

Dermpath – Infectious Diseases

Karen Trainor DVM, MS, Diplomate ACVP
SPECIALIZING IN VETERINARY DERMATOPATHOLOGY

913.303.7717

hello@innovativevetpath.com

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Facebook



Case #1

Canine – 7 yo FS Bulldog



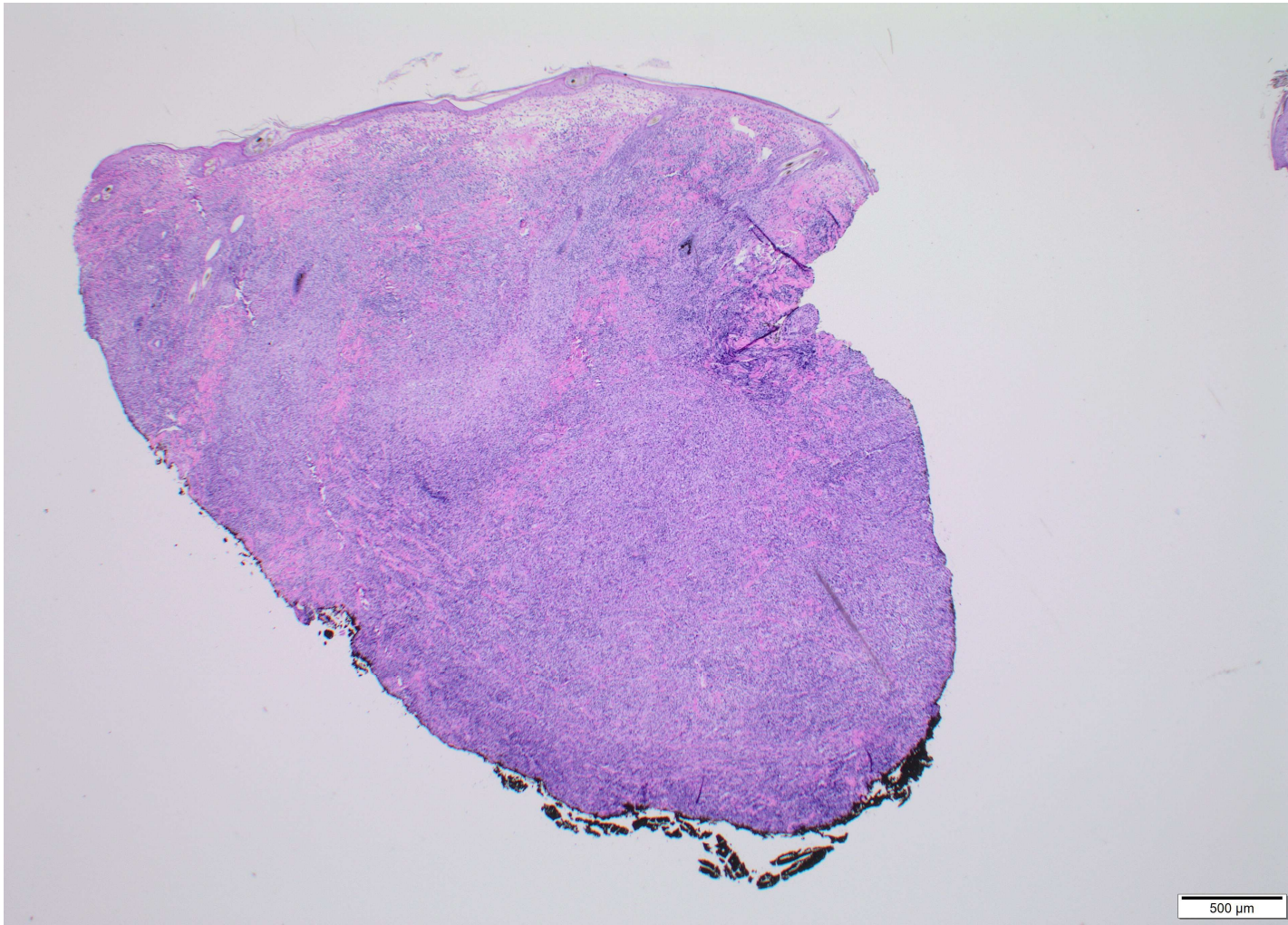
Case #1- Canine – 7 yo FS Bulldog



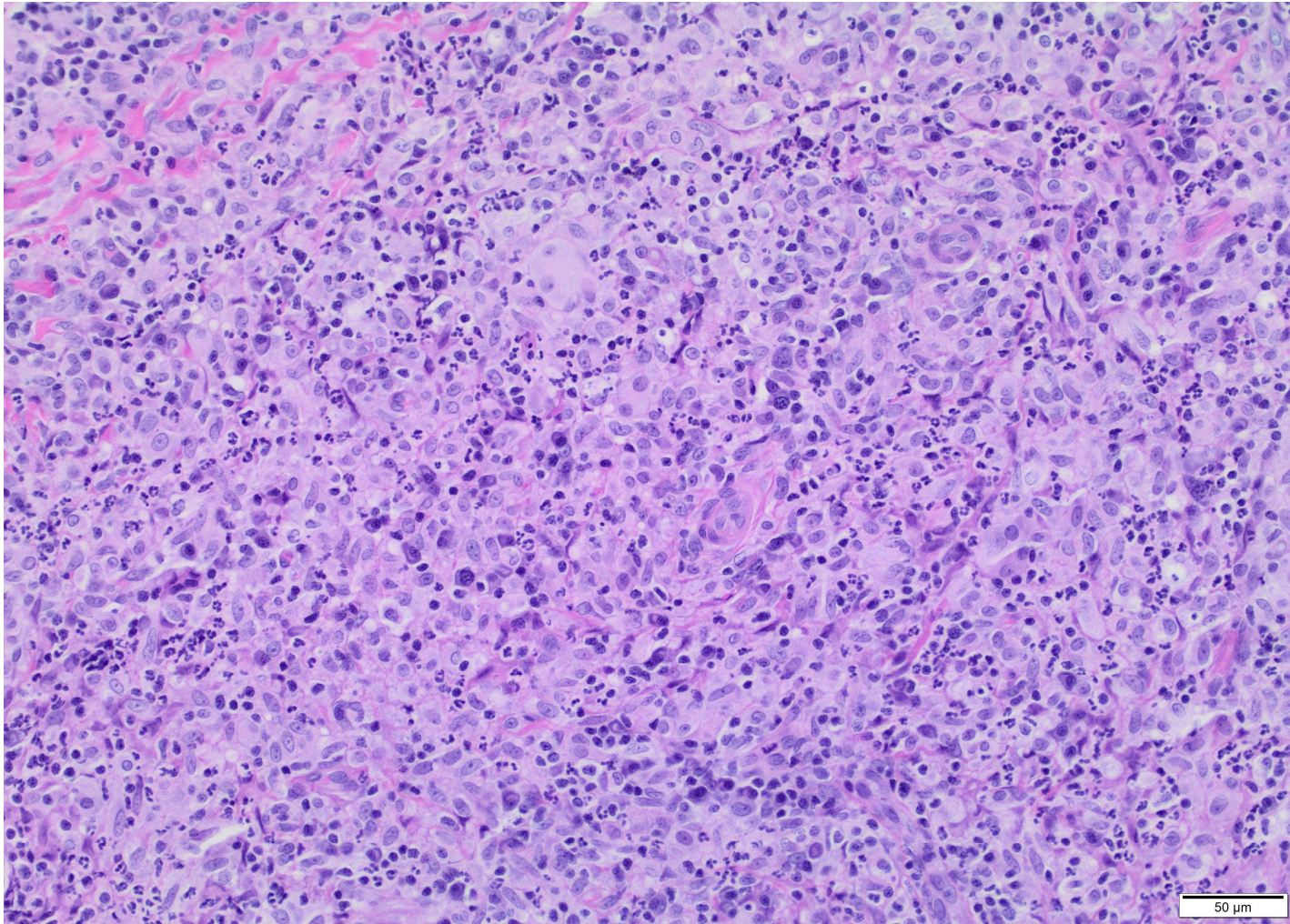
Photos: Dr. Austin Richman



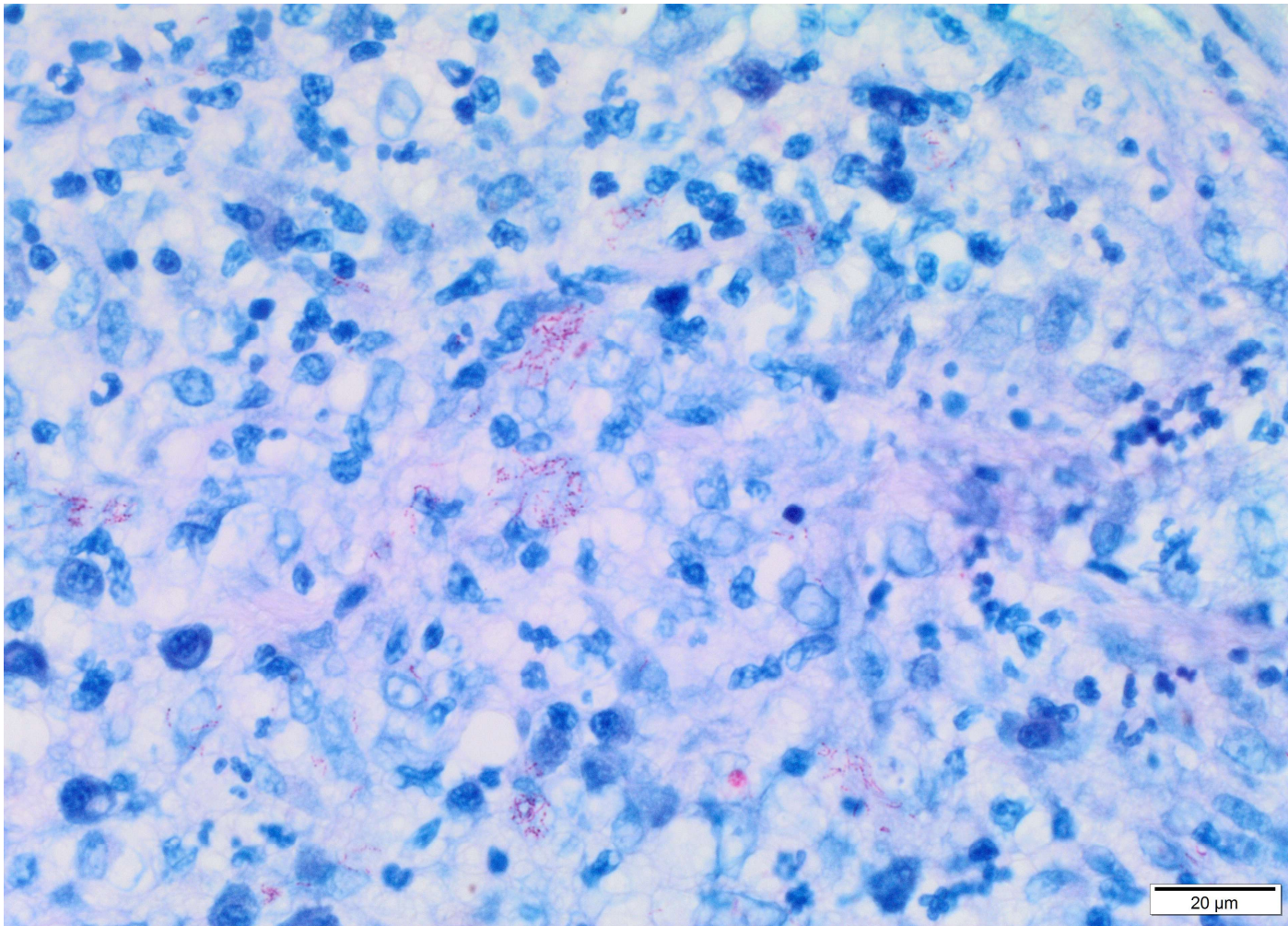
Case #1- Canine – 7 yo FS Bulldog



Case #1- Canine – 7 yo FS Bulldog



Case #1- Canine – 7 yo FS Bulldog



Case #1- Canine – 7 yo FS Bulldog

Clinical features:

- Boxers and their cross-breeds, short-coated dogs
- Median age: 5 years
- Single or multifocal firm, raised nodules
- Alopecic or ulcerated



Photo: Dr. Hilary Granson



Case #1- Canine – 7 yo FS Bulldog

Cytologic features:

- Granulomatous inflammation
- May see slivers of negative staining within cytoplasm
- Best seen with Acid fast



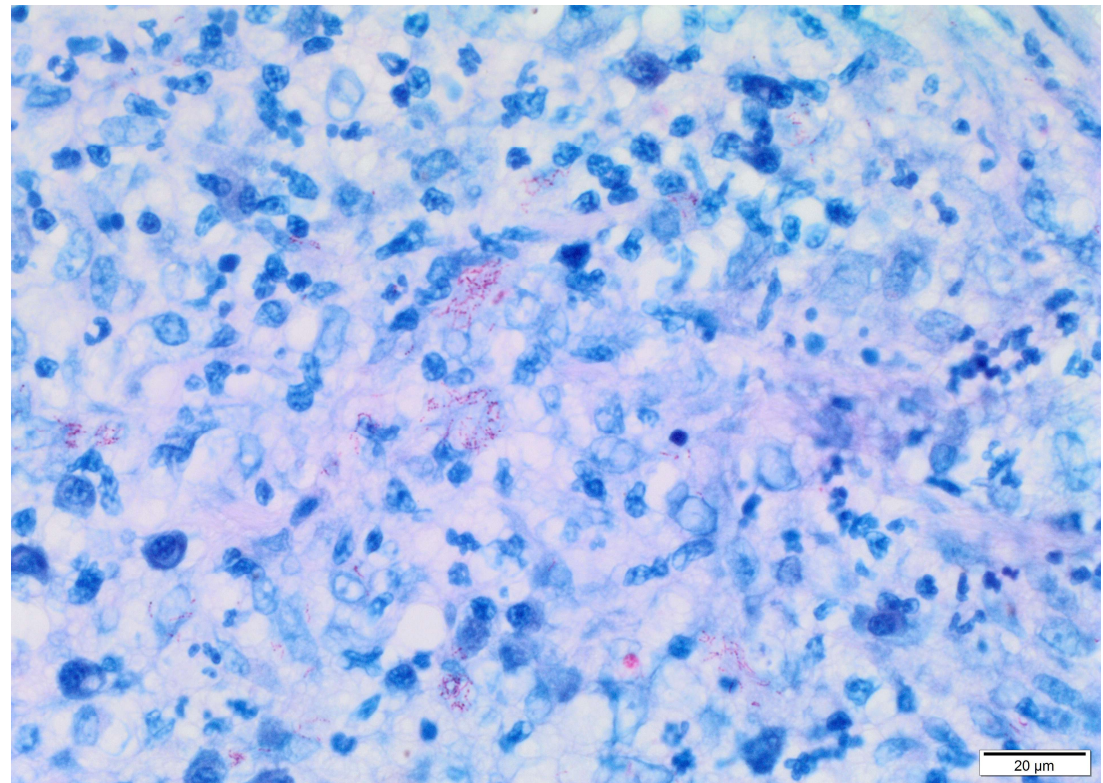
Photo: Dr. Austin Richman



Case #1- Canine – 7 yo FS Bulldog

Histopathology features:

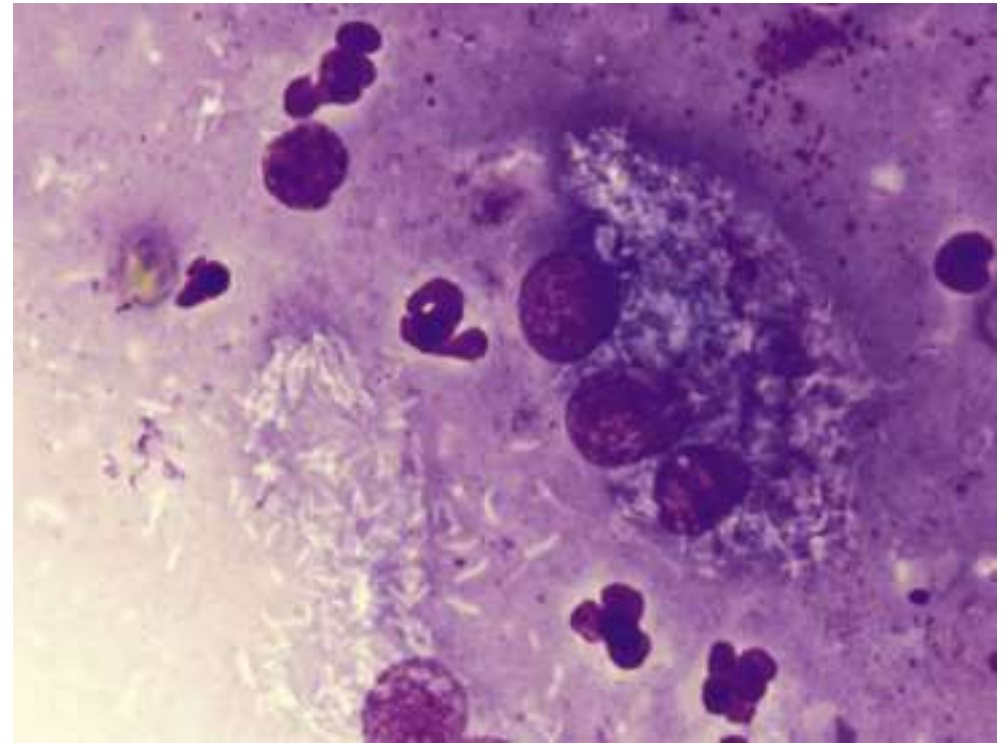
- Granulomatous to pyogranulomatous and lymphoplasmacytic inflammation
- Large pale epithelioid macrophages and MNGC
- Fite's acid fast or GMS stains.



Case #1- Canine – 7 yo FS Bulldog

Key Points:

- Boxers and short-coated breeds
- Pinnae; nodules
- Large epithelioid macrophages and MNGC with intracytoplasmic acid-fast bacteria.



