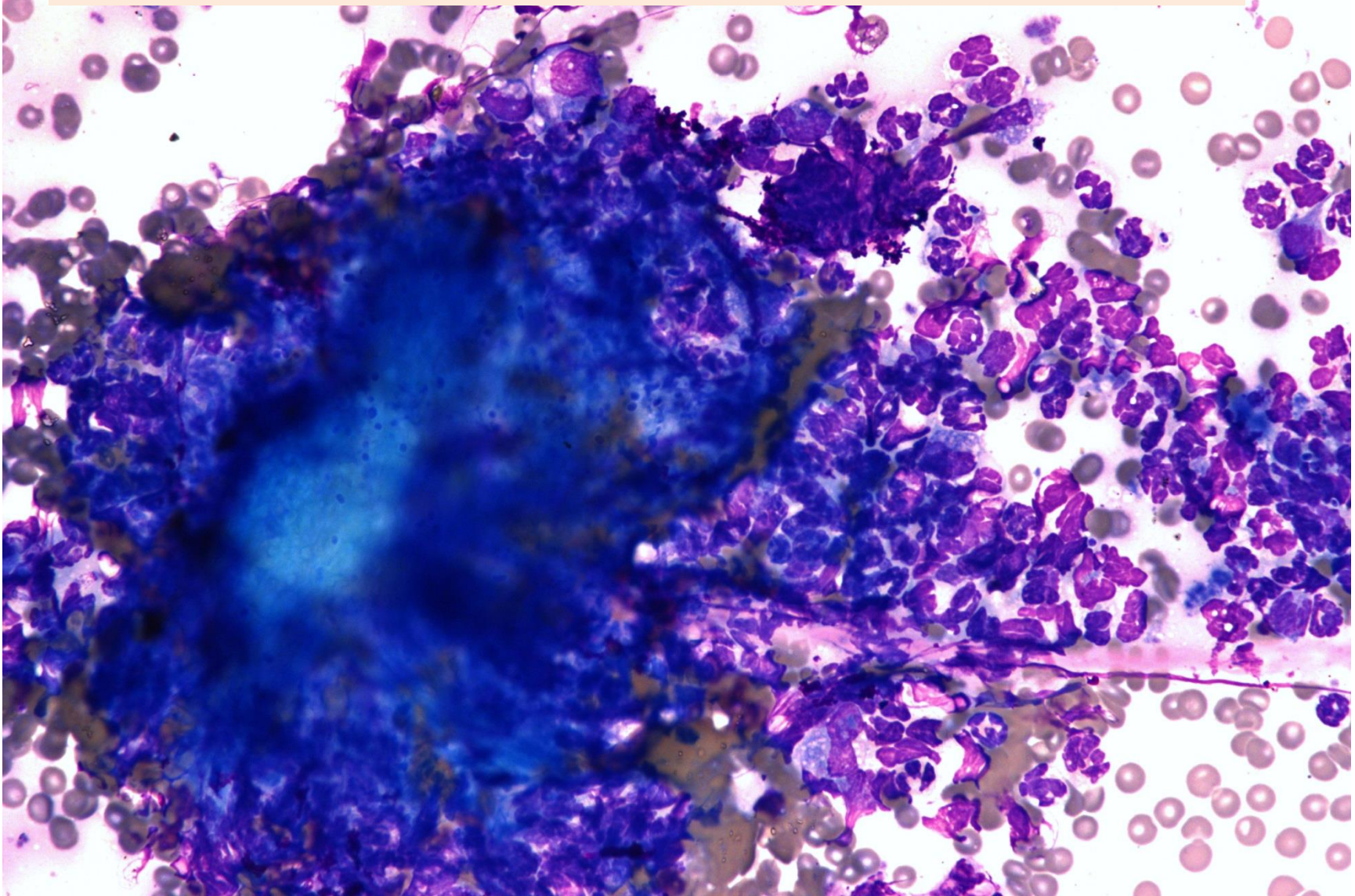


Subcutaneous mass aspiration between the  
digits of an 8 month old English Bulldog

