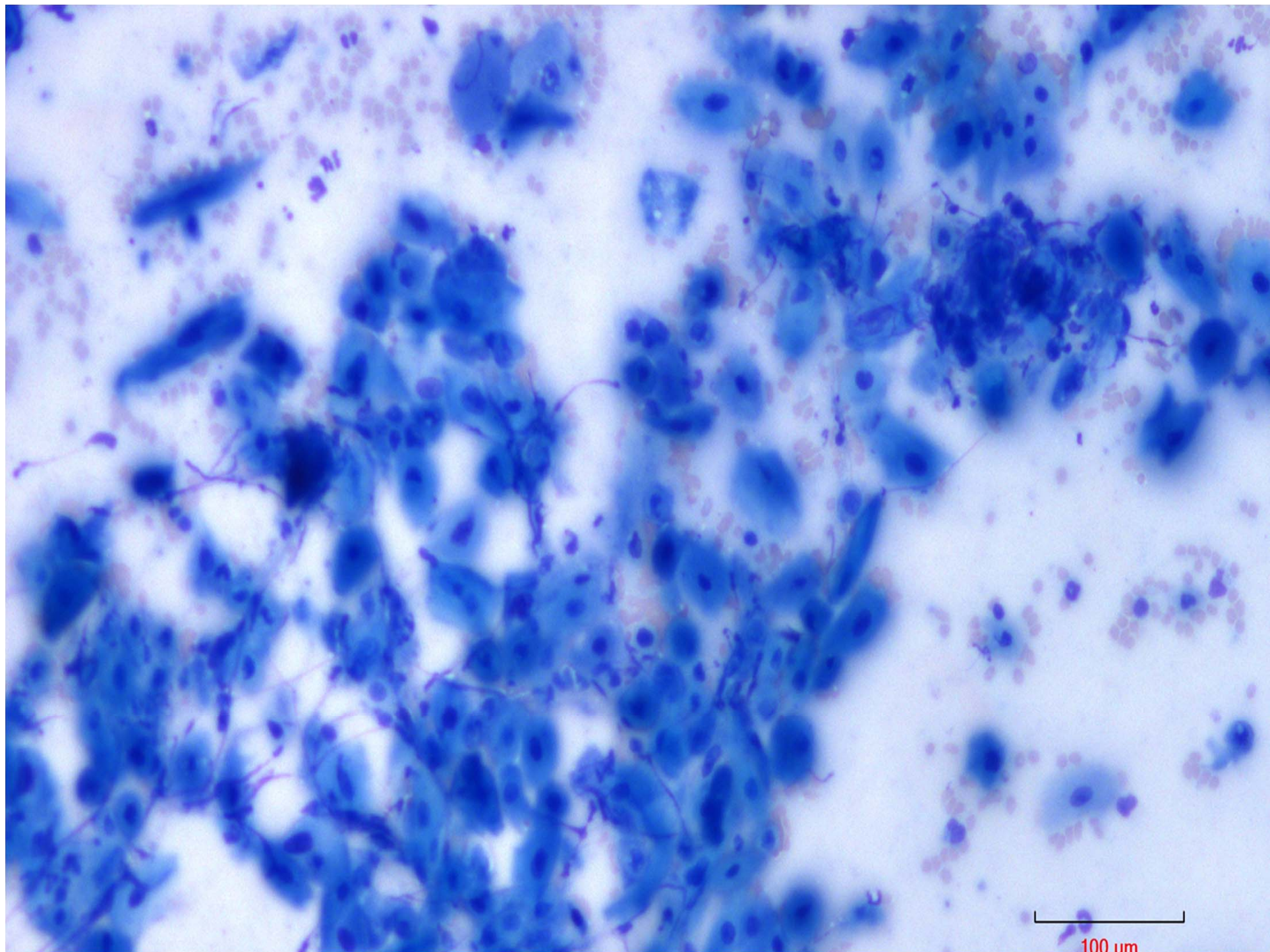


# *Aspirate from a tongue* *mass*