Case #2

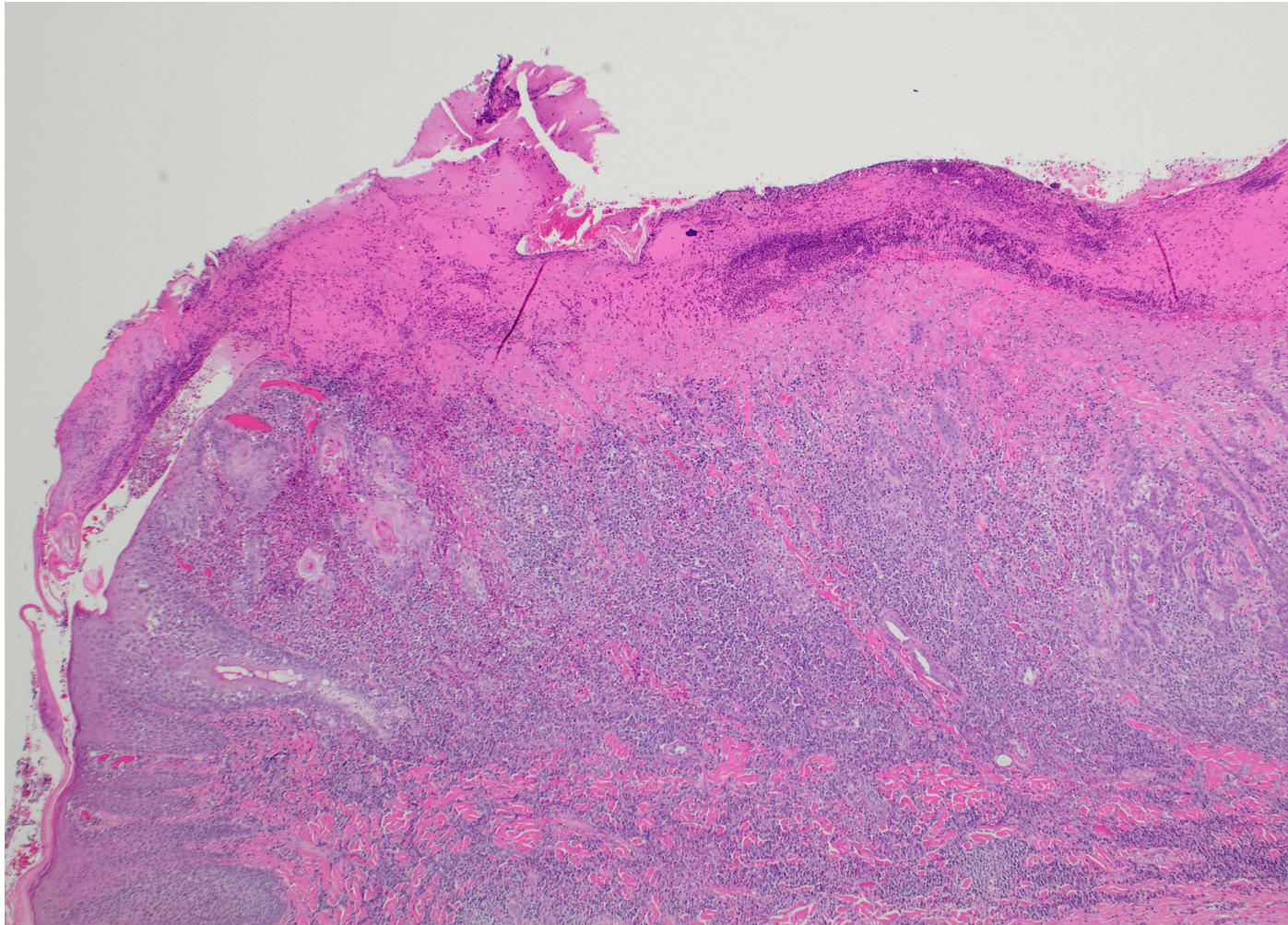
Feline – Adult DSH



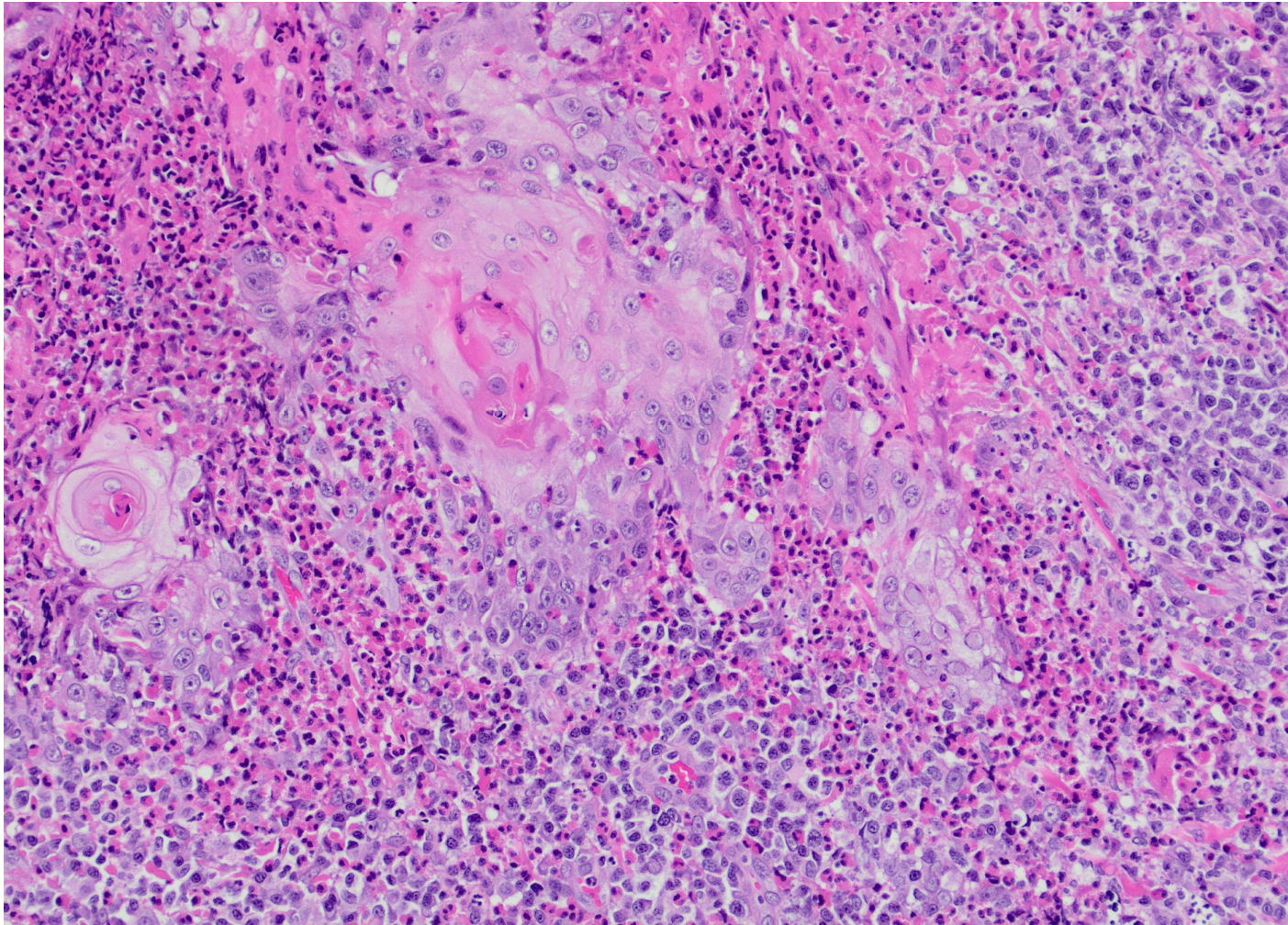
Case #2- Feline – Adult DSH



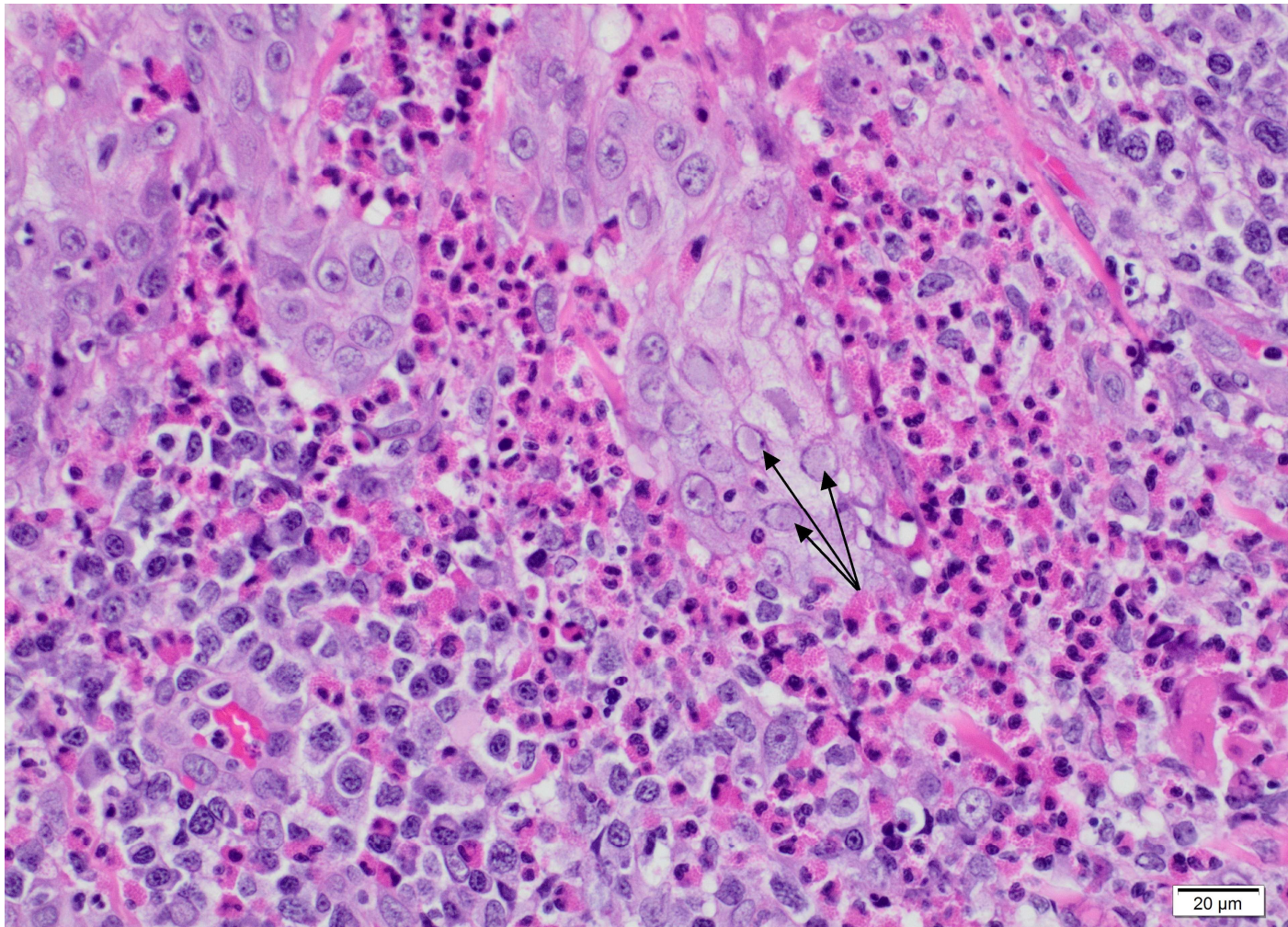
Case #2- Feline – Adult DSH



Case #2- Feline – Adult DSH



Case #2- Feline – Adult DSH



Case #2- Feline – Adult DSH

Clinical Features:

- Facial distribution, predominantly
- Erosive or ulcerative lesion on face or nasal planum.
- Lesions worsen with steroids.



Photo: Dermatology Clinic for Animals, Tacoma



Case #2- Feline – Adult DSH

Cytologic Features:

- May see eosinophilic to neutrophilic or lymphoplasmacytic inflammation
- Relatively non-specific