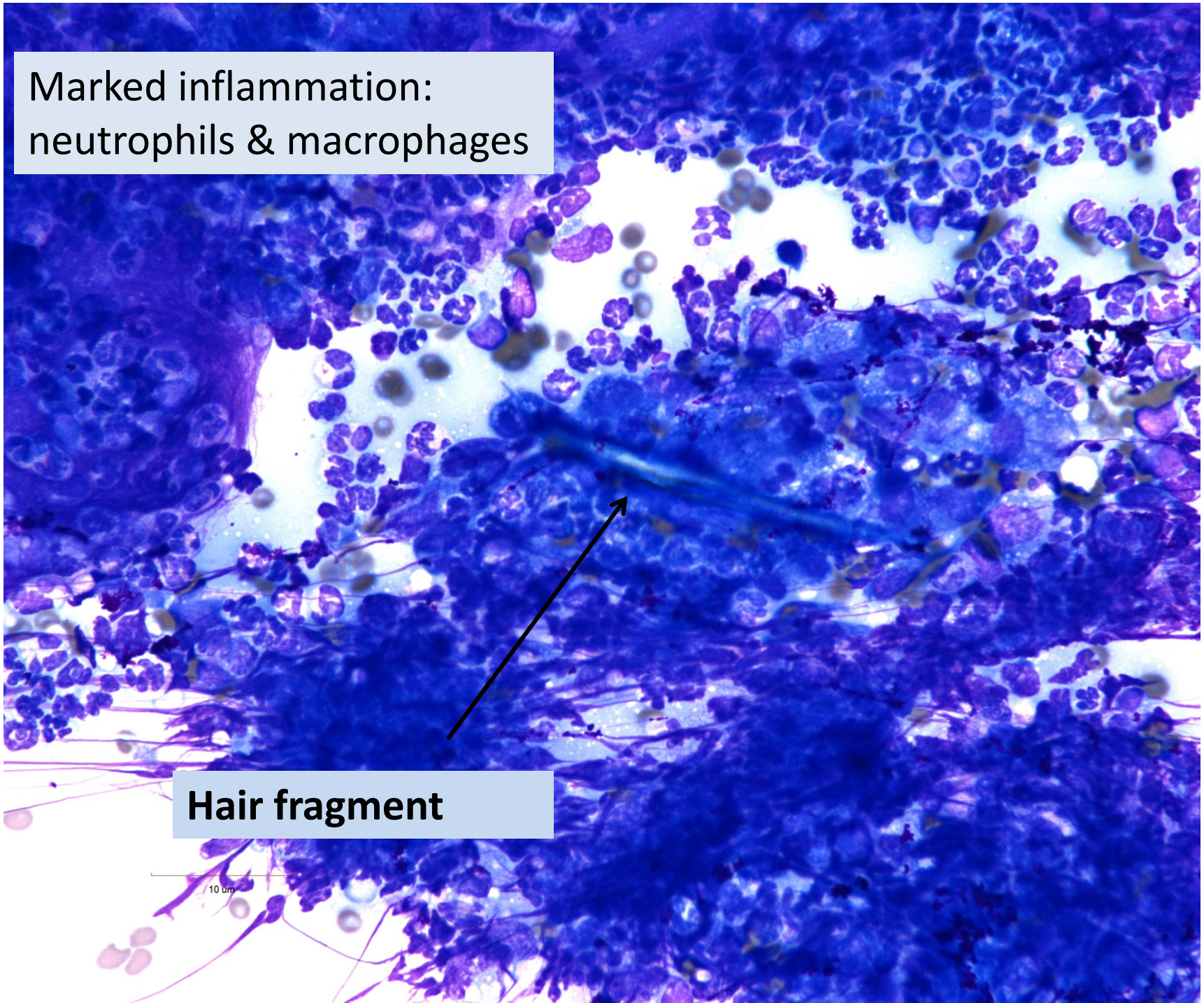




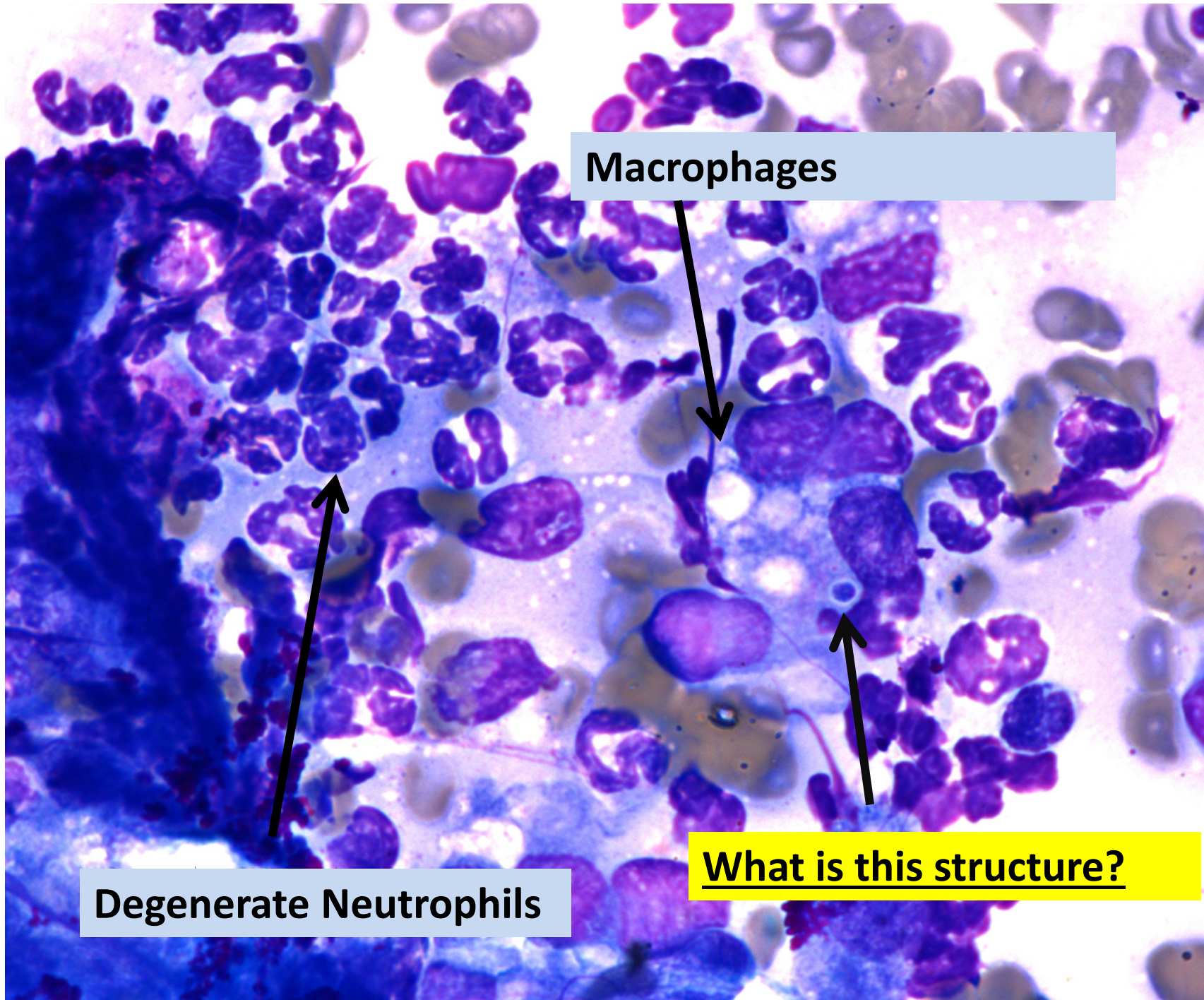
Marked inflammation:  
neutrophils & macrophages

