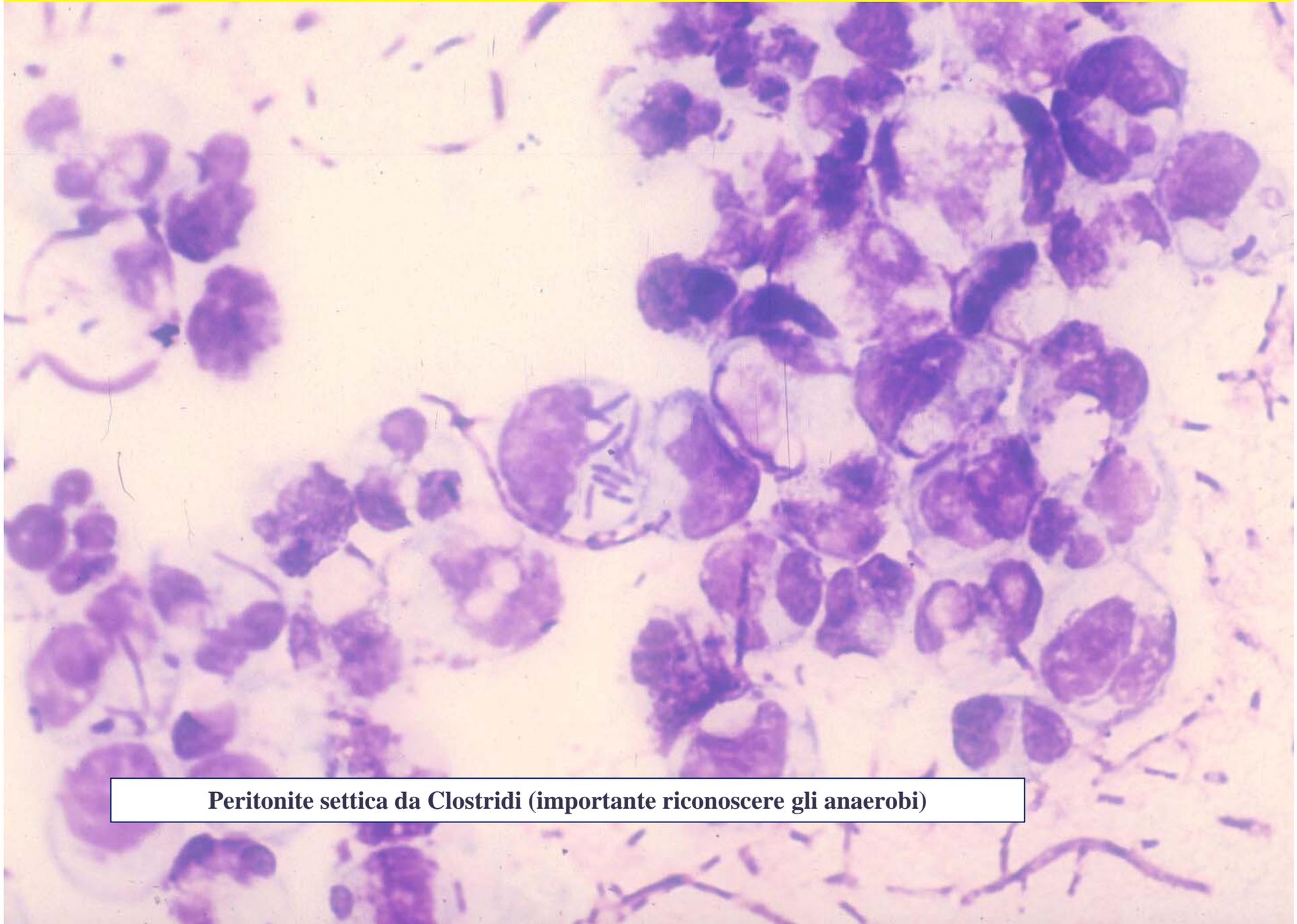


Rinite eosinofilica. Non è un mastocitoma!

Diagnostic accuracy of brush cytology in canine chronic intranasal disease

M Caniatti, N Pinto da Cunha, G Avallone, S Romussi, CM Mortellaro, V Tranquillo, G Ghisleni
Veterinary Clinical Pathology. 41(1) 133–140, 2012

Caso 4



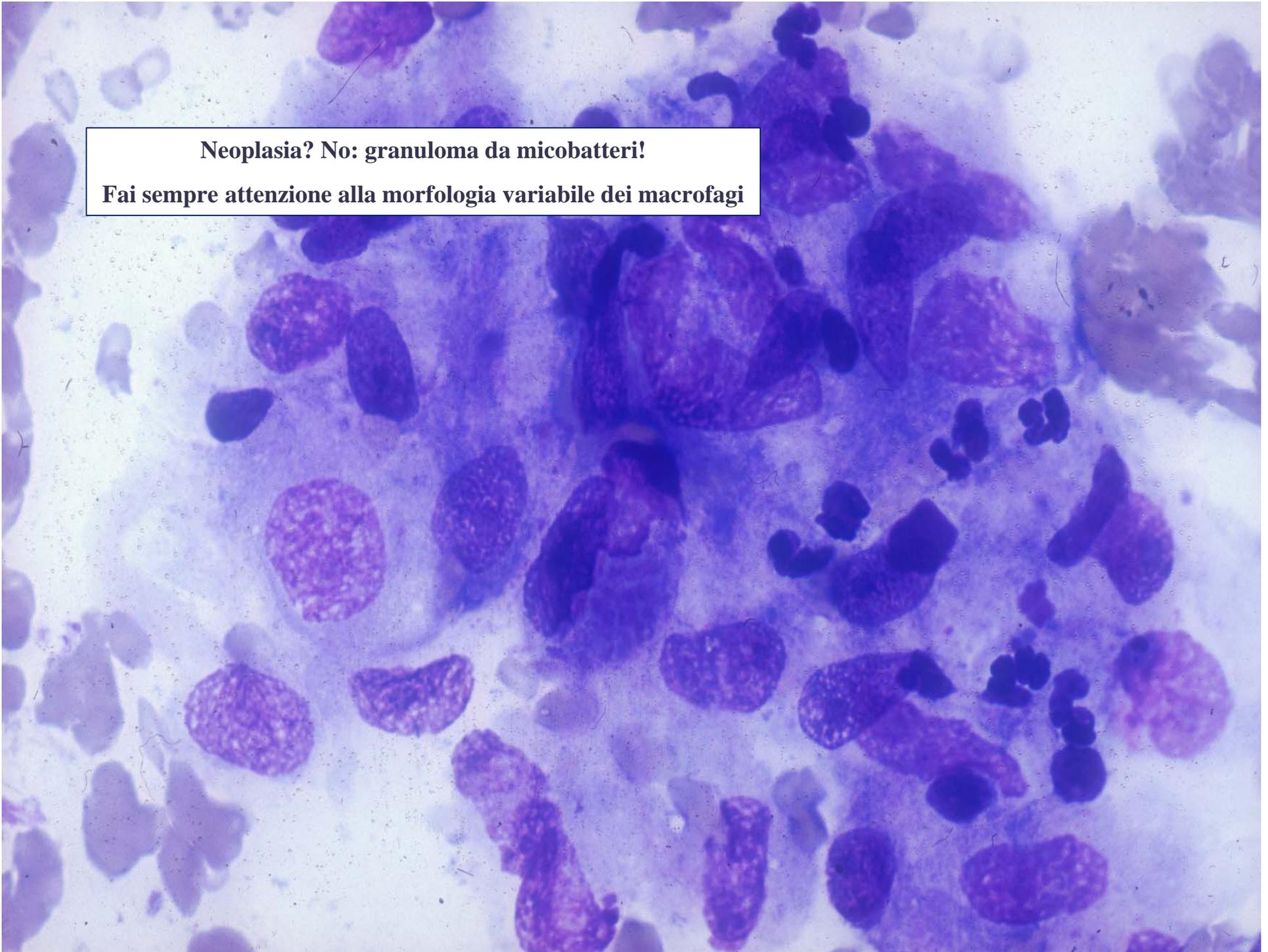
Peritonite settica da Clostridi (importante riconoscere gli anaerobi)