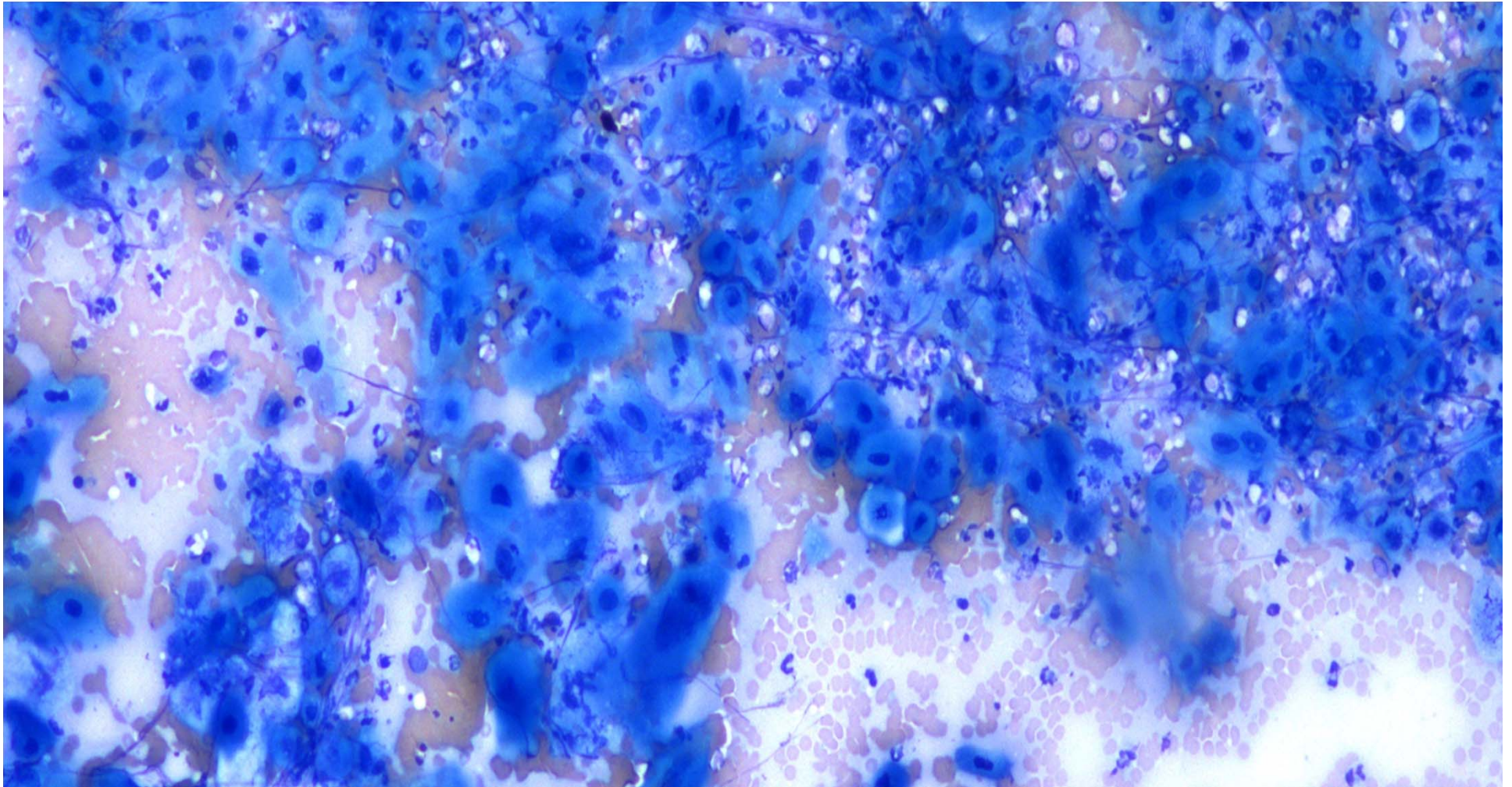
11.7 year old welsh corgi mix , male castrated