Hair fragment

10  $\mu$ m







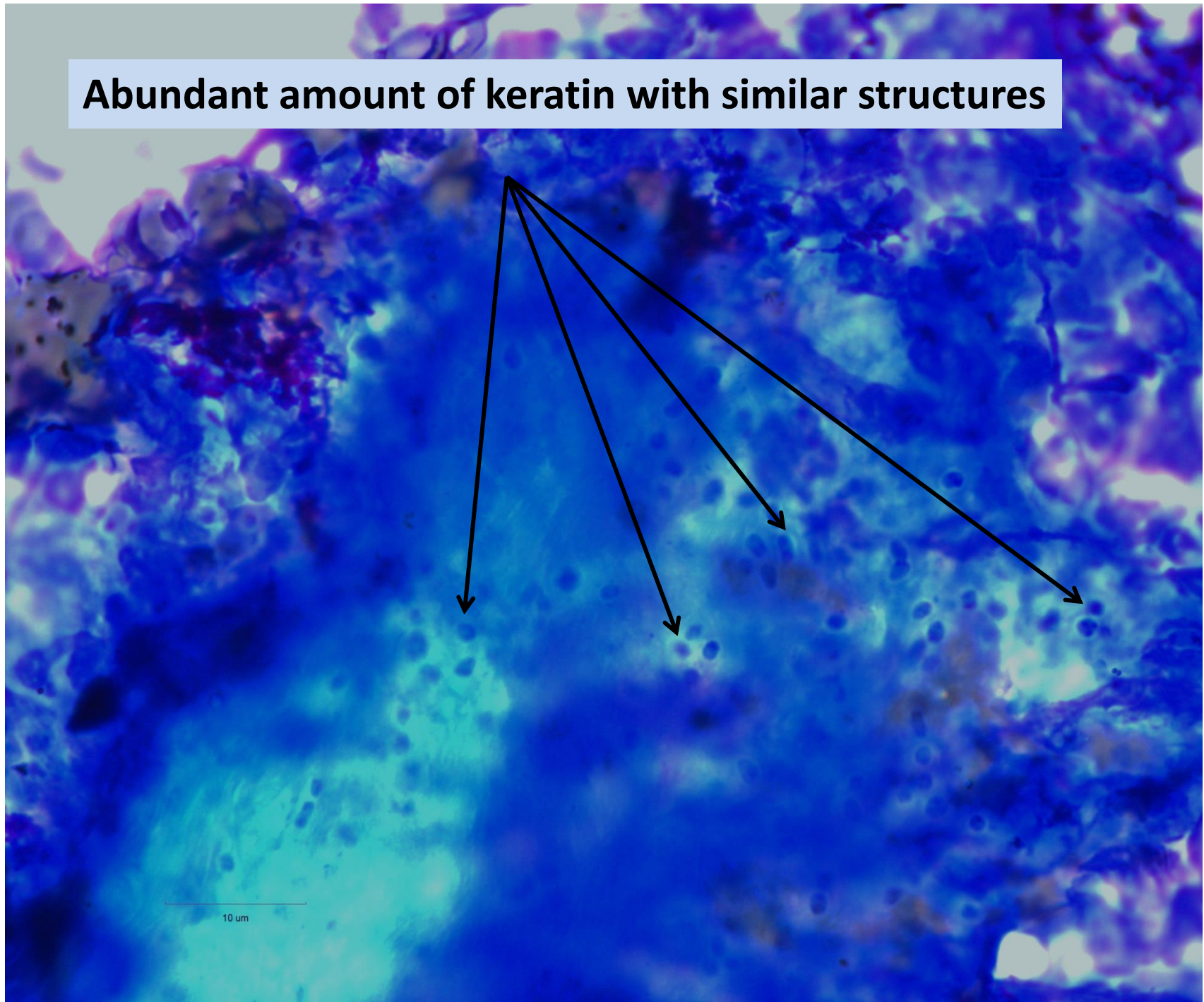
Macrophages

Degenerate Neutrophils

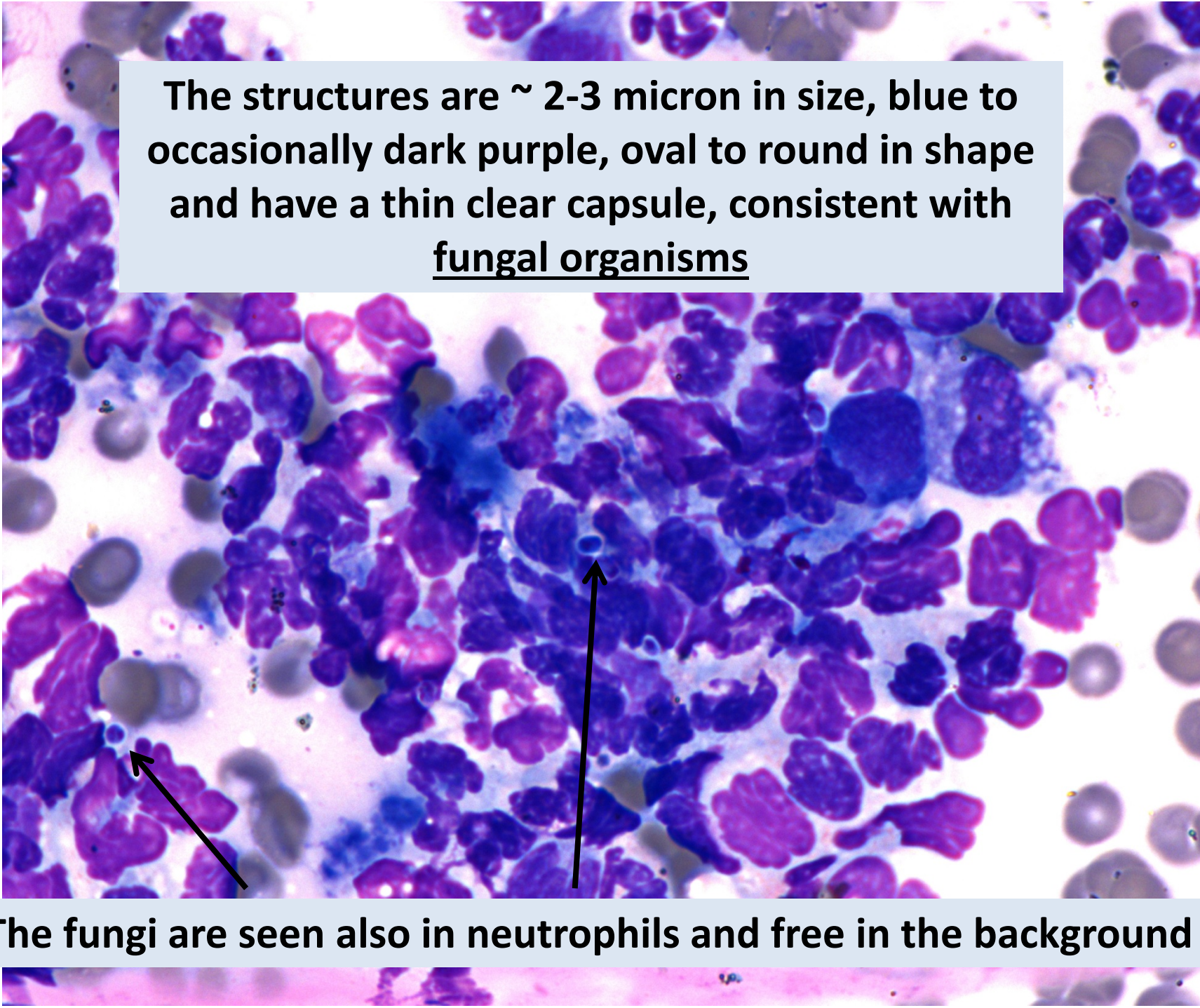
What is this structure?



**Abundant amount of keratin with similar structures**







The structures are ~ 2-3 micron in size, blue to occasionally dark purple, oval to round in shape and have a thin clear capsule, consistent with fungal organisms

The fungi are seen also in neutrophils and free in the background

# Growth of Microsporum canis was diagnosed on fungal culture

- Microsporum canis is a dermatophyte that frequently causes infection of the superficial layers of skin, hair and nails (dermatophytoses). <sup>1,2</sup>
- **Microsporum canis, Microsporum gypseum and Trichophyton mentagrophytes** are the main etiologic agents of clinical dermatophytosis. <sup>3</sup>
- Dermatophytes affect the hair shafts, stratum corneum and nails or claws of animals and people. <sup>2</sup>
- The typical lesions include focal alopecia, broken hair shafts, crusts scales and erythema on the head, feet and tail of dogs and cats. <sup>1</sup>
- The structures seen in this cytology were Microsporum arthroconidia, which should be differentiated from other similar fungal yeast bodies seen in Candidiasis, Histoplasmosis, Aspergillosis/Penicilliosis and Sporotrichosis. <sup>2,4</sup>

# Kerion

- Less commonly dermatophytosis causes raised or dermal nodules called **kerions** or **nodular dermatophytosis**.<sup>1,3</sup>
- These lesions are formed when the infected hair follicle ruptures and both the fungi and keratin spill in the dermis eliciting an intense inflammatory response.<sup>1</sup>
- This may develop in any species but is most commonly reported in dogs.<sup>3</sup>
- *M. canis* is the most common cause of kerion in dogs.<sup>3</sup>
- Most common locations were the head, neck and limbs.<sup>3</sup>
- Typical cytologic findings include pyogranulomatous inflammation with degenerate neutrophils and large epithelioid macrophages, as seen in this case.<sup>4</sup>
- Diagnosis can be difficult and histopathologic examination is occasionally required because fungal culture can yield negative results.<sup>3</sup>

# References

1. Raskin RE, Meyer DJ. Canine and feline cytology. 2<sup>nd</sup> ed. 38
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3. Cornegliani L, Persico P, Colombo S. Canine nodular dermatophytosis (kerion): 23 cases. Journal compilation. 2009;20:185-190
4. Logan MR, Raskin RE, Thompson S. "Carry on" dermal baggage: a nodule from a dog. Vet clin pathol. 2006;35(3):329-331