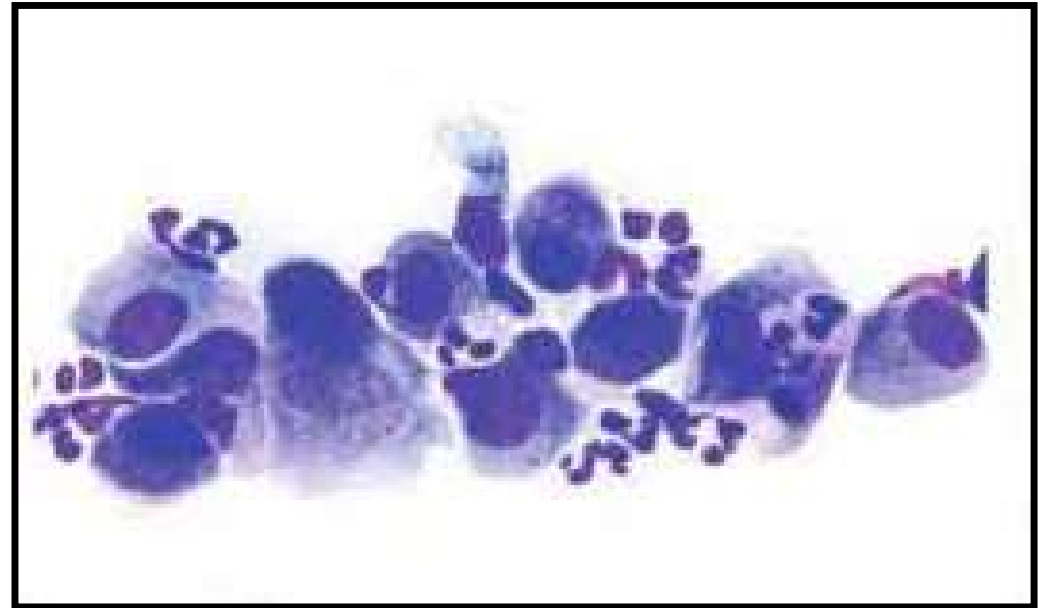


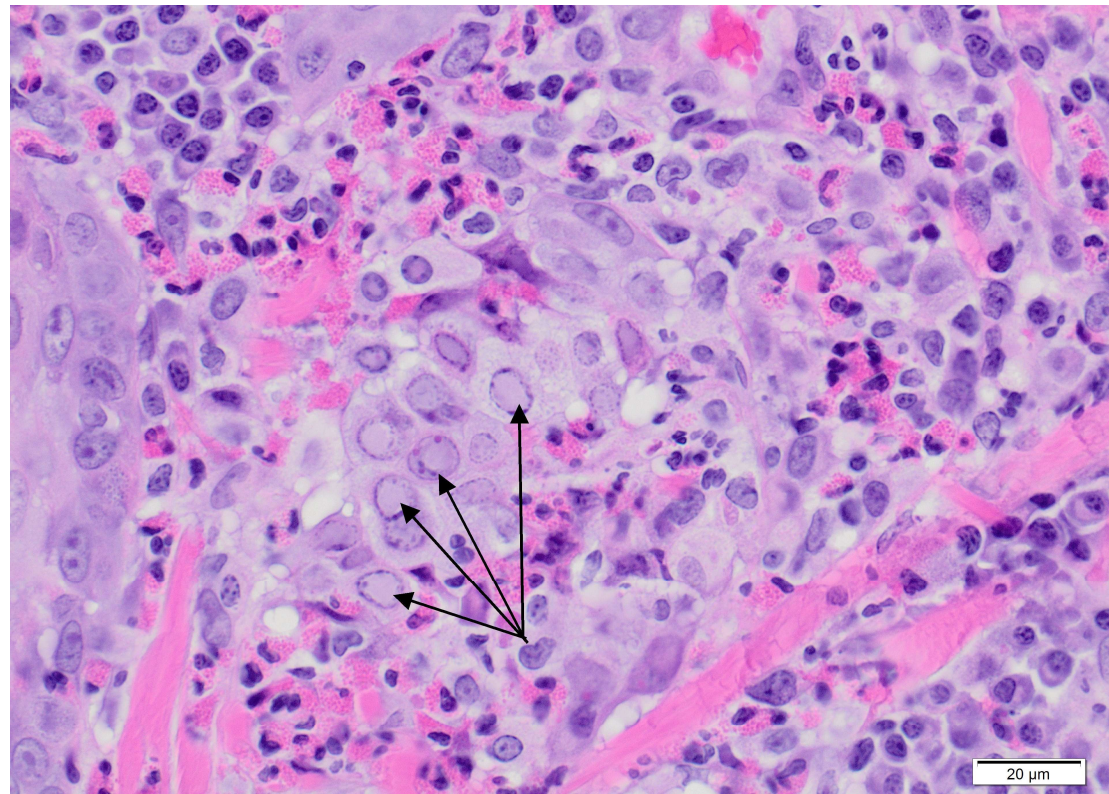
Photo: Iowa Veterinary Specialties



Case #2- Feline – Adult DSH

Histopathology Features:

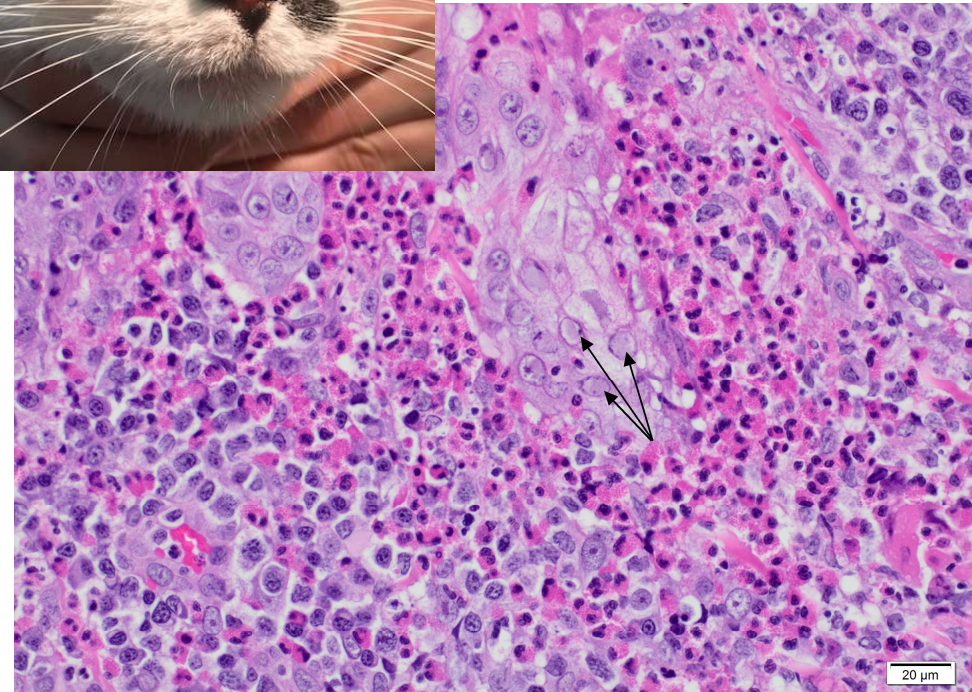
- Ulceration, serocellular crust, necrosis
- **Eosinophilic**, lymphoplasmacytic, & neutrophilic dermatitis
- Glassy, basophilic to amphophilic intranuclear viral inclusions in epithelial cells.



Case #2- Feline – Adult DSH

Key Points:

- Ulcerative and necrotic lesions – mostly on face
- May be associated with eosinophilic inflammation
- Histopath – confirmed by **intranuclear epithelial inclusions**
- Worsened by steroids