presented because of trouble eating

PE: mass near the center of his tongue with  
an area of 1\*1 ulceration





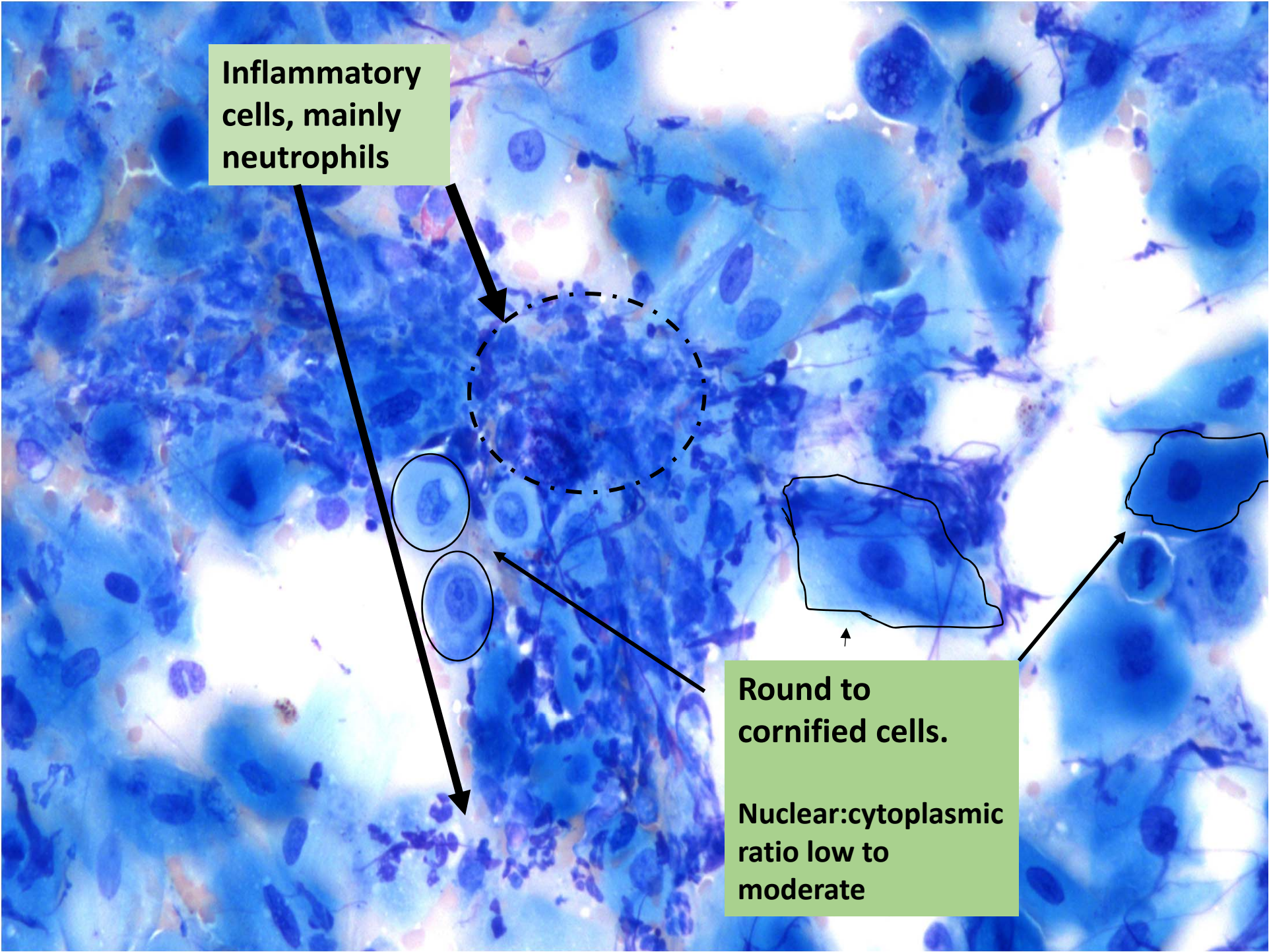


What type(s) of cells are present?