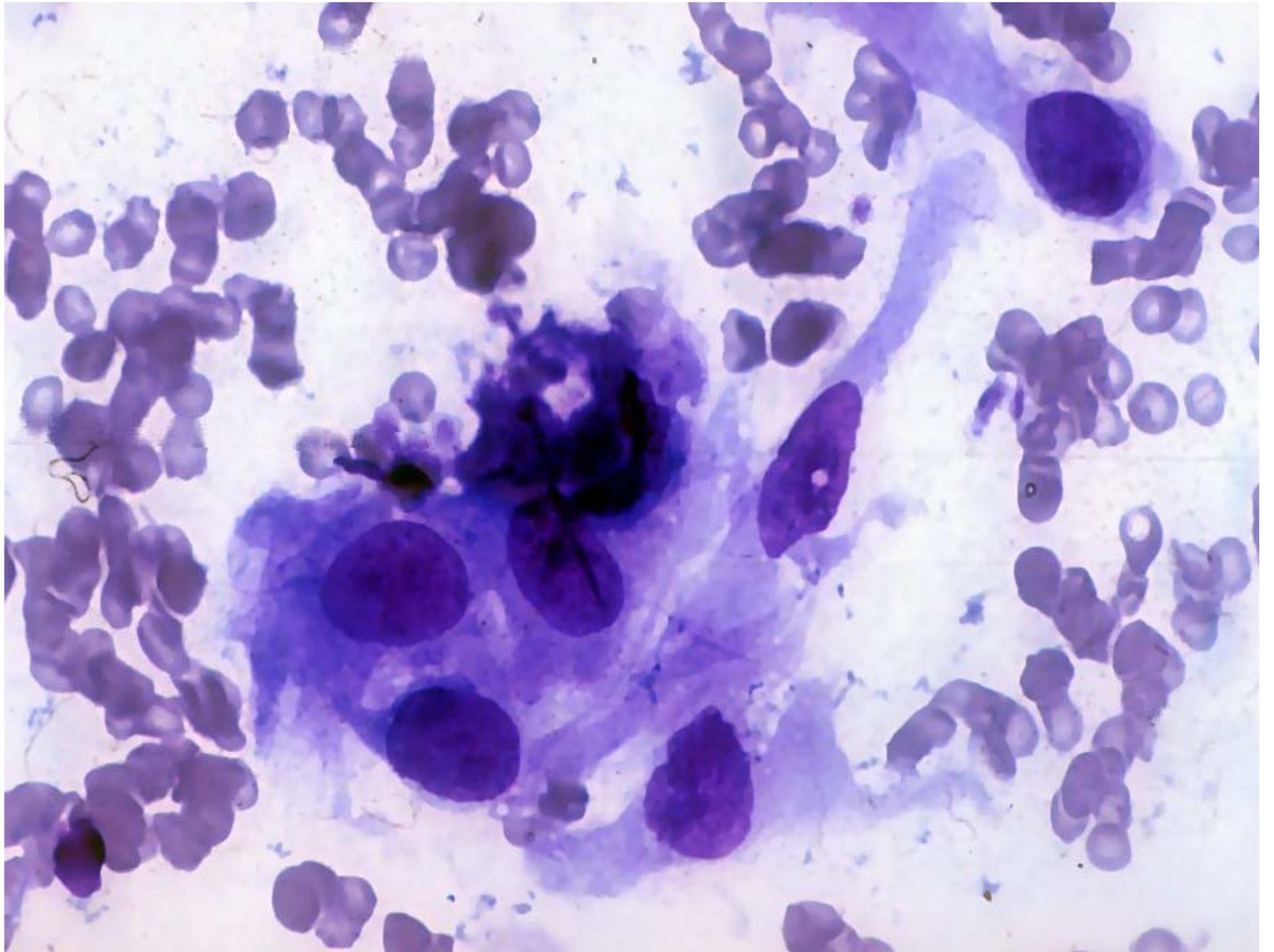
Caso 5



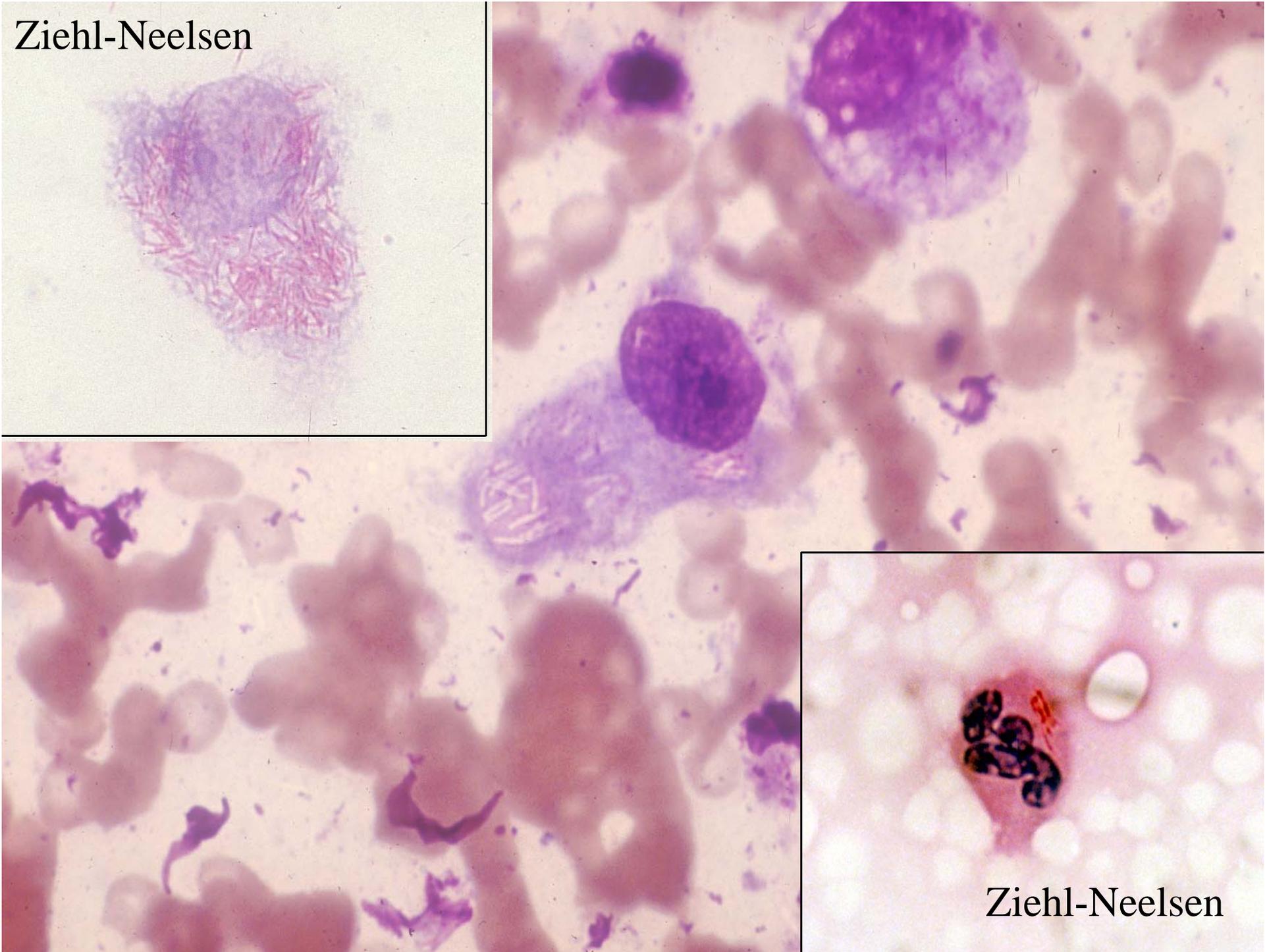
Mai fare diagnosi sotto pressione di colleghi!

Neoplasia? No: granuloma da micobatteri!
Fai sempre attenzione alla morfologia variabile dei macrofagi