Case #3

Feline – 1 yo MN DSH



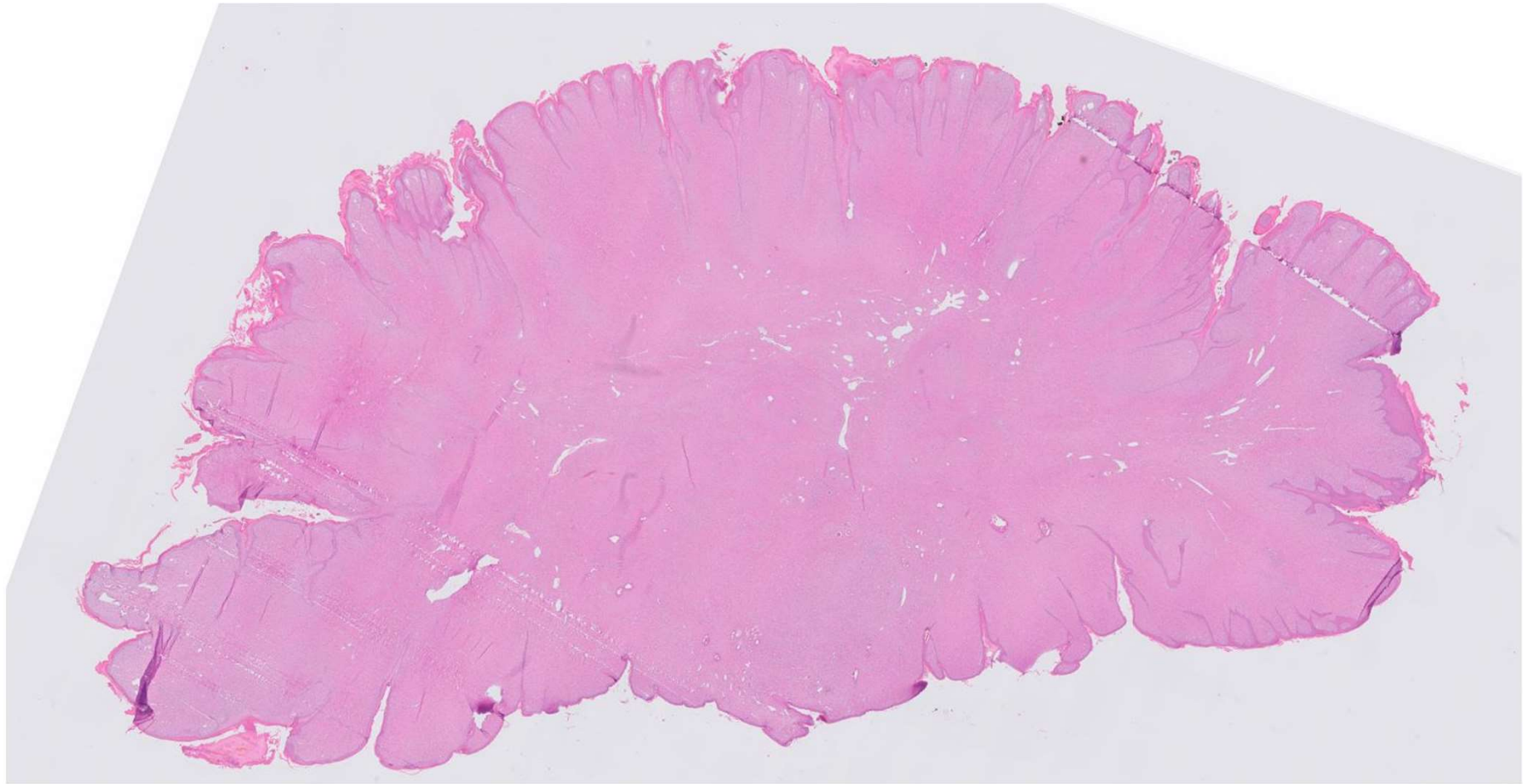
Case #3- Feline – 1 yo MN DSH



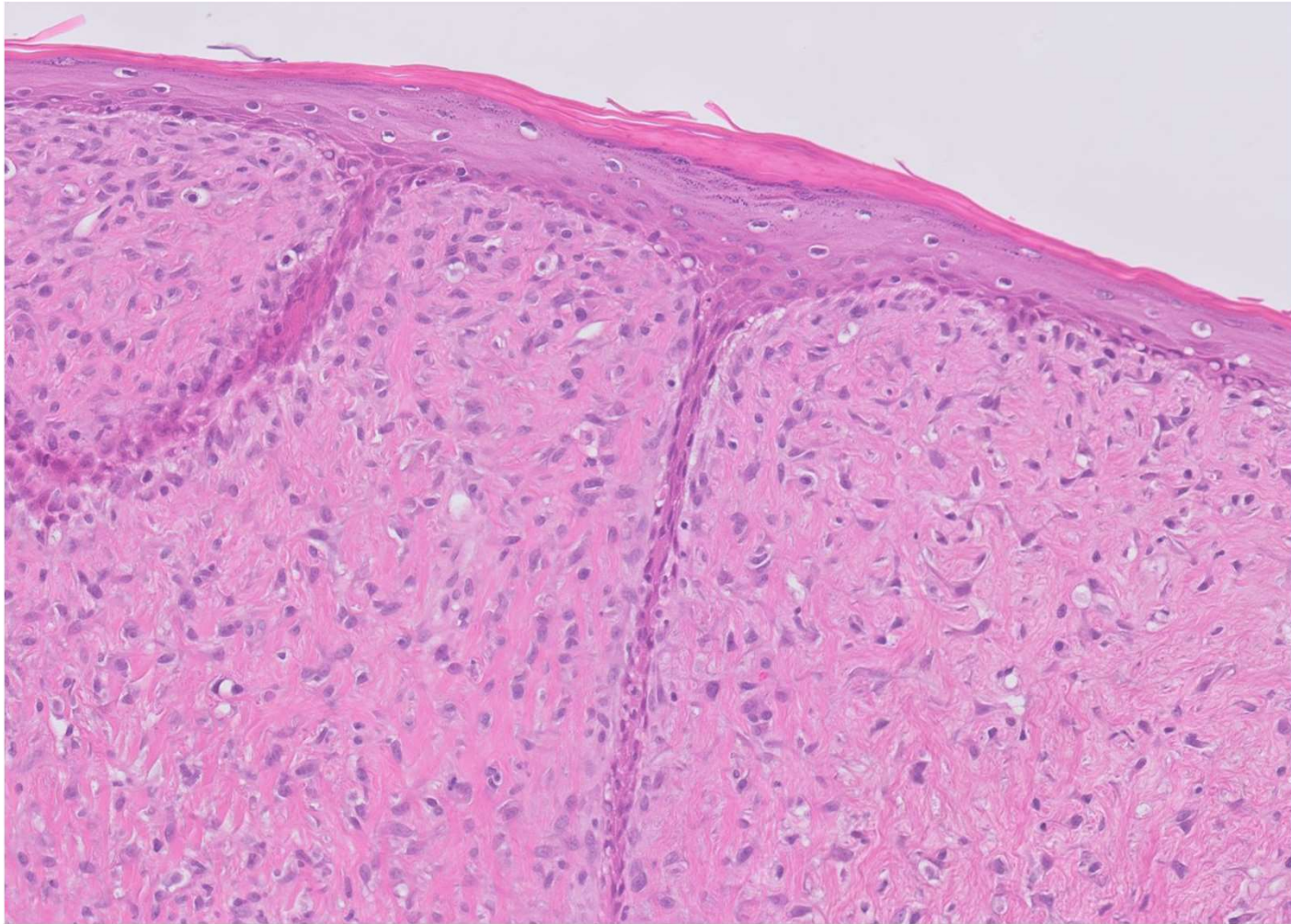
Photo: Wood CJ, et al.
Biological behaviour and
clinical outcome in 42 cats
with sarcoids (cutaneous
fibropapillomas). *Vet and
Comparative Oncology*
2020.



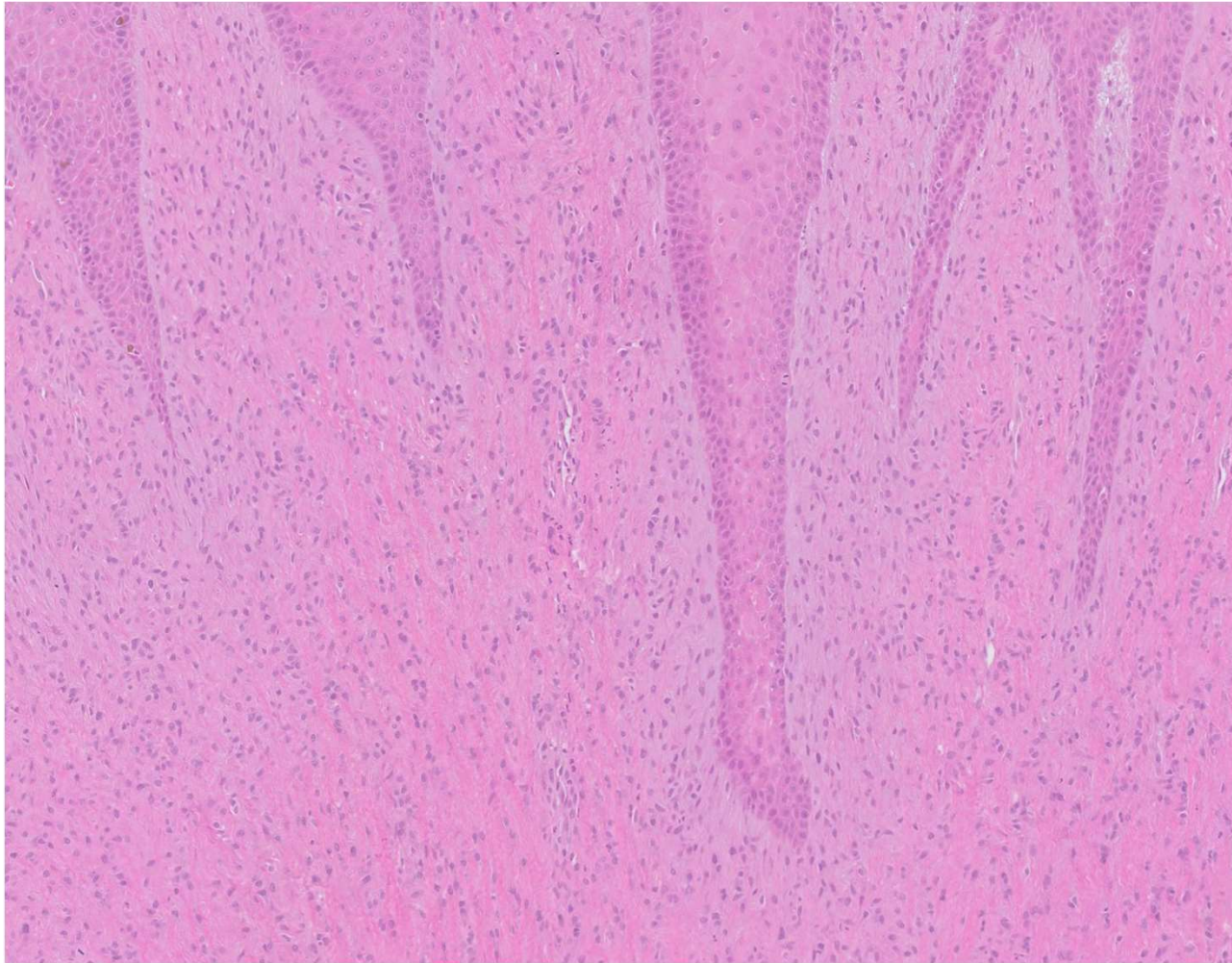
Case #3- Feline – 1 yo MN DSH



Case #3- Feline – 1 yo MN DSH



Case #3- Feline – 1 yo MN DSH



Case #3- Feline – 1 yo MN DSH

Clinical Features:

- Young male cats
 - Can occur in big cats as well
- Solitary or multifocal, firm, up to 2 cm diameter
- Pedunculated, nodular, or ulcerated
- Pinna, lip, nose, digital, tail, or gingiva
- Recurrence is common, metastasis not reported

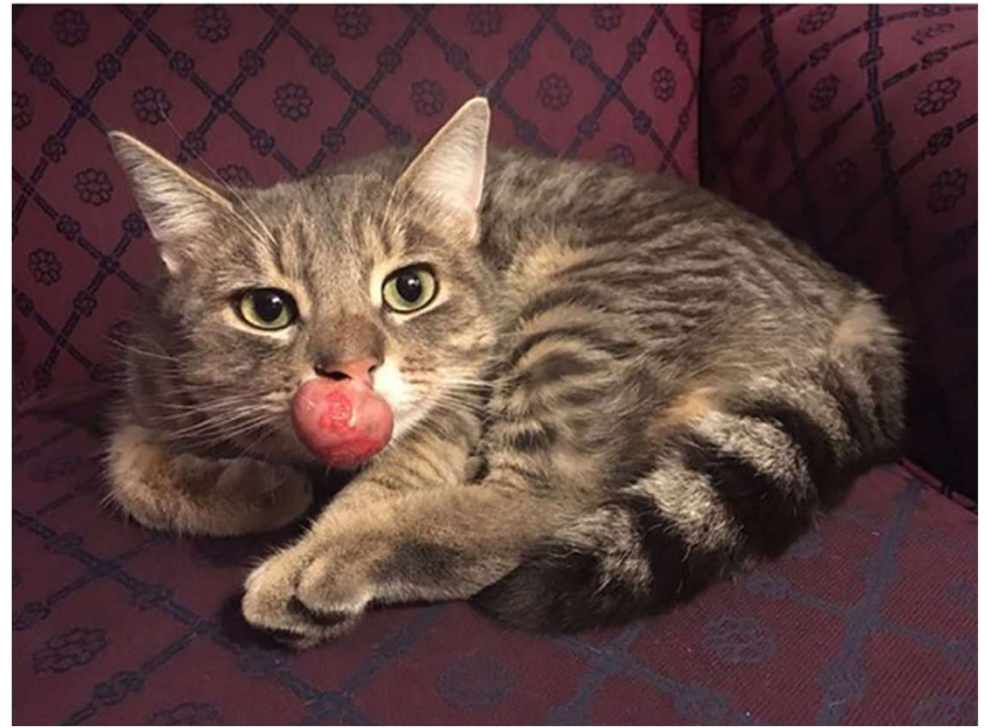


Photo: Wood CJ, et al. Biological behaviour and clinical outcome in 42 cats with sarcoids (cutaneous fibropapillomas). *Vet and Comparative Oncology* 2020.