What is the most likely primary process (inflammation vs neoplasia vs other)?

How would the method of collection (aspirate vs impression) change your opinion?





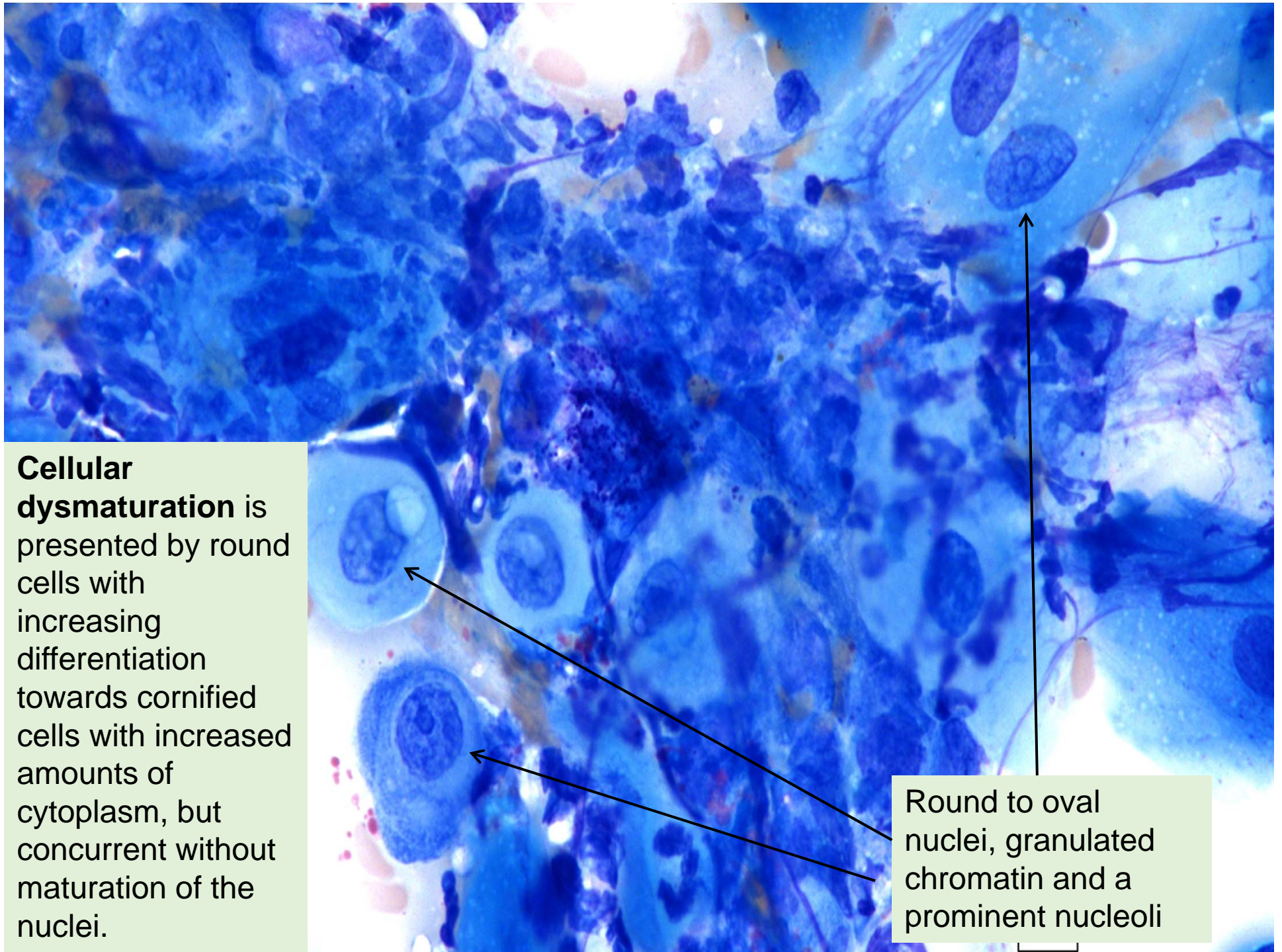
**Inflammatory  
cells, mainly  
neutrophils**