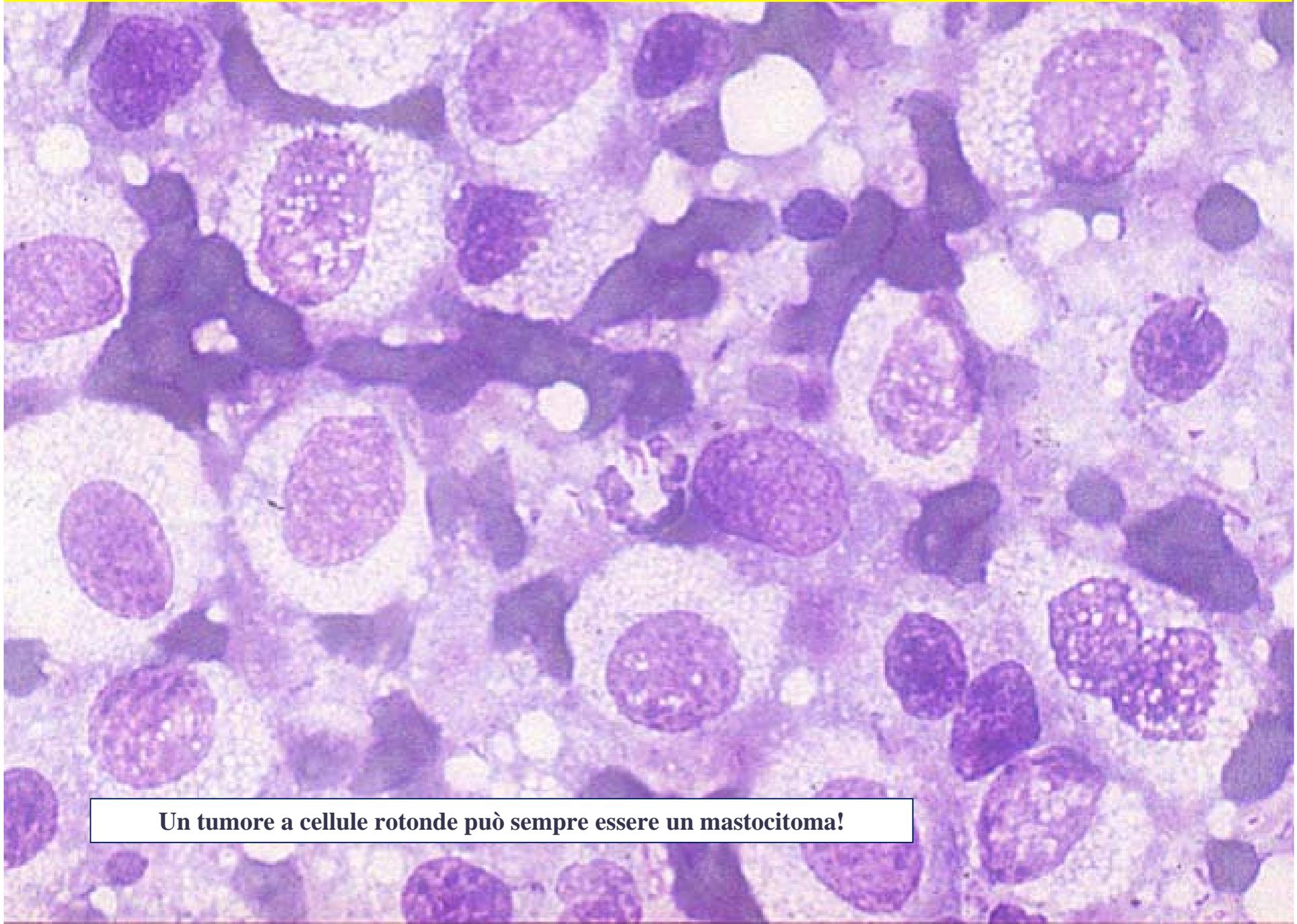


Ziehl-Neelsen



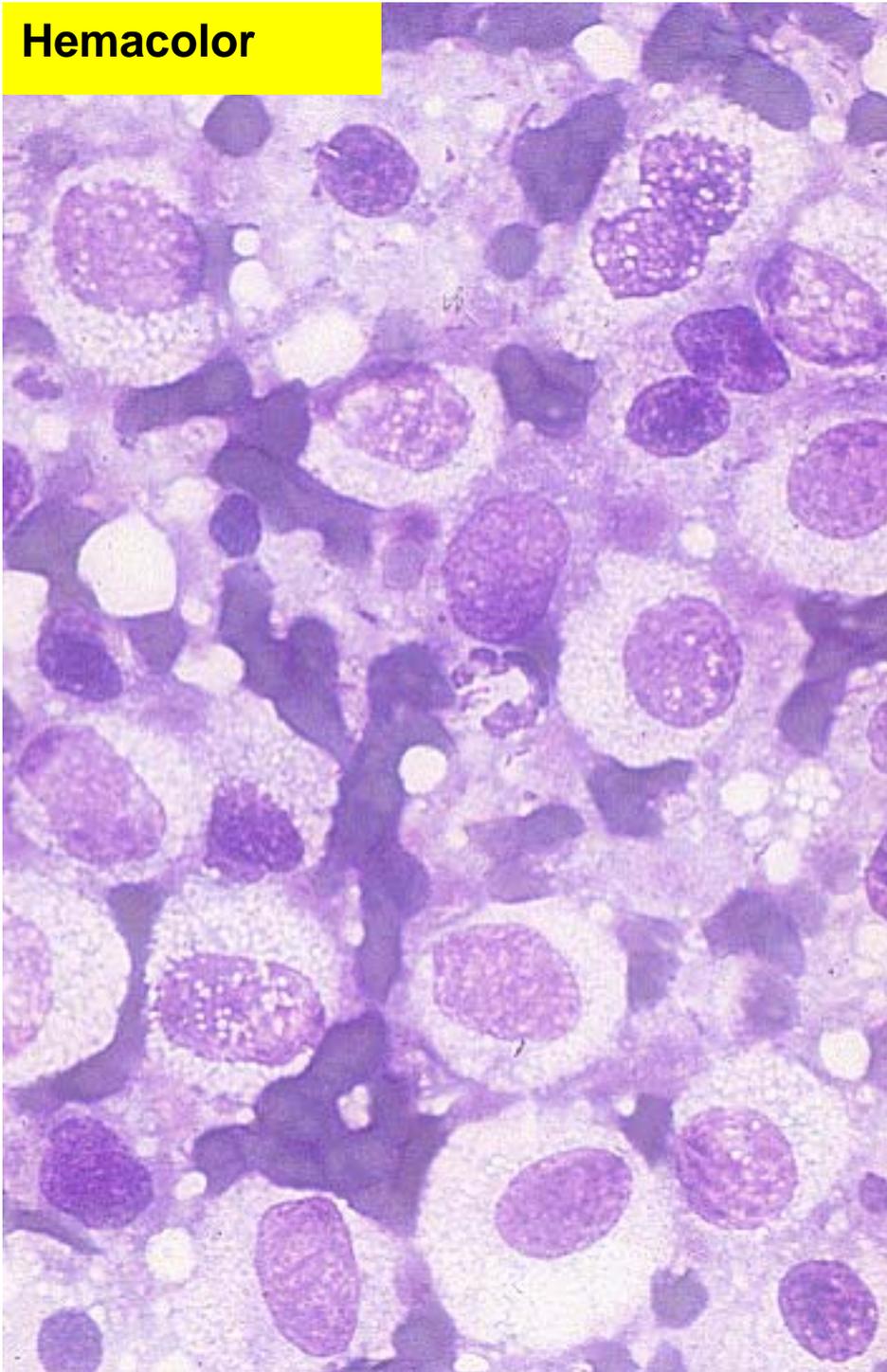
Ziehl-Neelsen

Caso 6

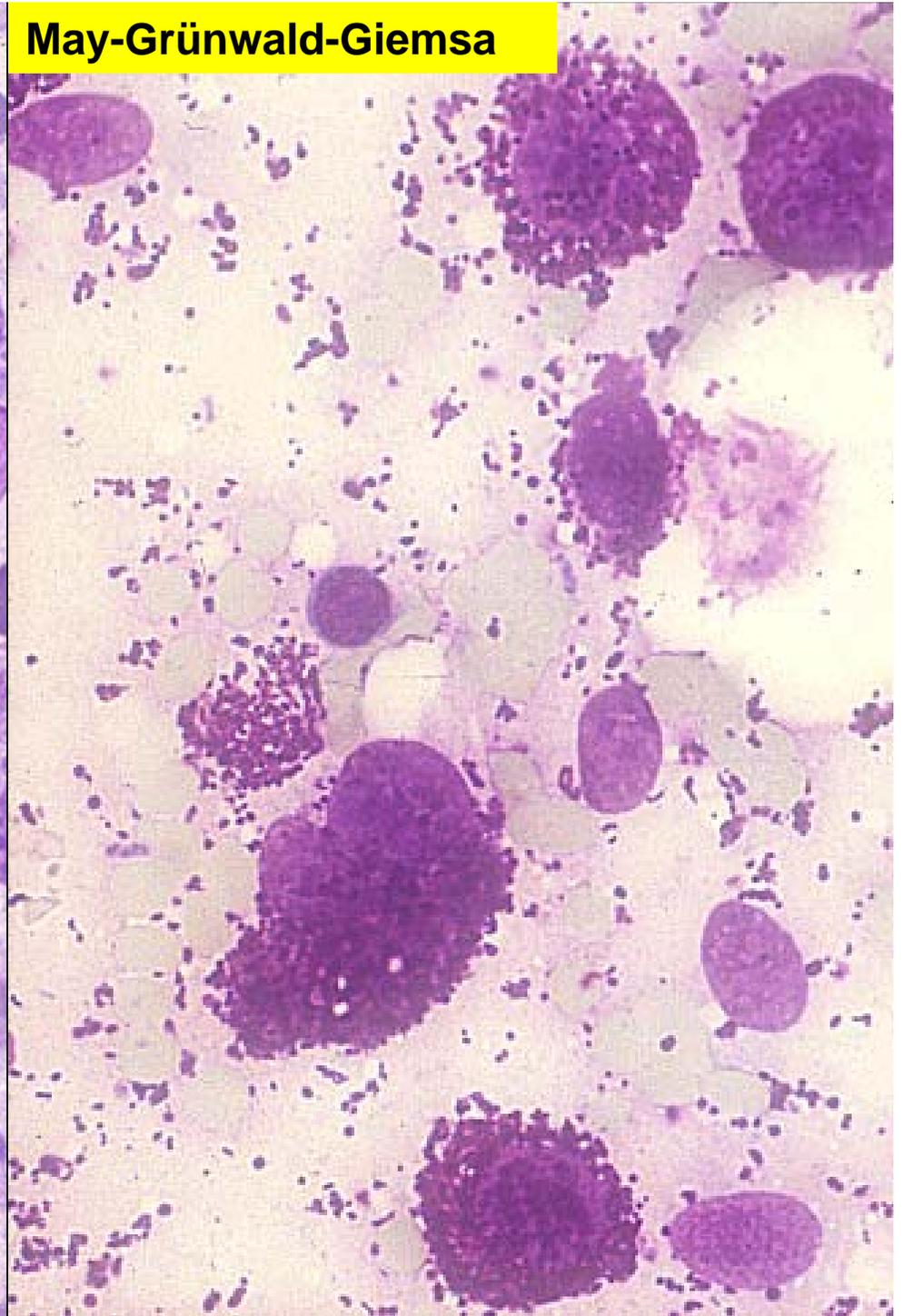


Un tumore a cellule rotonde può sempre essere un mastocitoma!

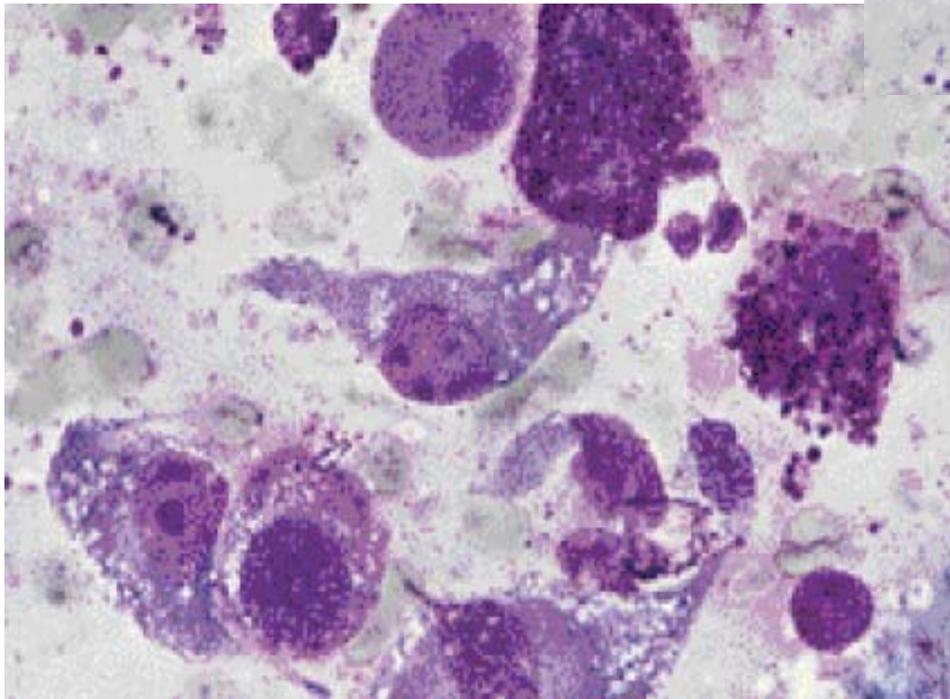
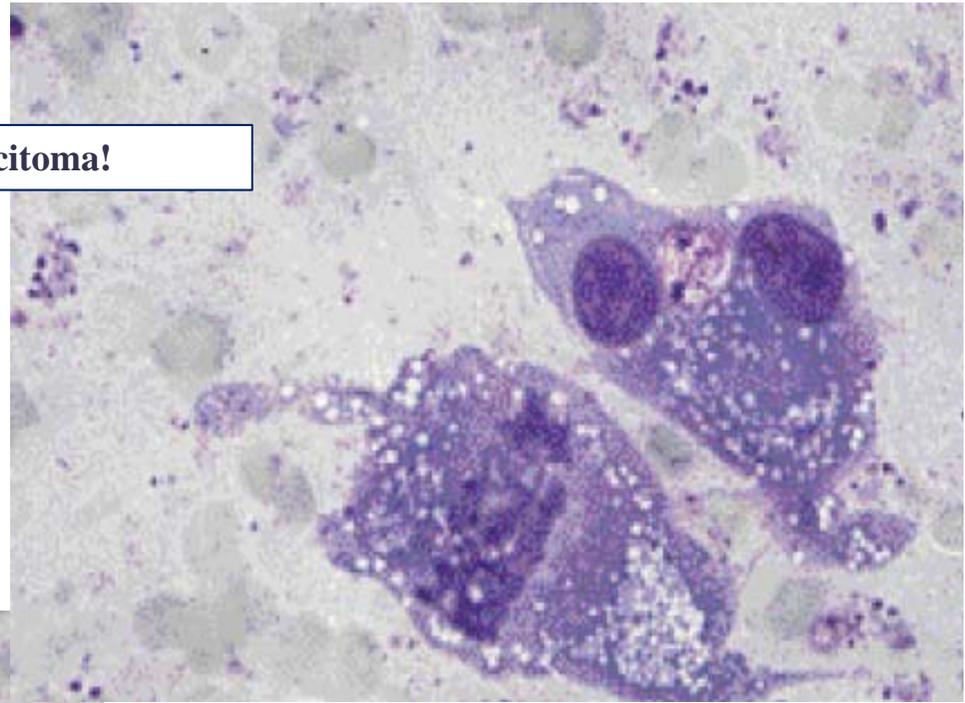
Hemacolor



May-Grünwald-Giemsa

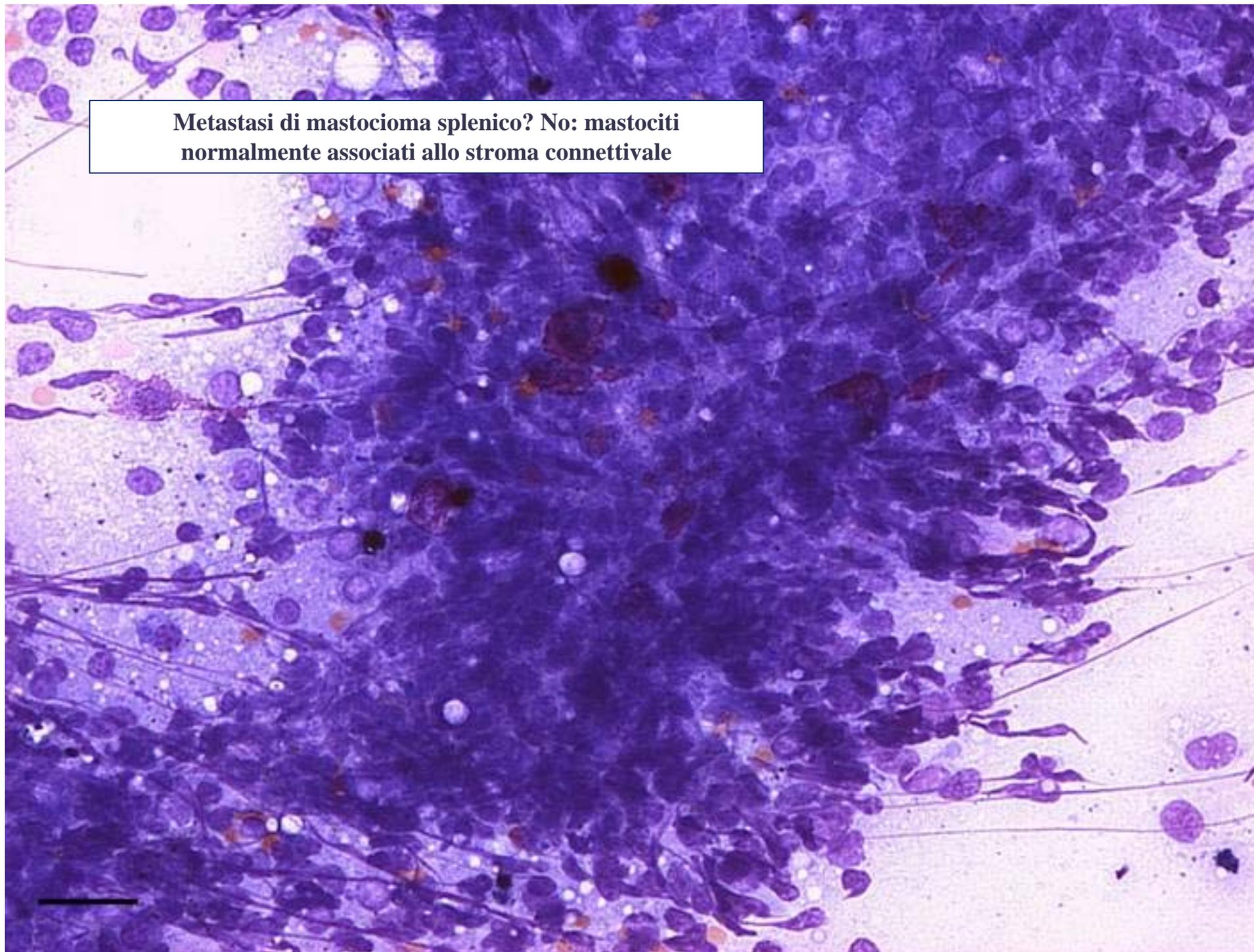


Tumore a cellule fusate? No è un mastocitoma!