Case #3- Feline – 1 yo MN DSH

Cytologic Features:

- May not exfoliate well
- Spindle cells
 - Histopath to confirm

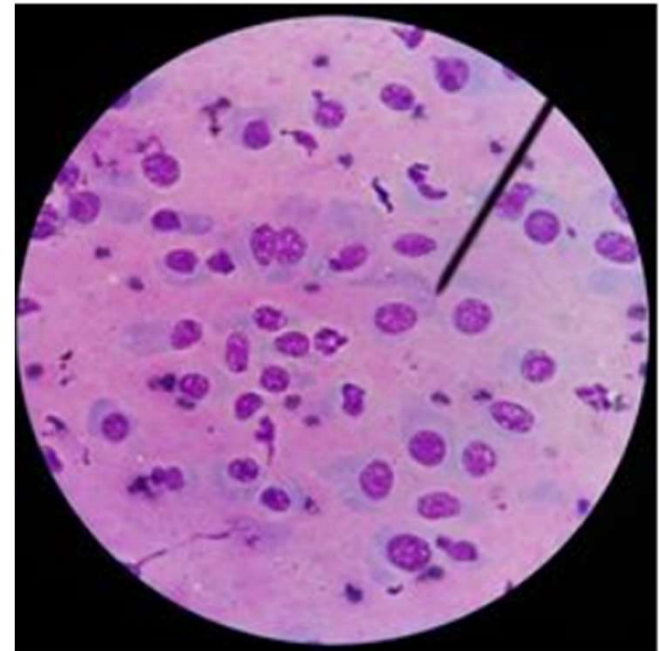


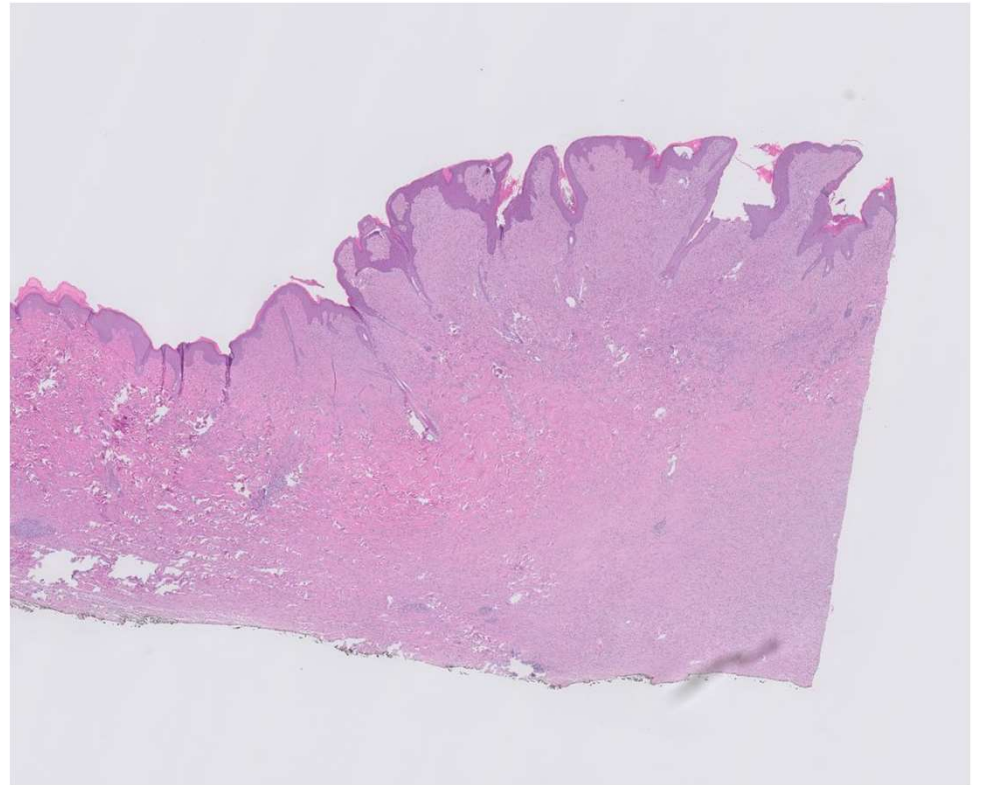
Photo: Bezerra et al. Acta Veterinaria Brasilica, 2020.



Case #3- Feline – 1 yo MN DSH

Histopathology Features:

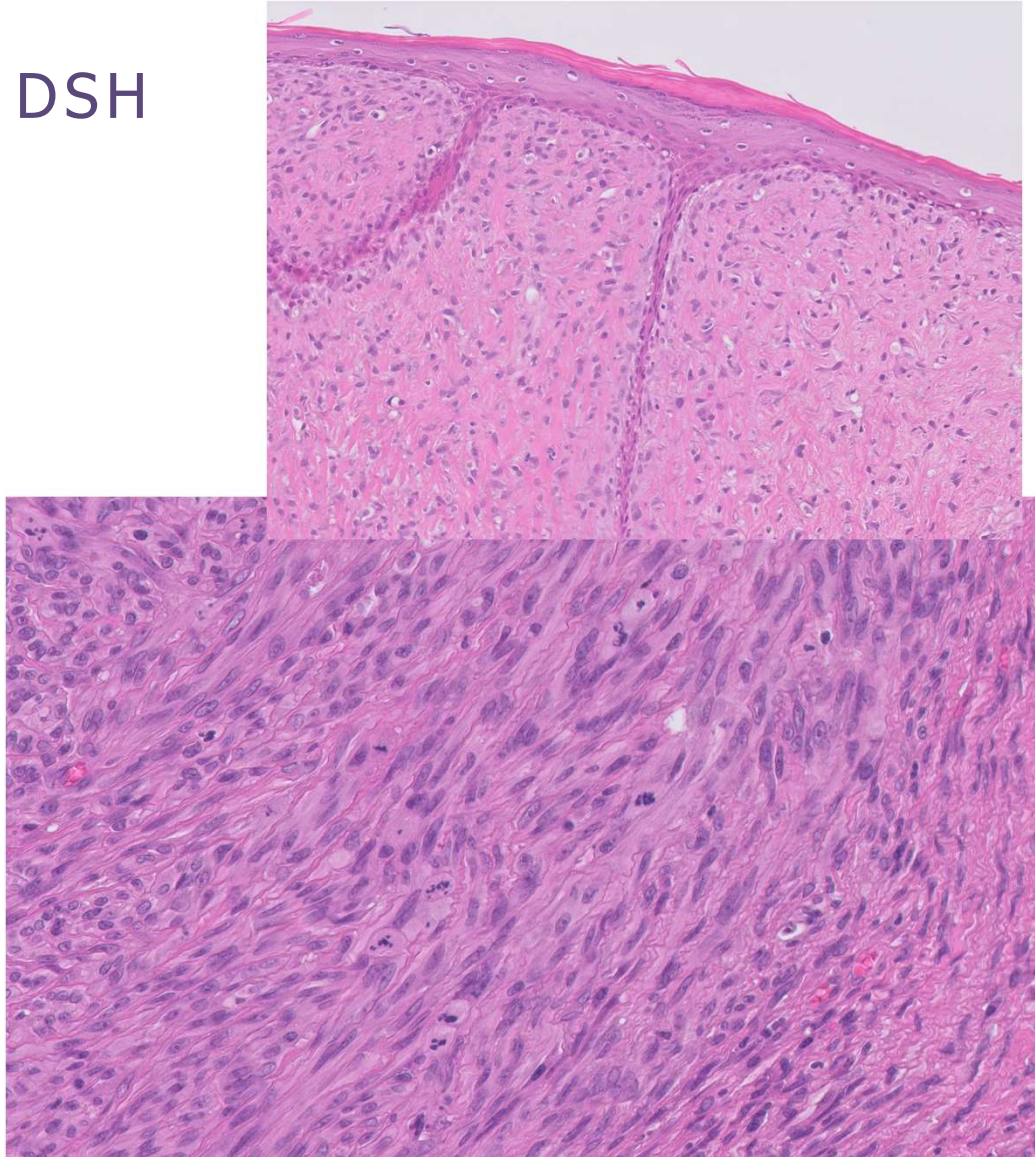
- Epidermal + dermal components
- Epidermal – irregular acanthosis and rete pegs
- Dermal – nodular proliferation of fibroblasts and collagen
- Picket fence
- Variable mitoses



Case #3- Feline – 1 yo MN DSH

Histopathology Features:

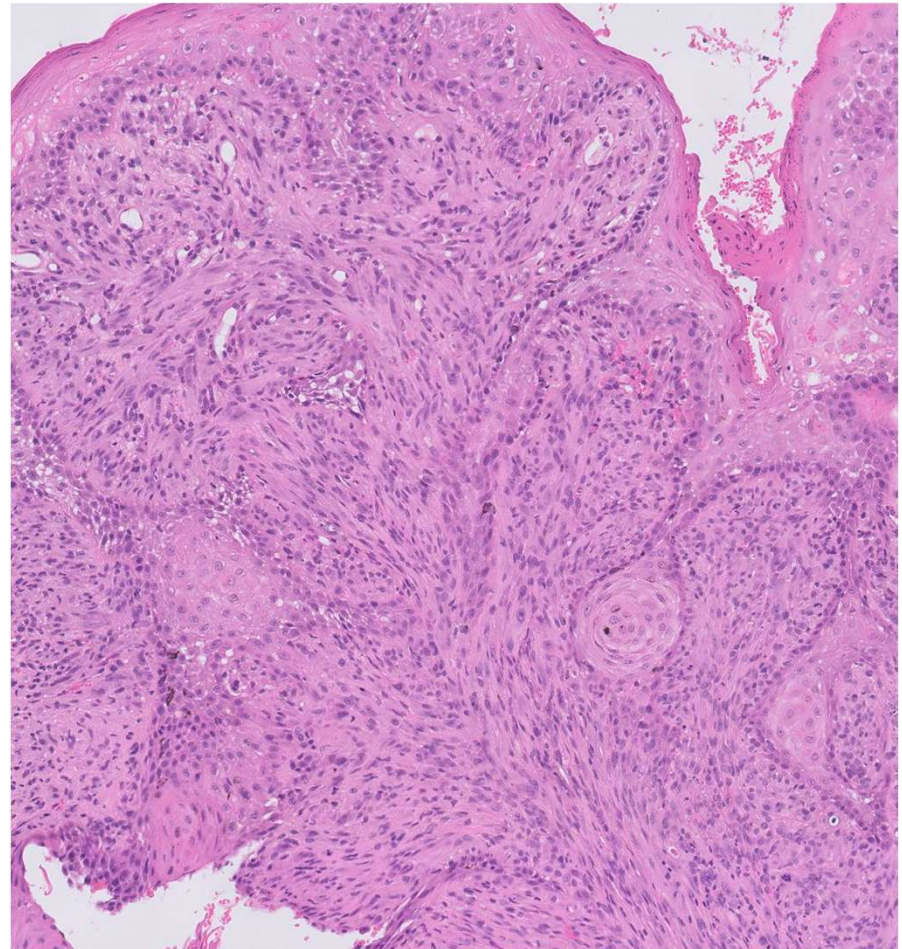
- Epidermal + dermal components
- Epidermal – irregular acanthosis and rete pegs
- Dermal – nodular proliferation of fibroblasts and collagen
- Picket fence
- Variable mitoses



Case #3- Feline – 1 yo MN DSH

Key Points:

- Feline sarcoid-associated papillomavirus (FeSarPV)
- Bovine papillomavirus 1 (BPV-1)
- Bovine papillomavirus 2 (BPV-2)
- Nodular firm mass on extremities.
- Outdoor cats, especially near farms.
- Biphasic – epithelial and dermal with rete pegs and spindle cells.