This histological image shows a tissue section stained with hematoxylin and eosin (H&E). The background is filled with numerous small, dark-staining nuclei, which are identified as inflammatory cells, primarily neutrophils. A dashed circle highlights a specific cluster of these cells. In the lower-left area, two individual cells are circled with solid lines. On the right side, several larger, more rounded cells are outlined with solid lines, representing cornified cells. Two text boxes with arrows provide further context: one points to the inflammatory cell cluster, and the other points to the cornified cells, describing their morphology and nuclear-to-cytoplasmic ratio.

**Round to  
cornified cells.**

**Nuclear:cytoplasmic  
ratio low to  
moderate**

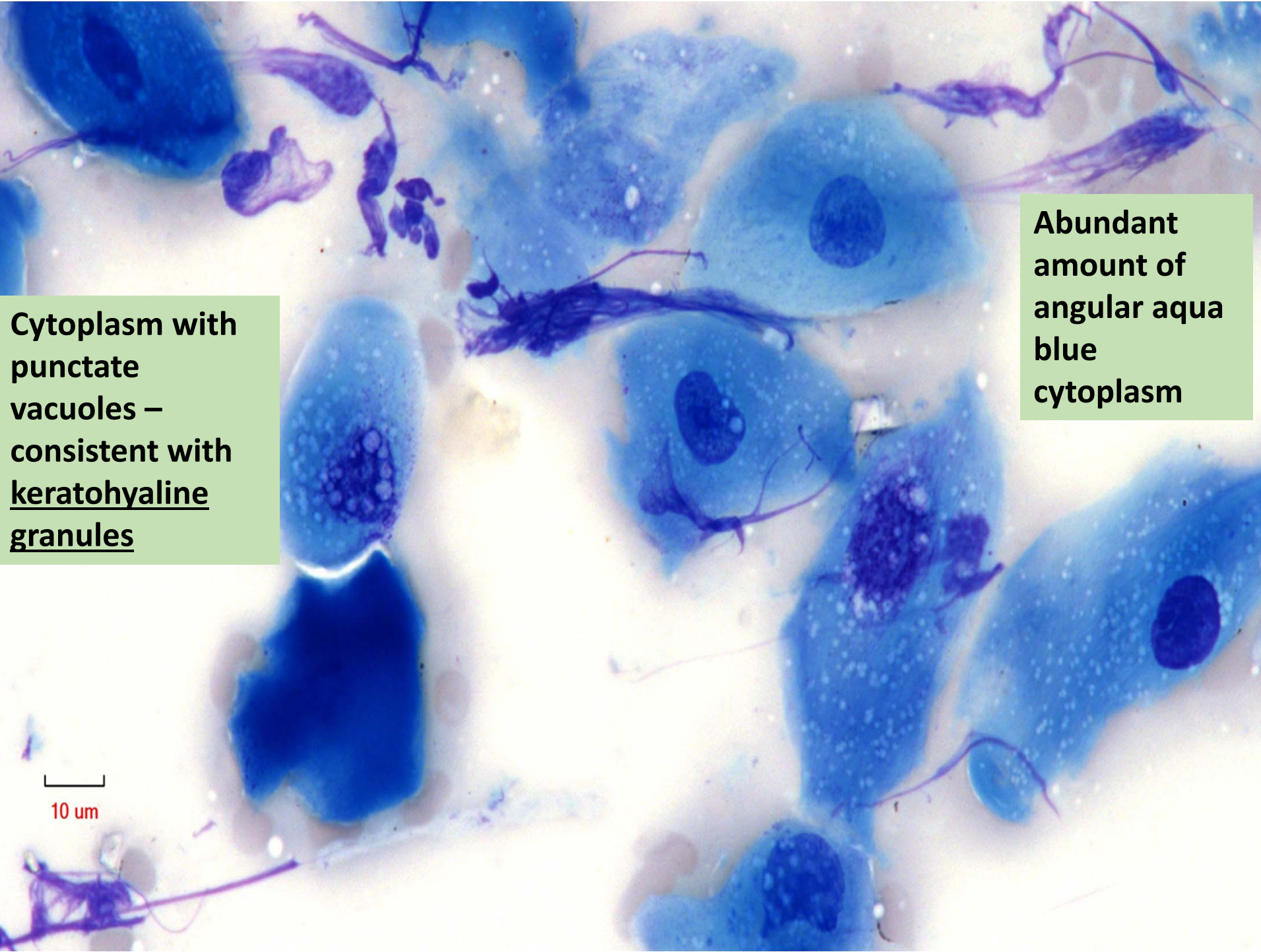




**Cellular dysmaturation** is presented by round cells with increasing differentiation towards cornified cells with increased amounts of cytoplasm, but concurrent without maturation of the nuclei.

Round to oval nuclei, granulated chromatin and a prominent nucleoli





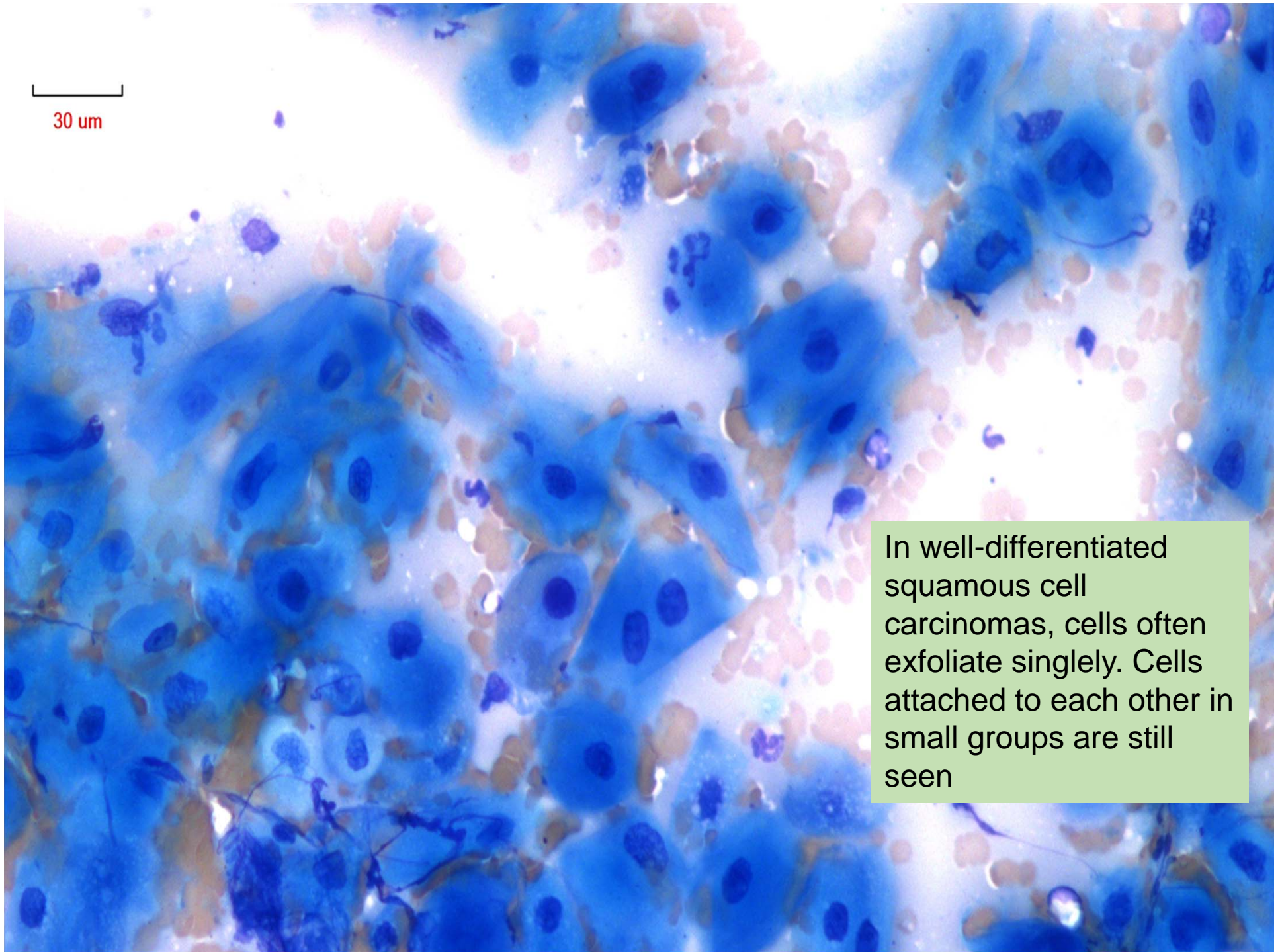
Cytoplasm with  
punctate  
vacuoles –  
consistent with  
keratohyaline  
granules