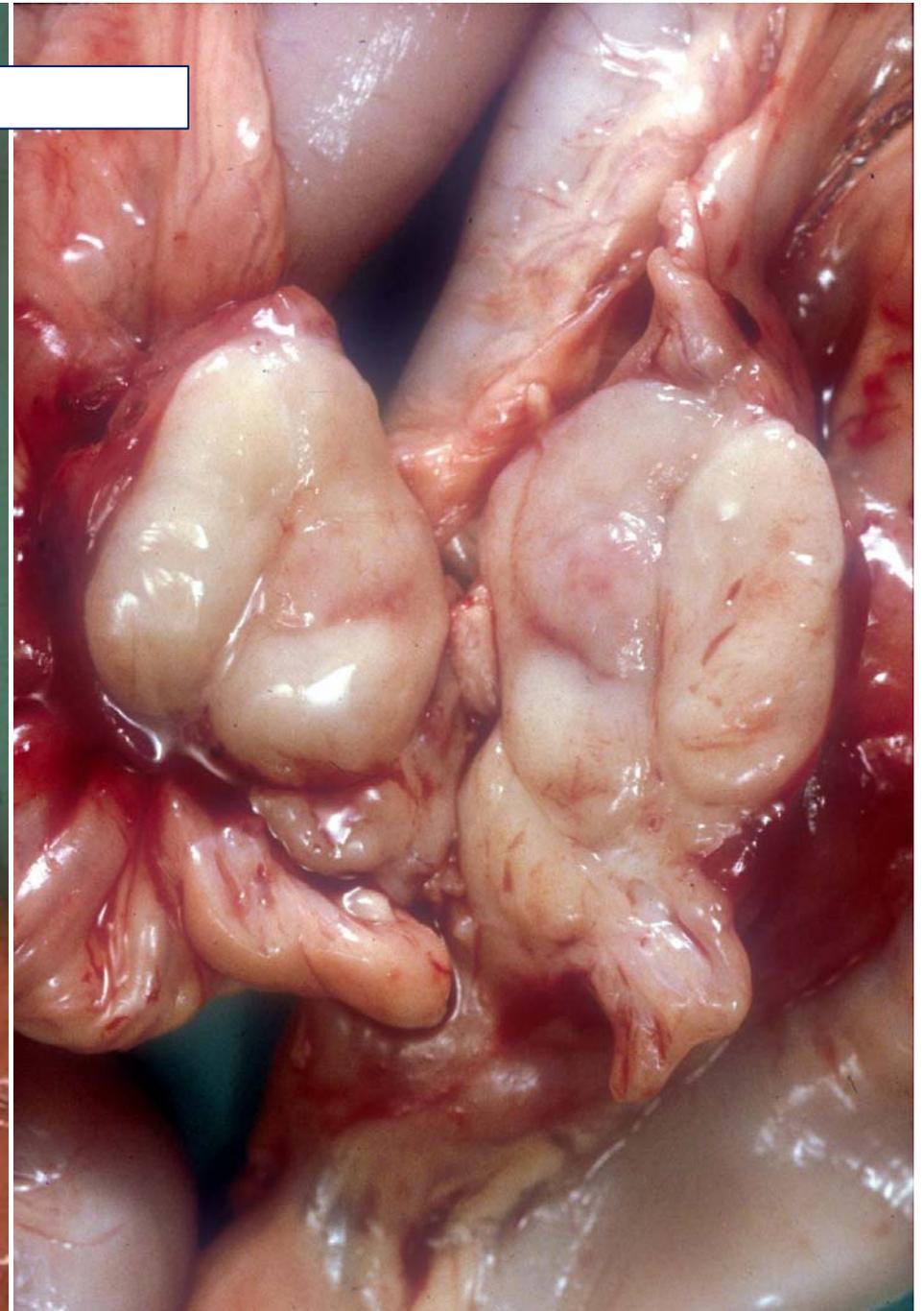
Cortesia Dr. Ugo Bonfanti

**Metastasi di mastocoma splenico? No: mastociti
normalmente associati allo stroma connettivale**

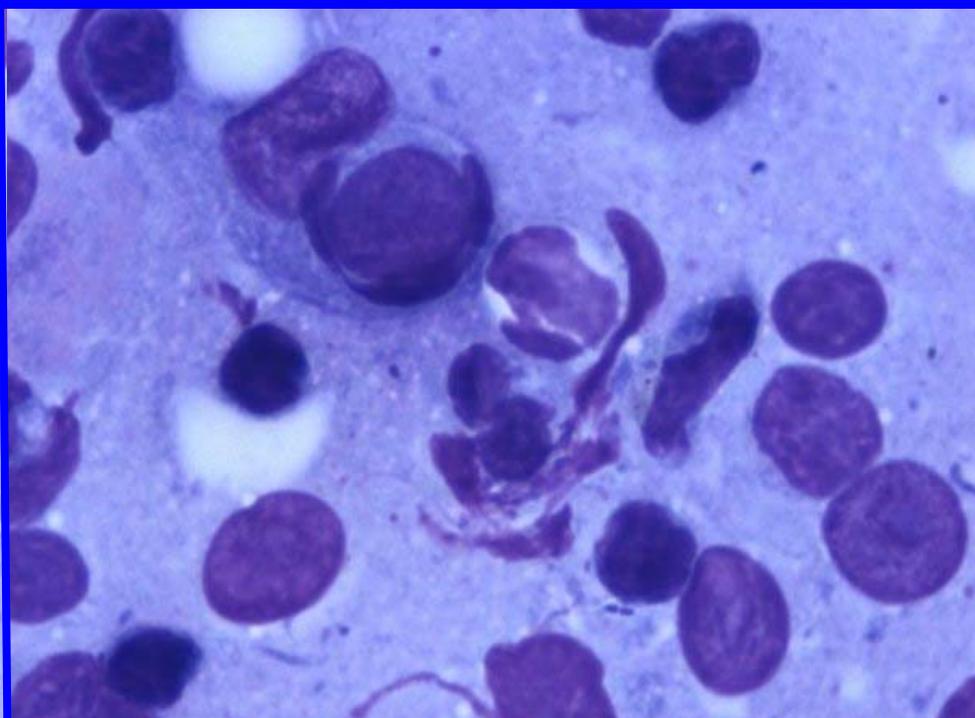
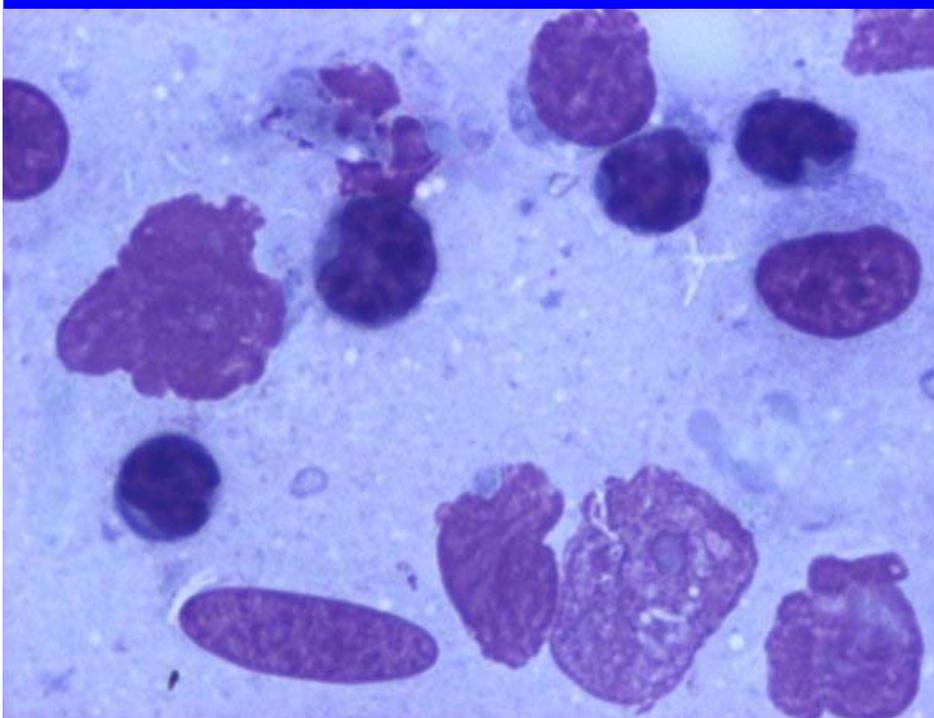
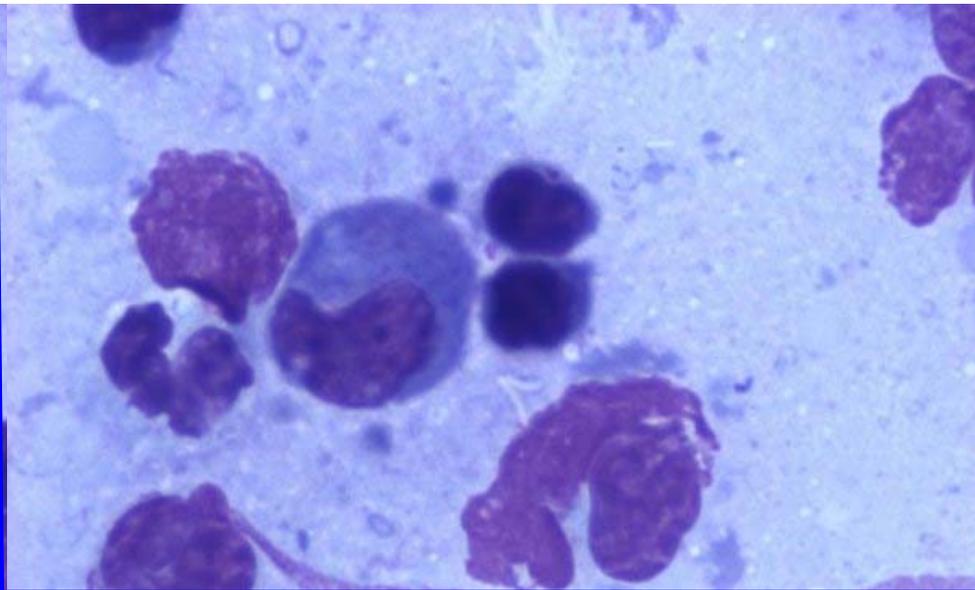
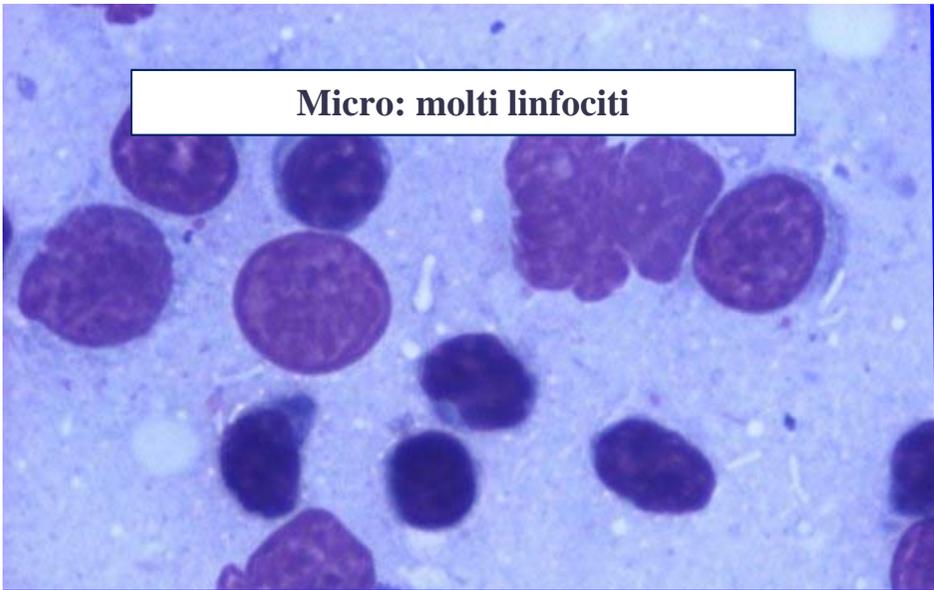