Case #4

Feline – 3 yo FS DSH



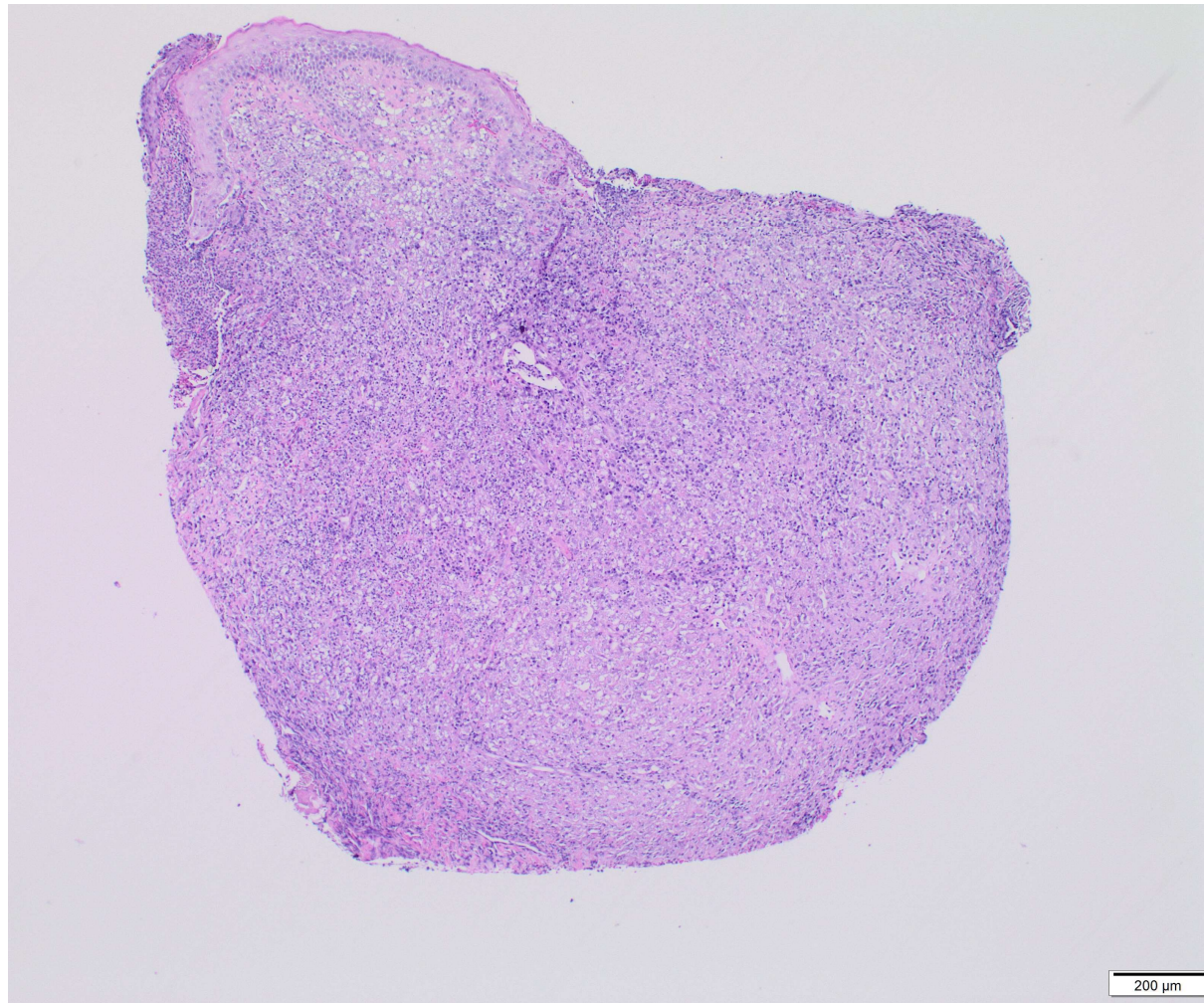
Case #4- Feline – 3 yo FS DSH



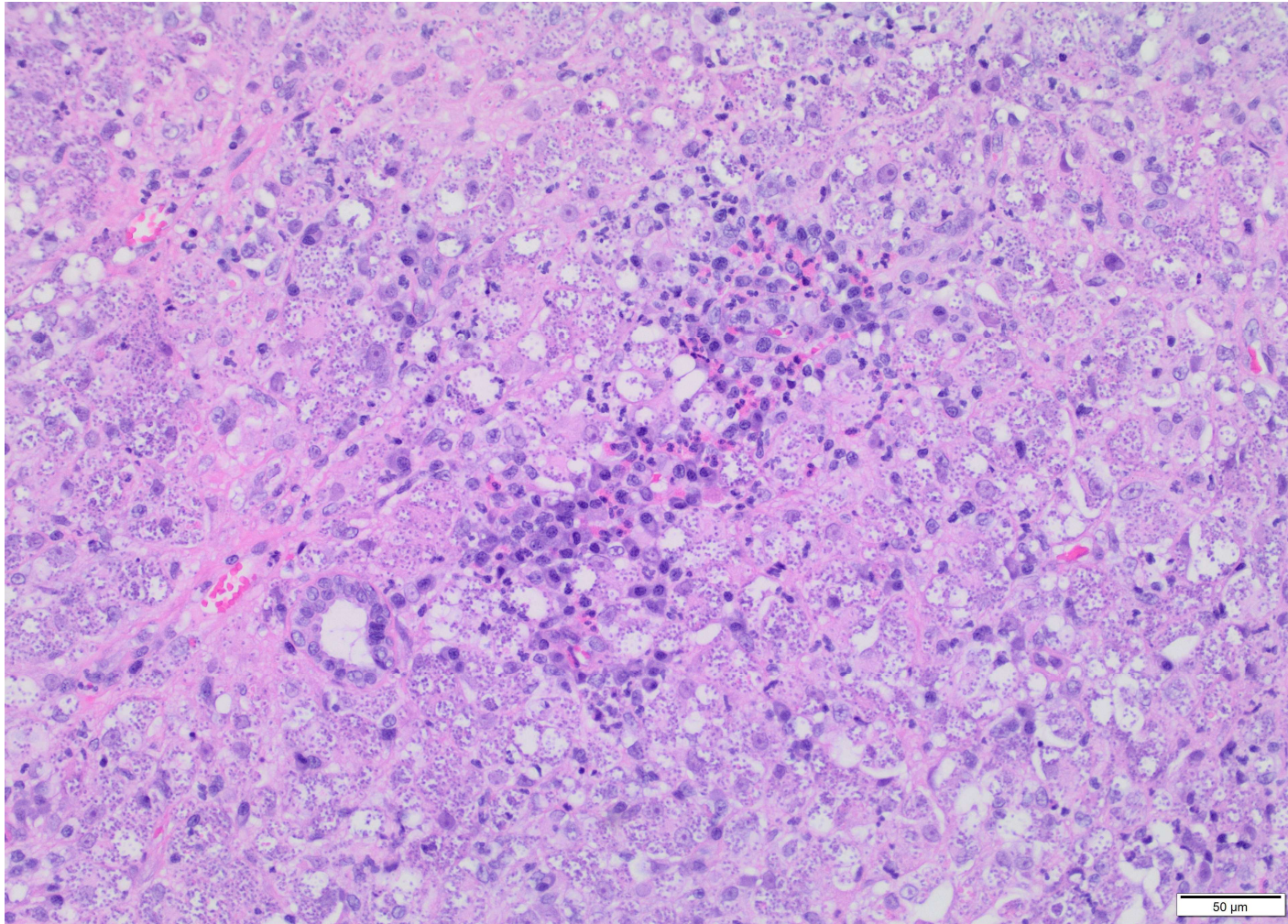
Photos: Dr. Jenise Daigle



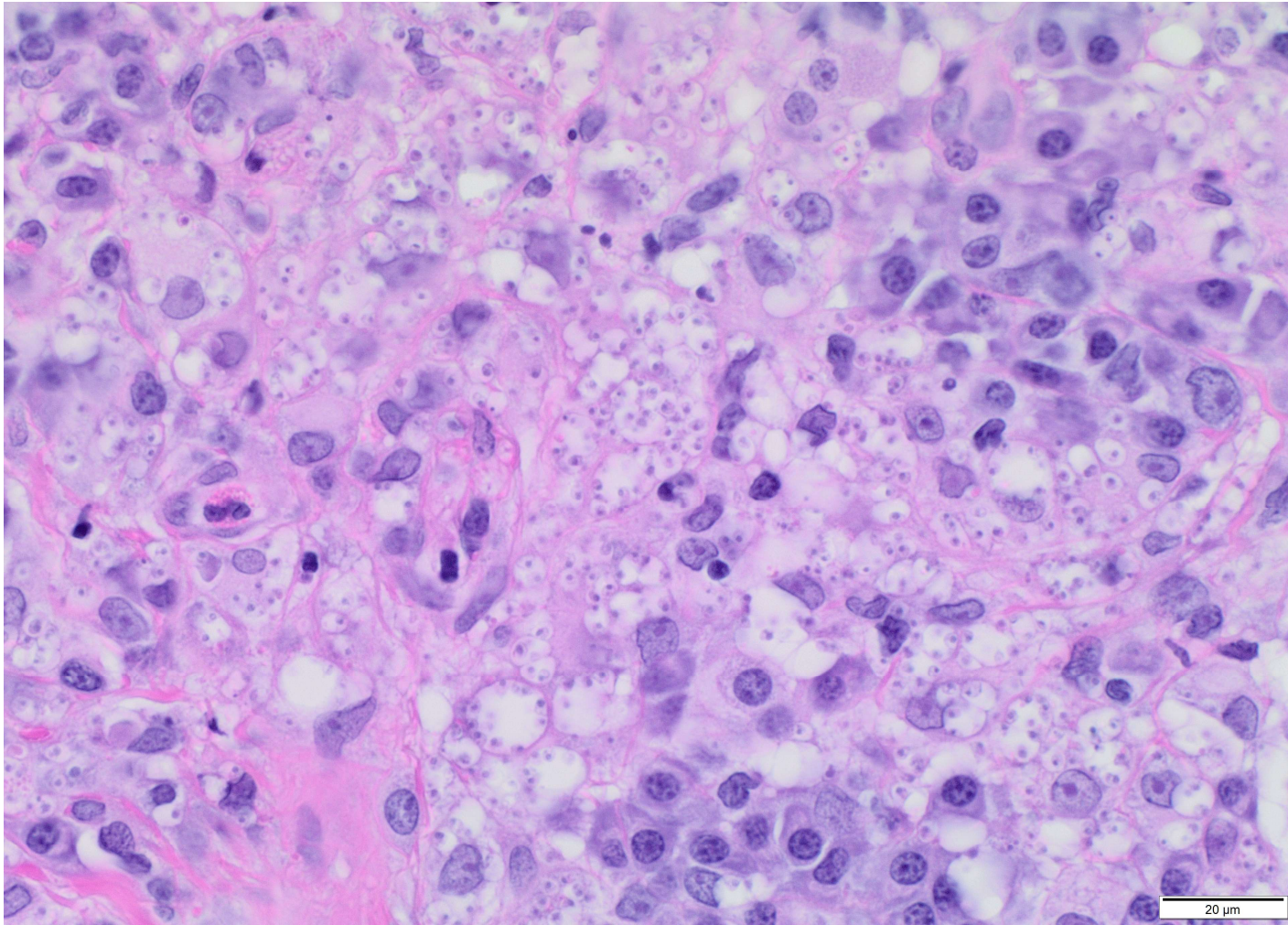
Case #4- Feline – 3 yo FS DSH



Case #4- Feline – 3 yo FS DSH

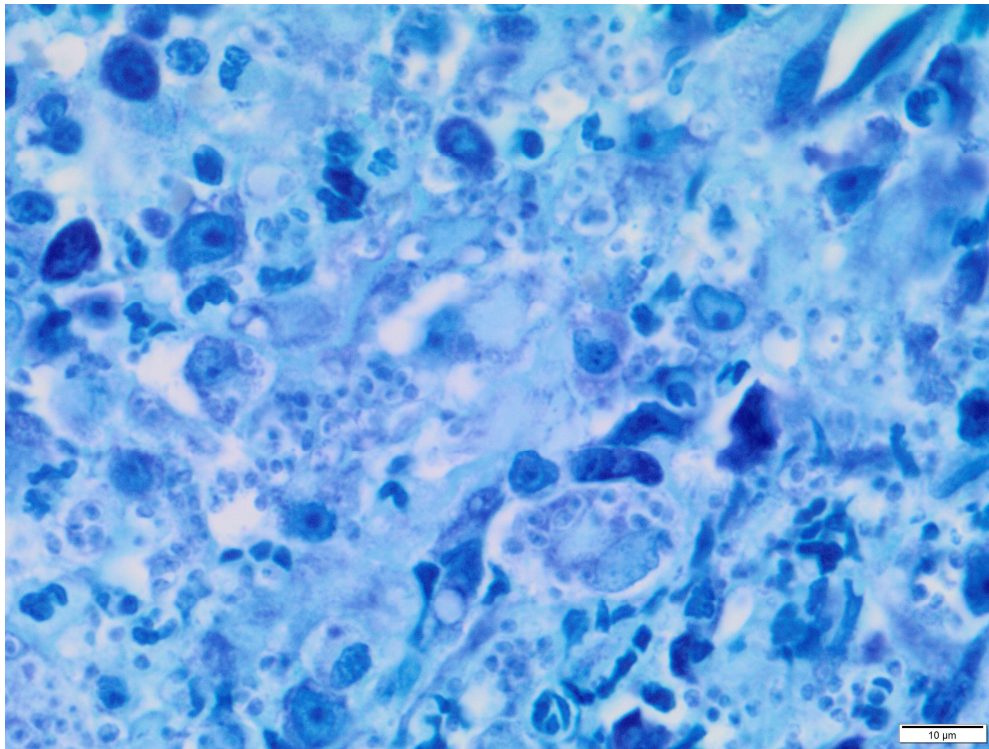


Case #4- Feline – 3 yo FS DSH

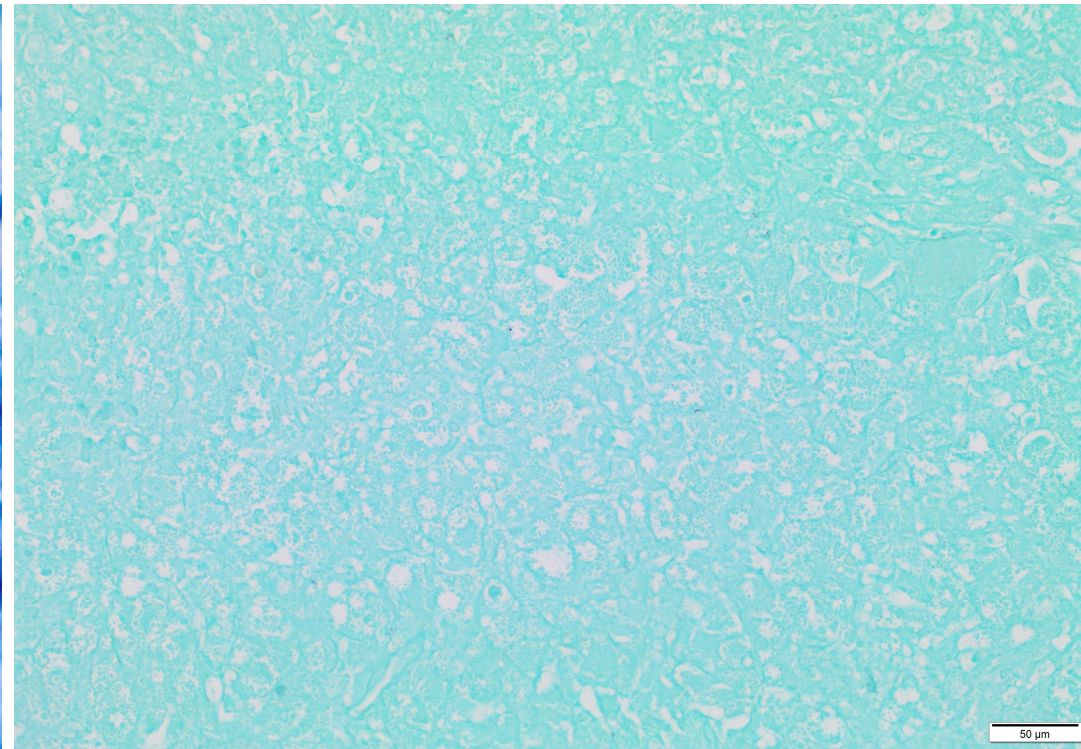


Case #4- Feline – 3 yo FS DSH

Giemsa



GMS



Case #4- Feline – 3 yo FS DSH

Clinical Features:

- Cats – cutaneous
- May have travel history or from endemic regions (USA or international)
- Cats – nodular and ulcerative rather than scaly on pinnae and extremities



Photo: Dr. Jenise Daigle



Case #4

Clinical Features:

- Dogs – visceral, cutaneous