This micrograph shows several large, polygonal cells with a distinct blue-stained cytoplasm and dark, centrally located nuclei. The cytoplasm contains numerous small, clear punctate vacuoles. Some cells exhibit long, thin, purple-stained processes extending from their periphery. A scale bar in the bottom left corner indicates a length of 10 micrometers.

Abundant  
amount of  
angular aqua  
blue  
cytoplasm

10 um





In well-differentiated squamous cell carcinomas, cells often exfoliate singly. Cells attached to each other in small groups are still seen

**emperipolesis -  
presence of an intact  
cell within  
the cytoplasm of  
another cell**

In humans  
emperipolesis is rarely  
seen in benign lesions.  
In domestic animals  
there is not an  
agreement on the  
significance of  
emperipolesis. Though  
they are commonly  
seen in squamous cells  
carcinoma

## Squamous cell carcinoma

If the sample taken was a swab:  
inflammation as a primary  
process with squamous cell  
hyperplasia of surface  
epithelium could not be ruled



# Discussion

- Squamous cell carcinomas are epithelial tumors commonly arising from the skin or organs with stratified squamous epithelium such as tongue, esophagus, pharynx, nasal septum, and uterine cervix.
- Method of collection is extremely important to the diagnosis of squamous cell carcinoma: For example, squamous cells normally line the epithelial surface of the tongue. If this sample had been collected as an impression, the findings of inflammation and increased cellularity and atypical features of the squamous cell population could represent hyperplasia due to inflammation. But squamous cells are not expected to be found deep within tissue, therefore, knowing this sample was collected via tissue aspiration makes us confident of an atypical population and thus neoplasia.
- Don't forget: other lesions can contain squamous cells, incidental collections of skin, epidermal inclusion cysts, follicular tumors, etc. They will not always be representative of a carcinoma even when aspirates are taken!



# Squamous cell neoplasia

- Oral squamous cell carcinoma is the second most common malignant oral neoplasia in dogs (after melanoma) and the most prevalent malignant oral neoplasia in humans.
- Mean age of dogs with lingual SCC was 10.7 years
- Tumor location in oral cavity and its association with survival time is discrepant across the literature, with some reporting no significant association to lingual tumors behaving more aggressively.
- The most common feline oral neoplasms are squamous cell carcinoma and fibrosarcoma. (Feline melanomas of the oral cavity are rare)
- The most common site for feline squamous cell carcinoma is the ventral portion of the tongue near the frenulum with early metastasis to the regional lymph node



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