Caso 7

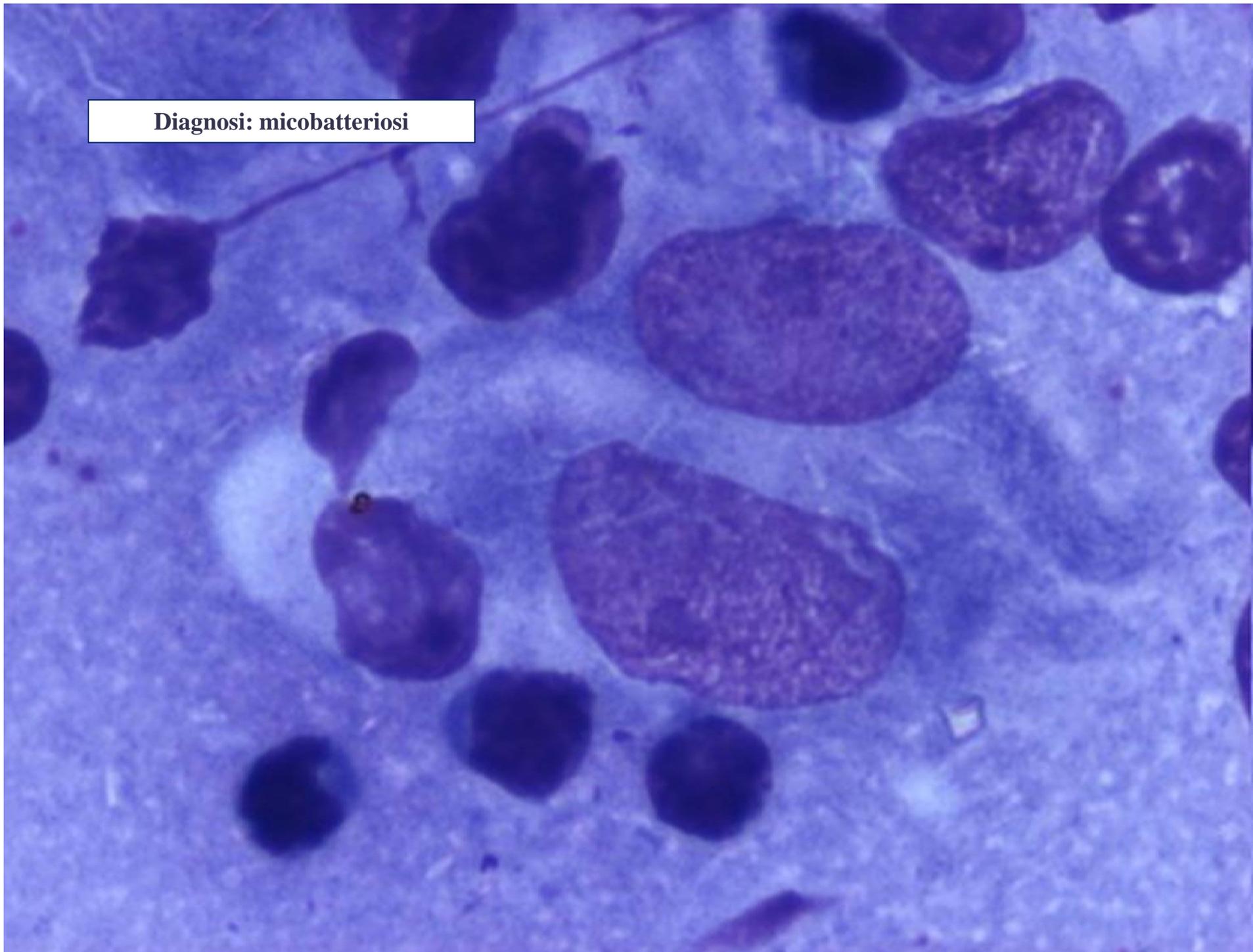
Macro: linfoma



Micro: molti linfociti

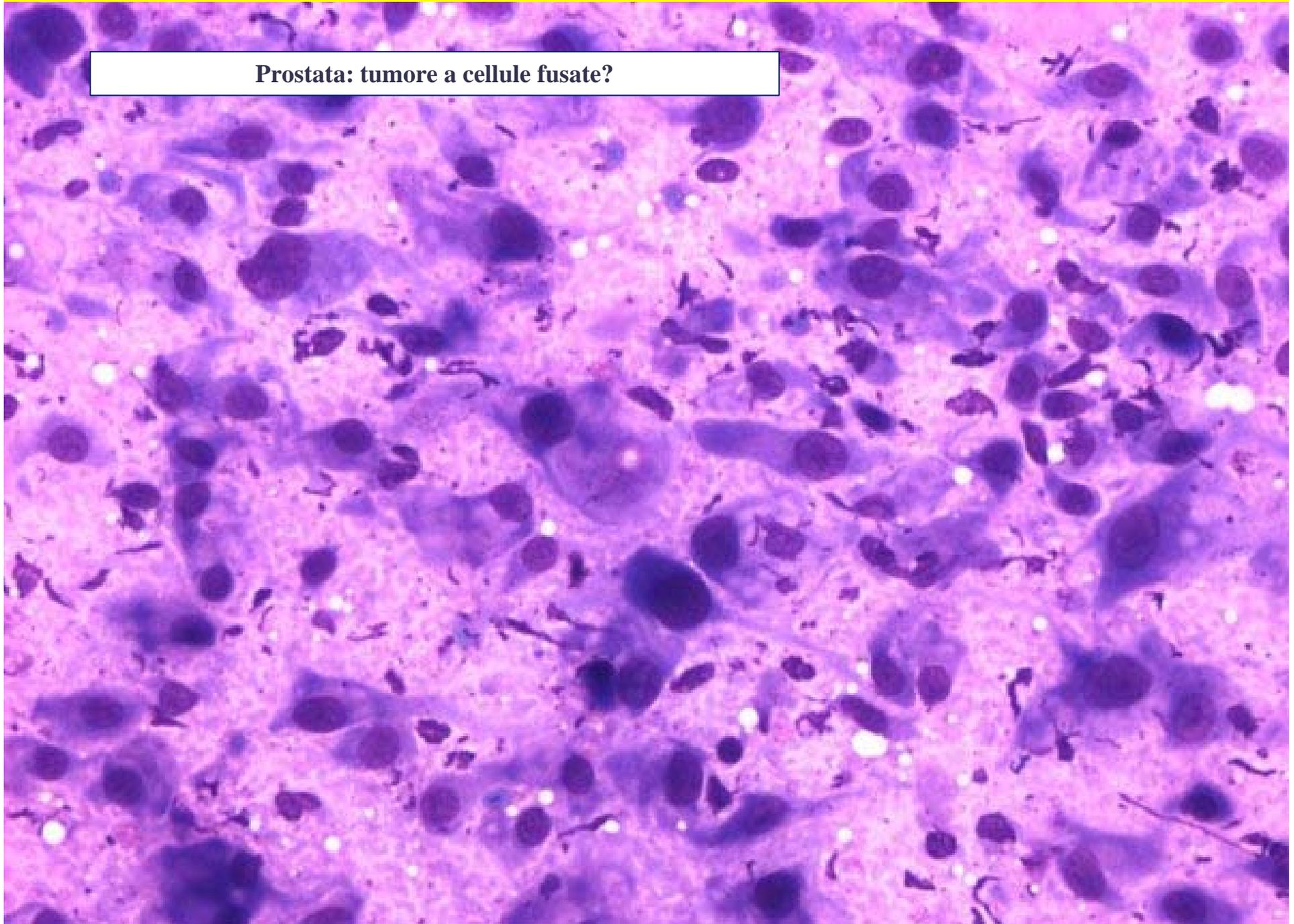


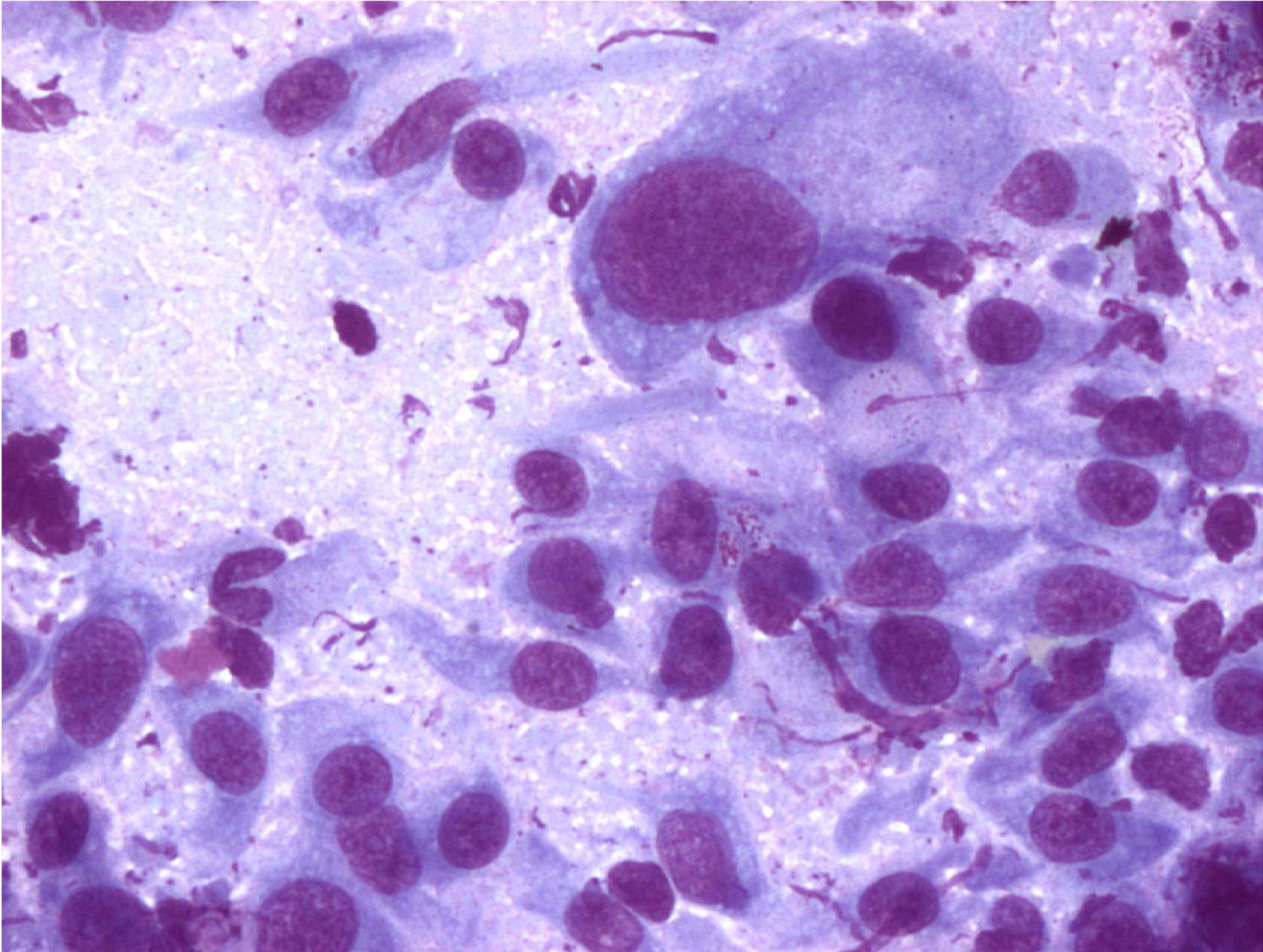
Diagnosi: micobatteriosi



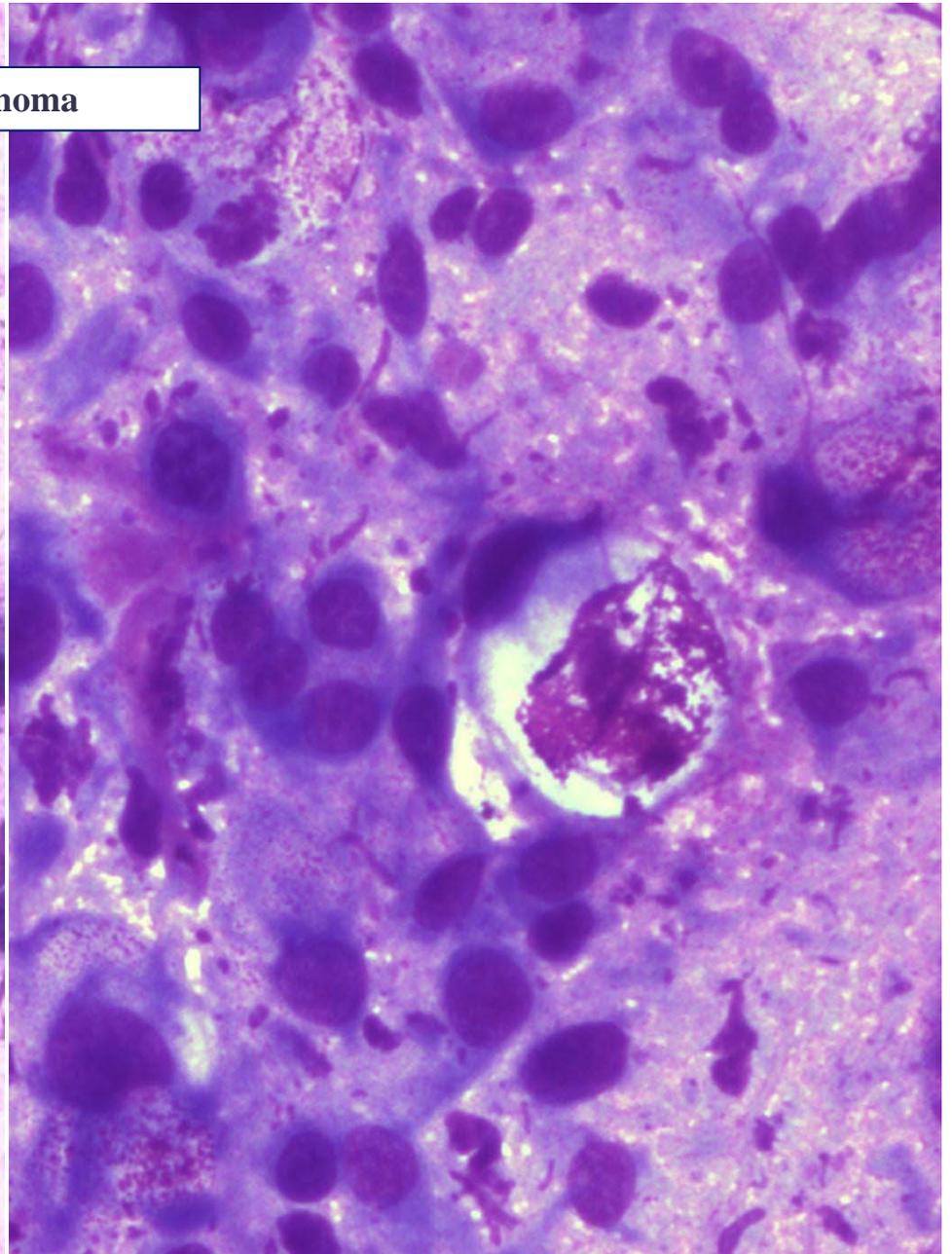
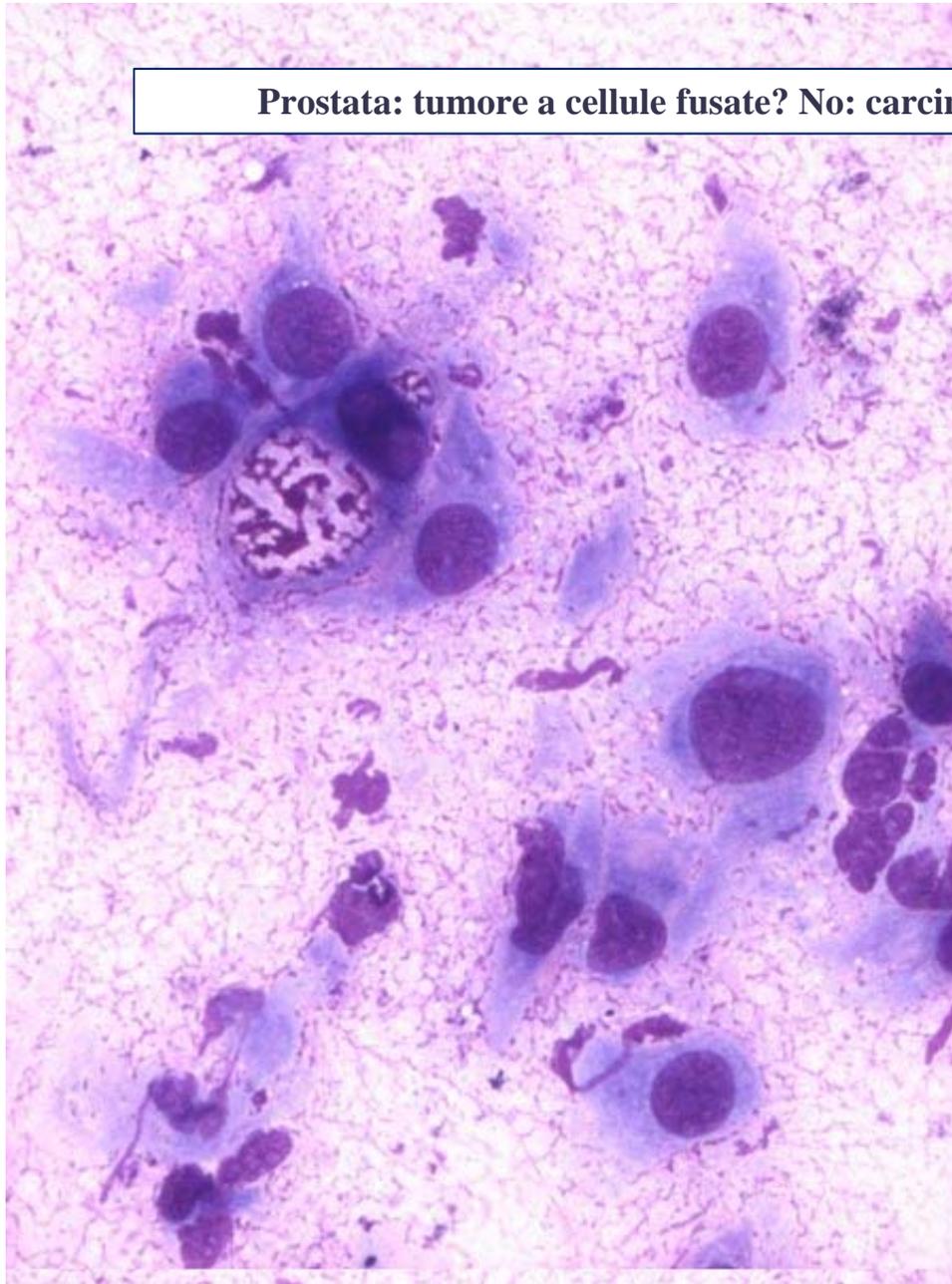
Caso 8

Prostata: tumore a cellule fusate?





Prostata: tumore a cellule fusate? No: carcinoma

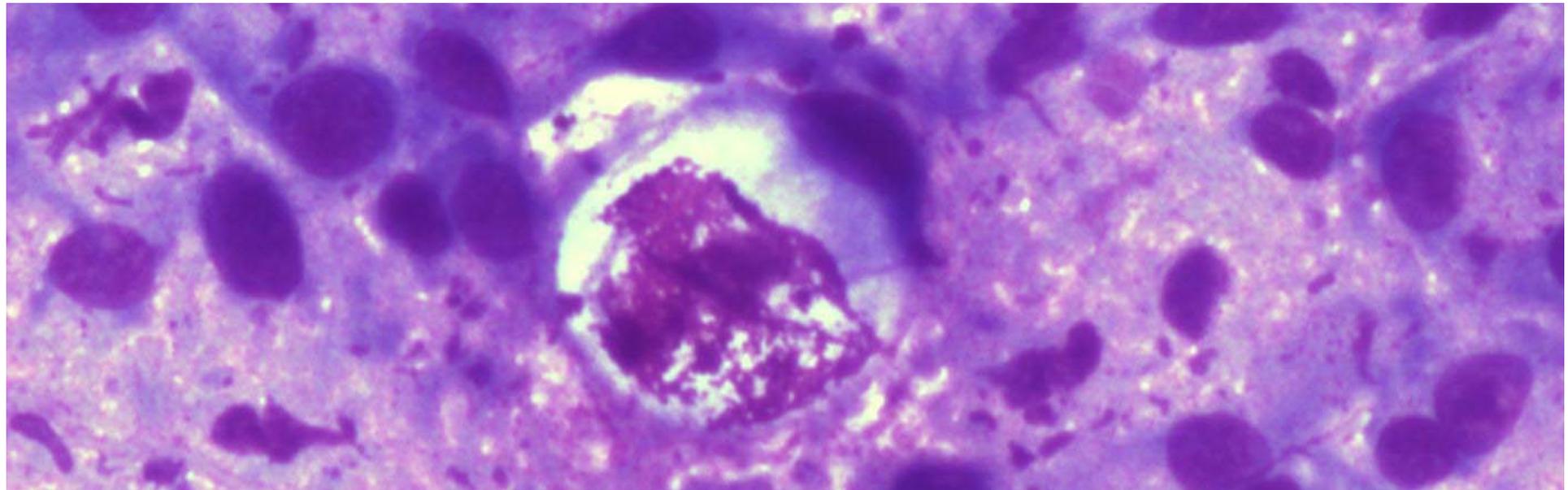


Prostatic sarcomatoid carcinoma in a dog: cytologic and immunohistochemical findings

Nazaré Pinto da Cunha, Gabriele Ghisleni, Stefano Romussi, Mario Caniatti

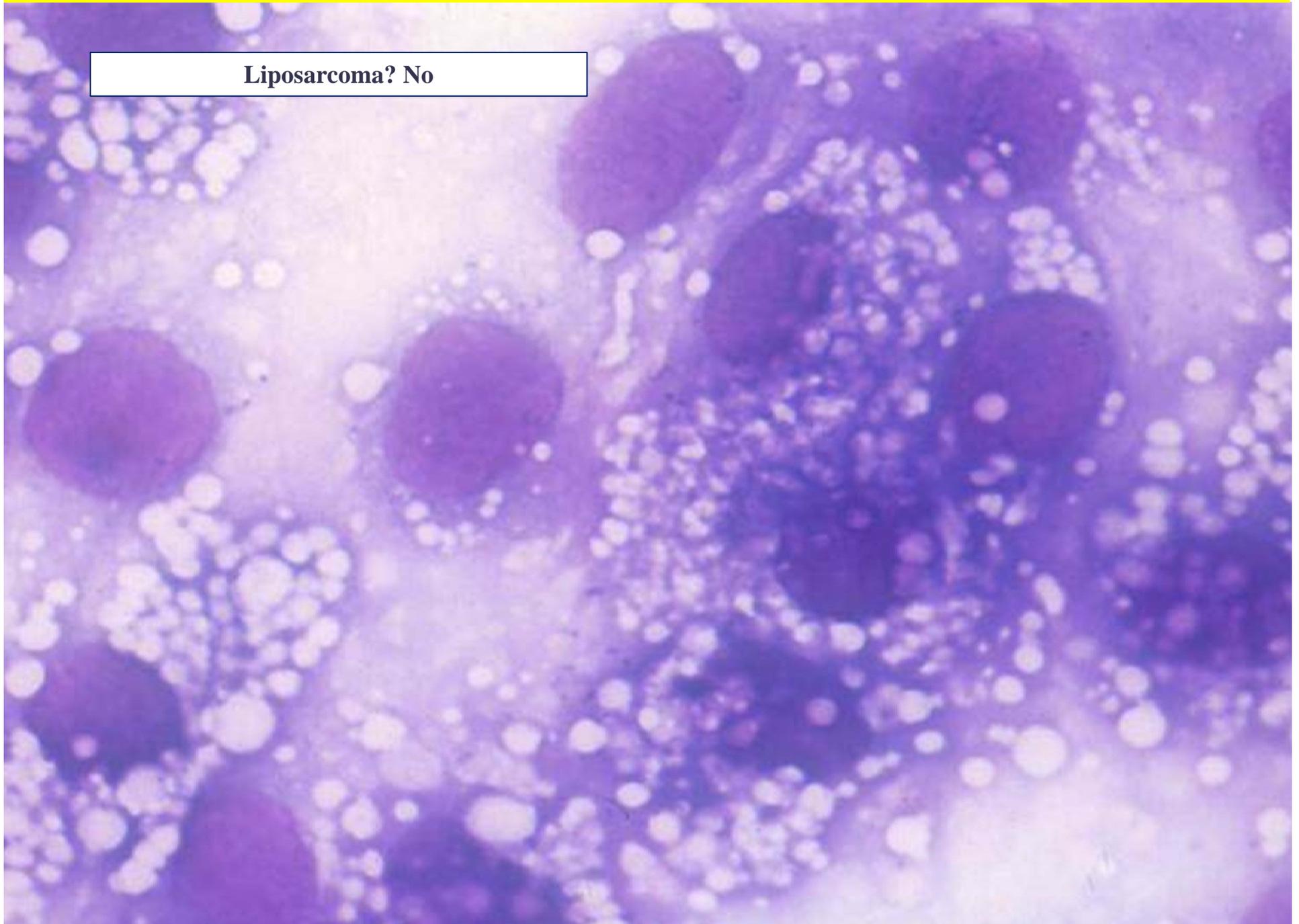
Abstract: An 8-year-old neutered male Boxer was presented with tenesmus, hemorrhagic urethral discharge, and dysuria. Abdominal ultrasound and radiographic examinations revealed irregular prostatic enlargement. Laparotomy was performed and intraoperative cytology was done on imprint smears of a biopsy specimen obtained from a prostatic mass. The cytologic preparation was highly cellular and contained a predominant population of atypical, large, loosely cohesive spindle cells, with rare multinucleated cells and mitotic figures. The cytologic findings were consistent with undifferentiated sarcoma. At necropsy, a large cystic prostatic mass and numerous satellite nodules in the soft tissues around the pelvis were found. On histologic examination the tumor was composed primarily of bundles of neoplastic spindle cells. Rare pseudo-acinar structures and signet-ring cells also were observed. On immunohistochemical examination, the neoplastic cells co-expressed cytokeratin and vimentin. Based on histologic and immunohistochemical findings, the tumor was diagnosed as primary prostatic sarcomatoid carcinoma. This is a rare tumor in dogs, in which biphasic morphology of epithelial and mesenchymal cells can complicate the diagnosis, requiring immunochemical stains for confirmation. (*Vet Clin Pathol.* 2007;36:368–372)

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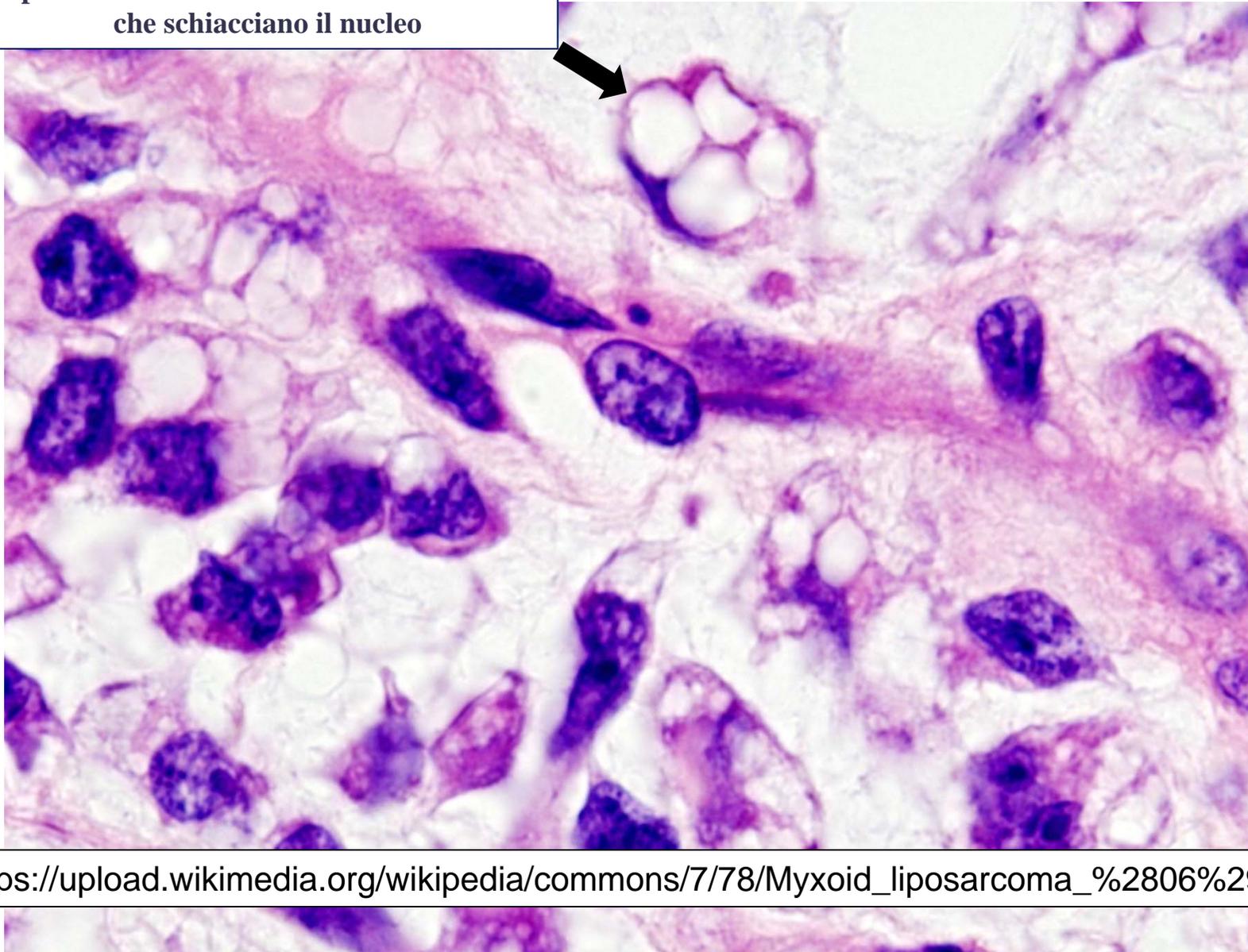


Caso 9

Liposarcoma? No



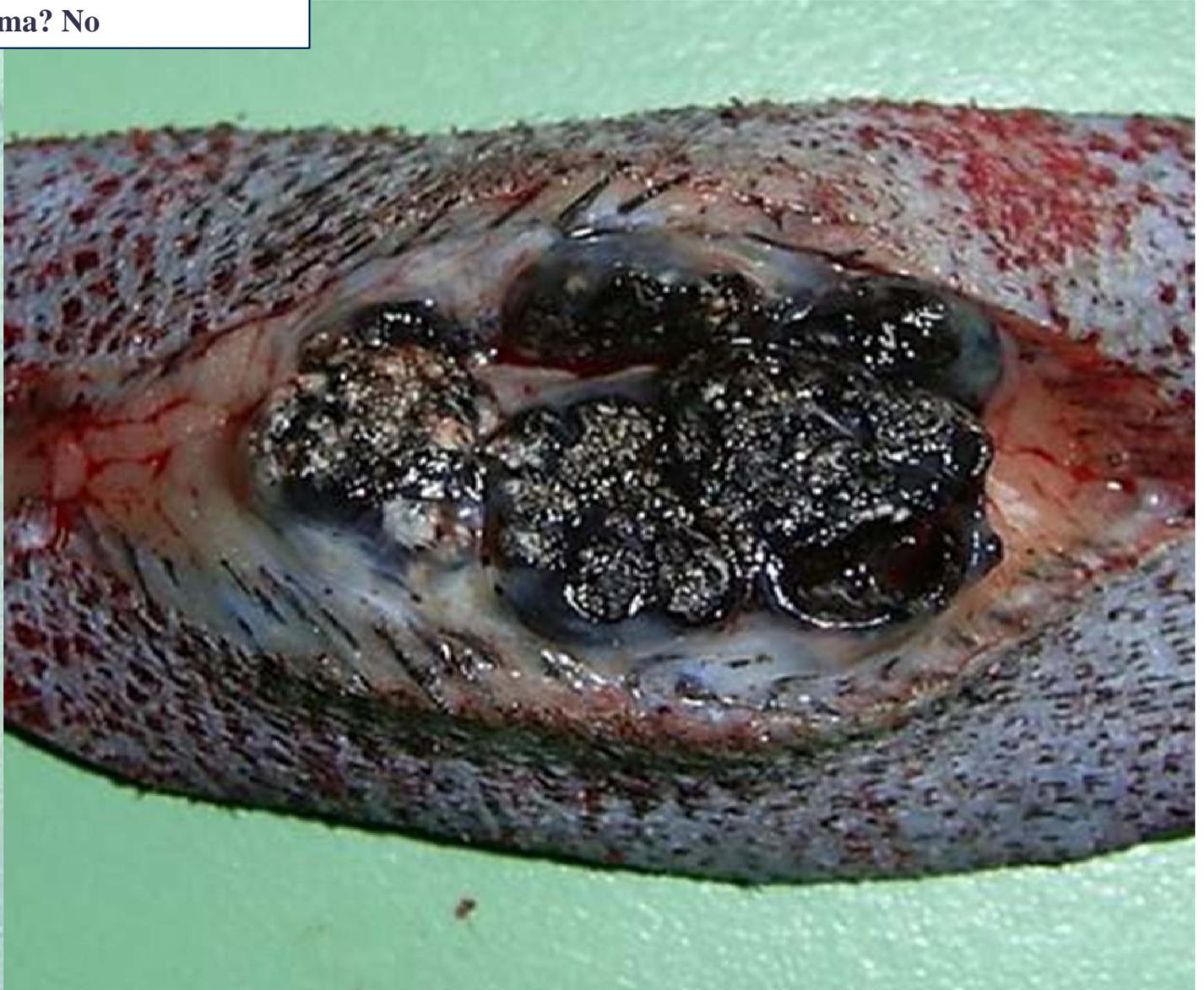
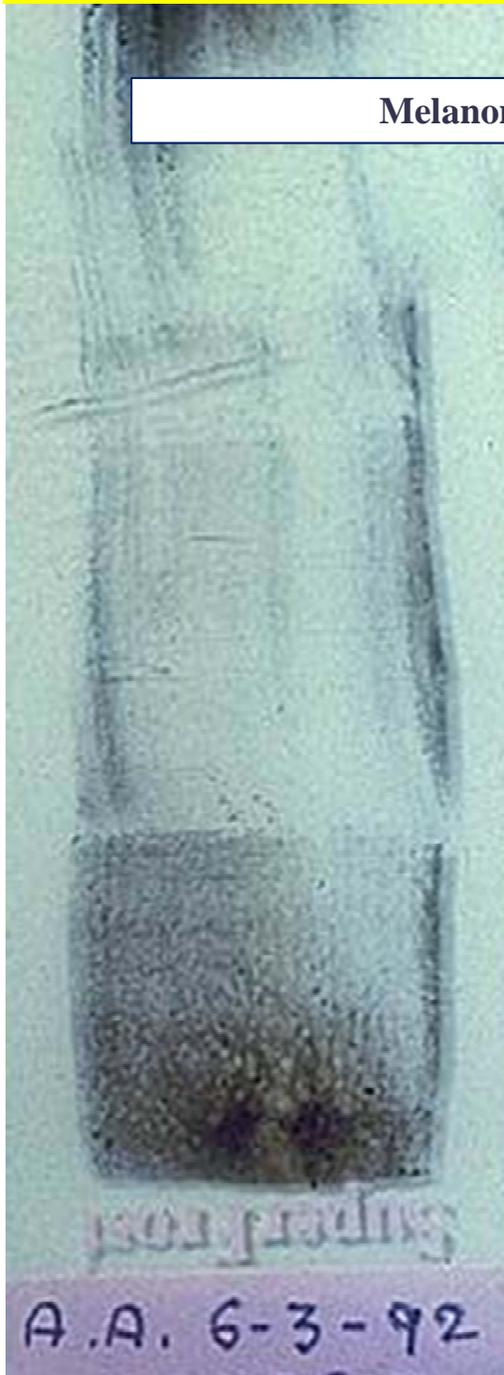
**Lipoblasto: vacuoli anche molto voluminosi
che schiacciano il nucleo**



https://upload.wikimedia.org/wikipedia/commons/7/78/Myxoid_liposarcoma_%2806%29.JPG

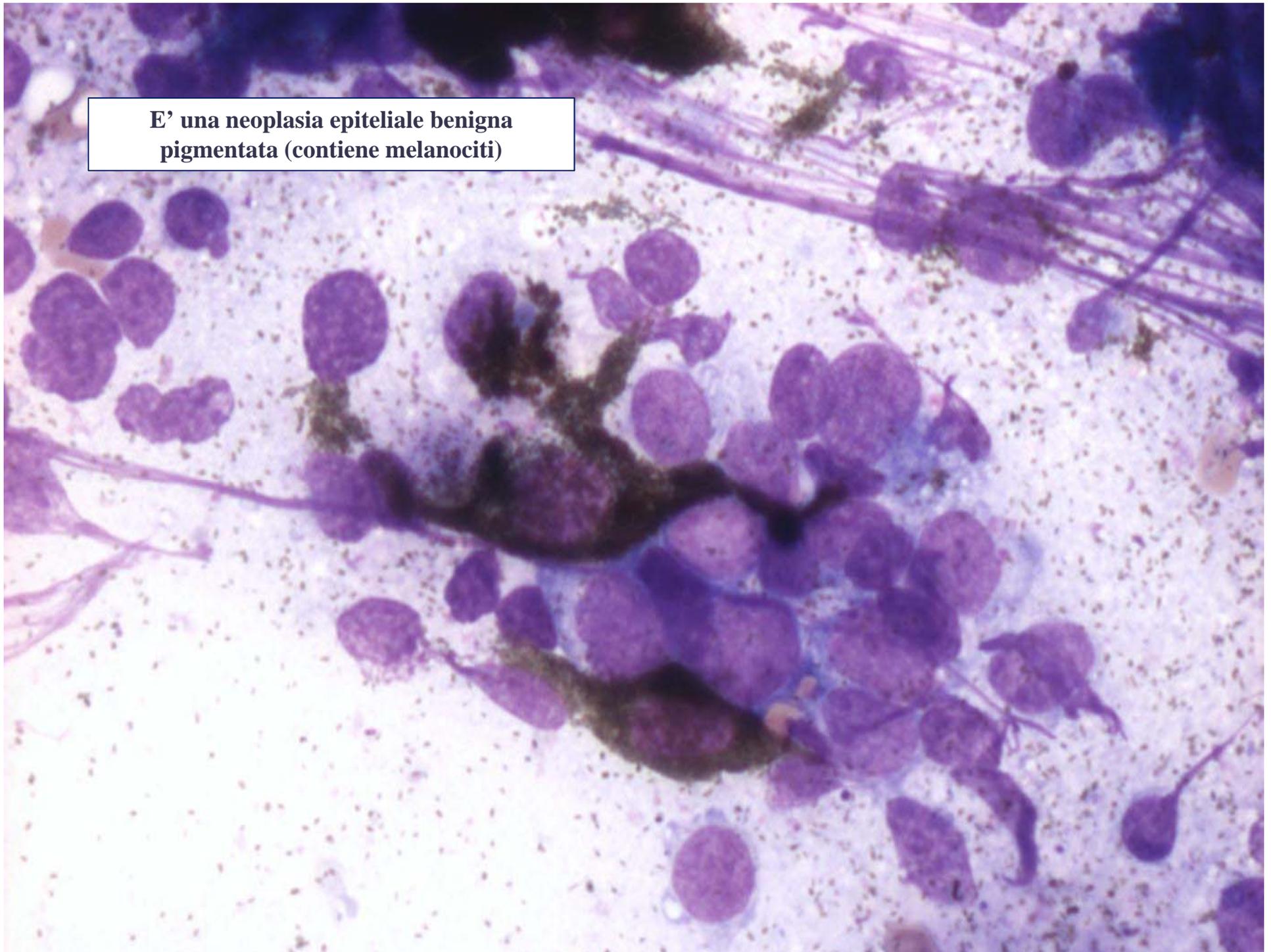
Caso 10

Melanoma? No



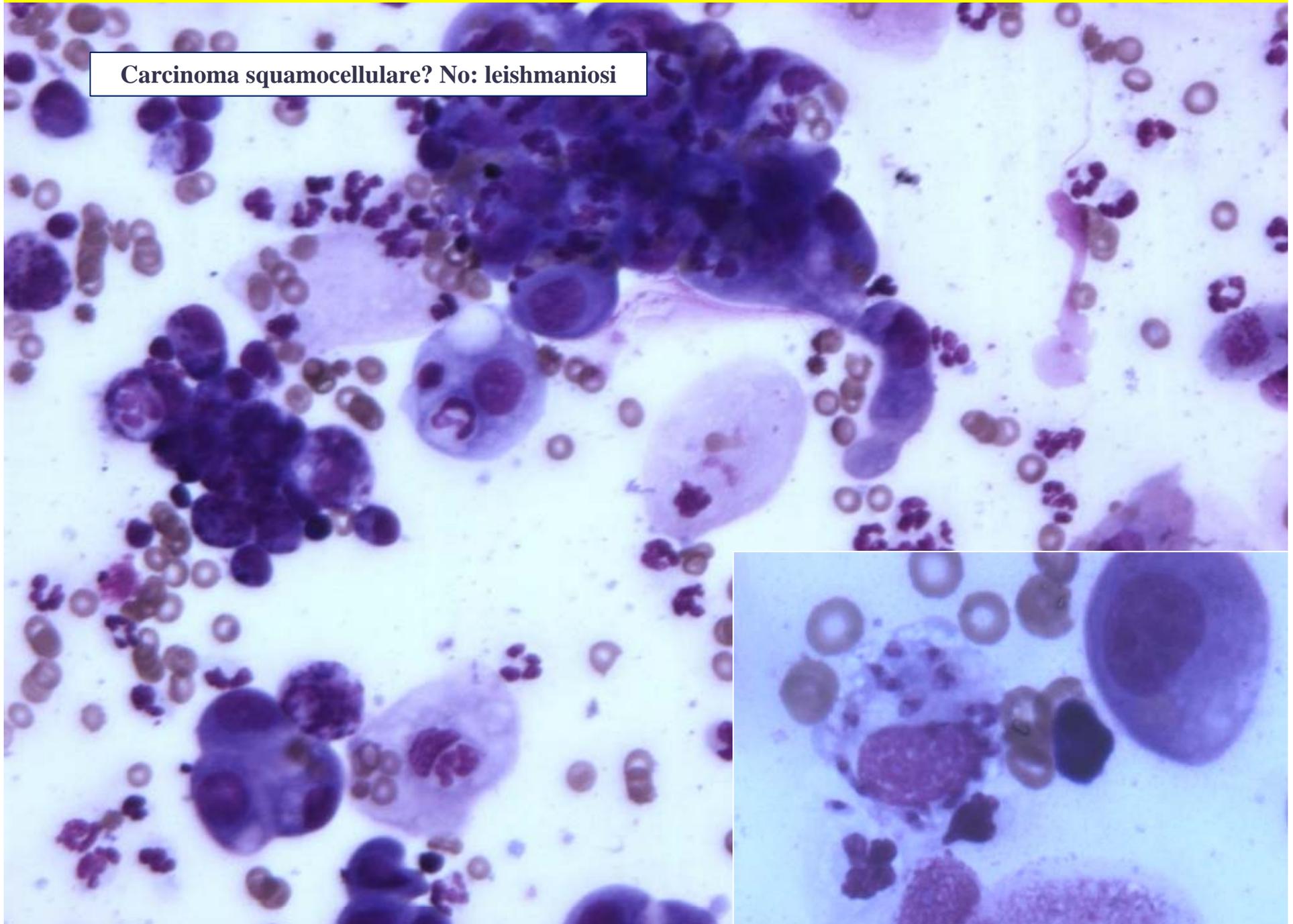
A.A. 6-3-92

E' una neoplasia epiteliale benigna pigmentata (contiene melanociti)



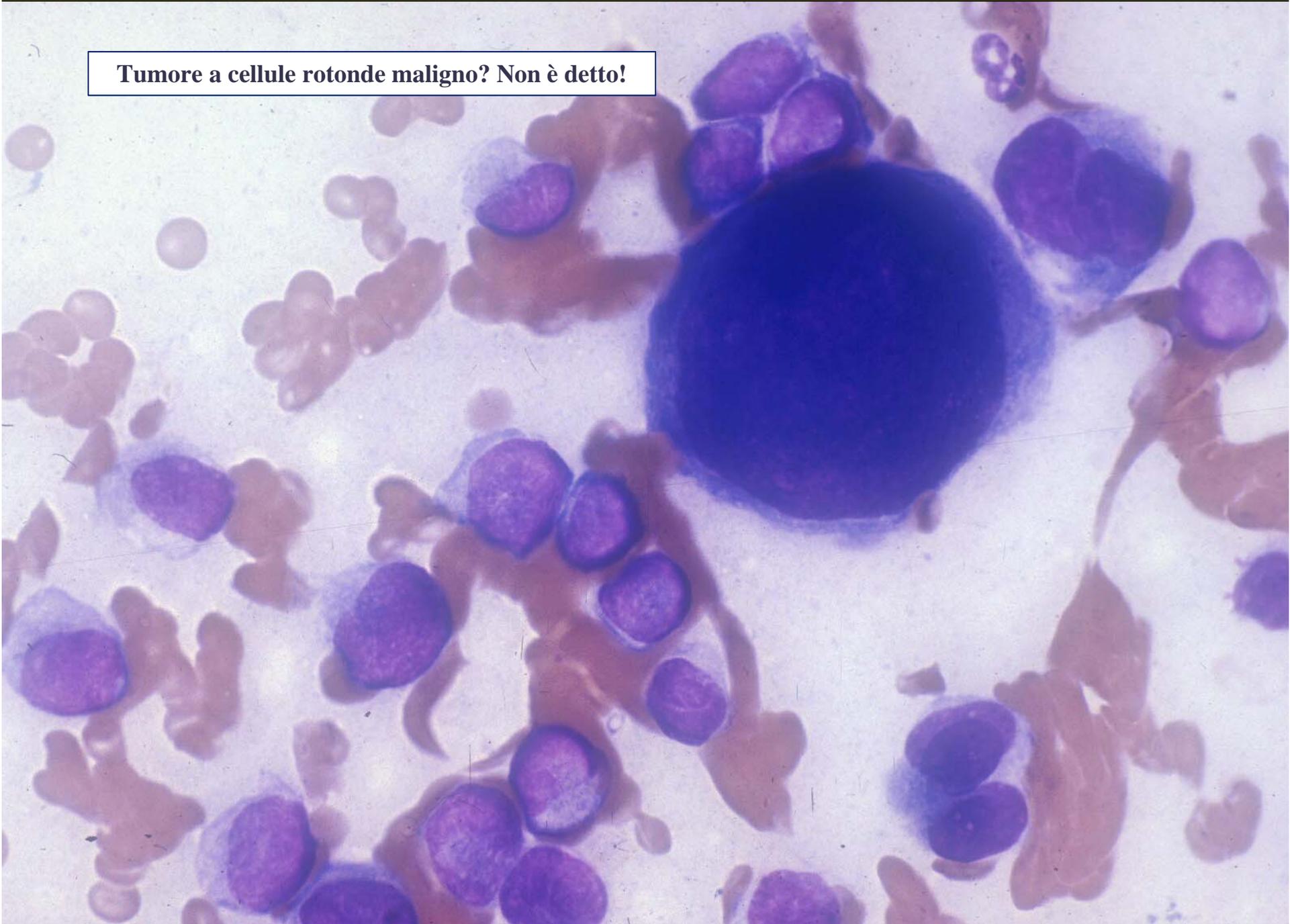
Caso 11

Carcinoma squamocellulare? No: leishmaniosi



Caso 12

Tumore a cellule rotonde maligno? Non è detto!



Caso 13

Tumore maligno? No: seminoma