- May have travel history or from endemic regions (USA or international).
- Dogs – silver-white adherent scales on muzzle, periorbital, and pinnae.



Photo: Dr. Gad Baneth



Case #4

Clinical Features:

- Dogs - onychogryphosis



Case #4- Feline – 3 yo FS DSH

Cytologic Features:

- Granulomatous to pyogranulomatous inflammation.
- Intracytoplasmic amastigotes with nucleus and **perpendicular kinetoplast**.

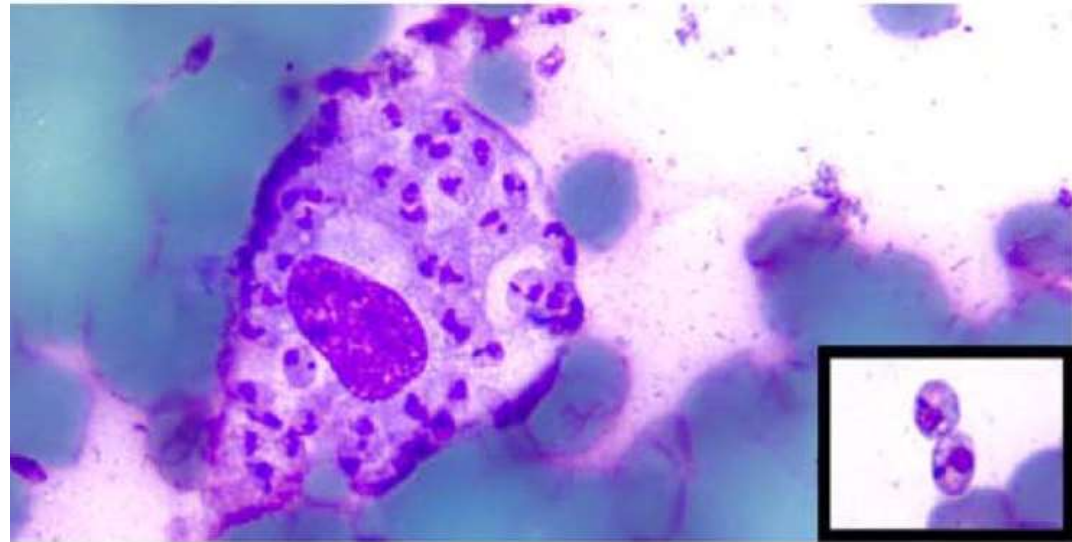


Photo: Trainor KT, et al. 2010. Eight cases of feline cutaneous leishmaniasis in Texas. Vet Path.



Case #4- Feline – 3 yo FS DSH

Histopathology Features:

- Nodular to diffuse sheets of granulomatous to pyogranulomatous dermatitis
- K9 - amastigotes may be sparse

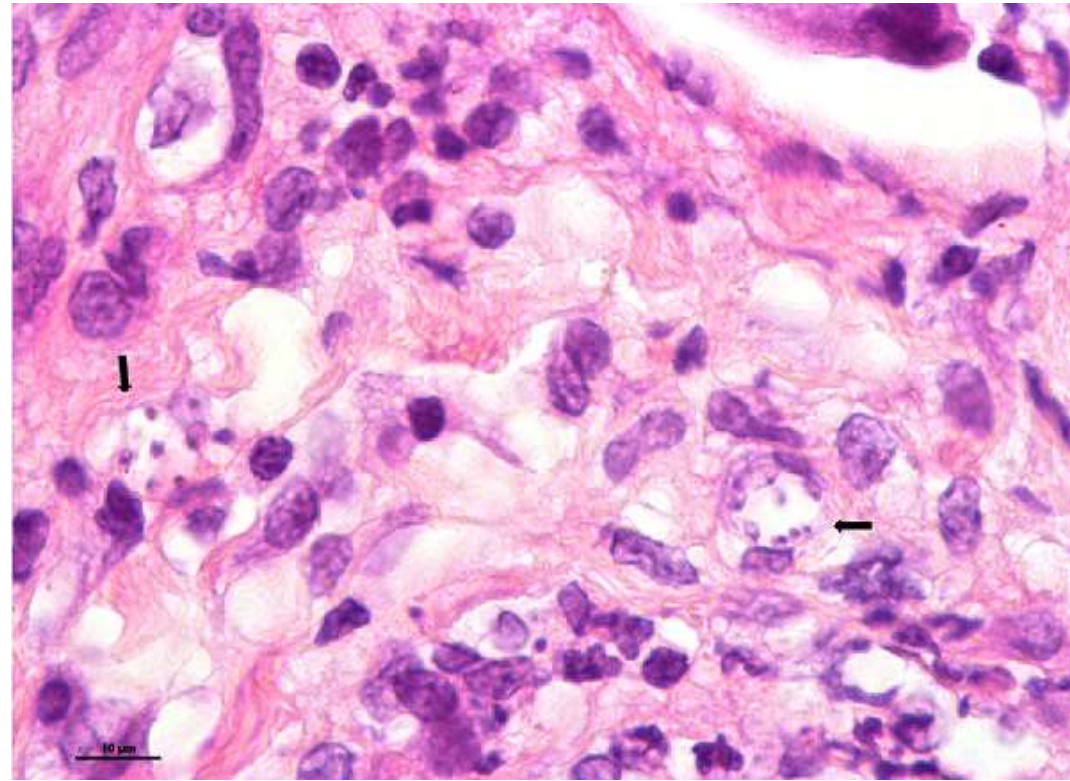


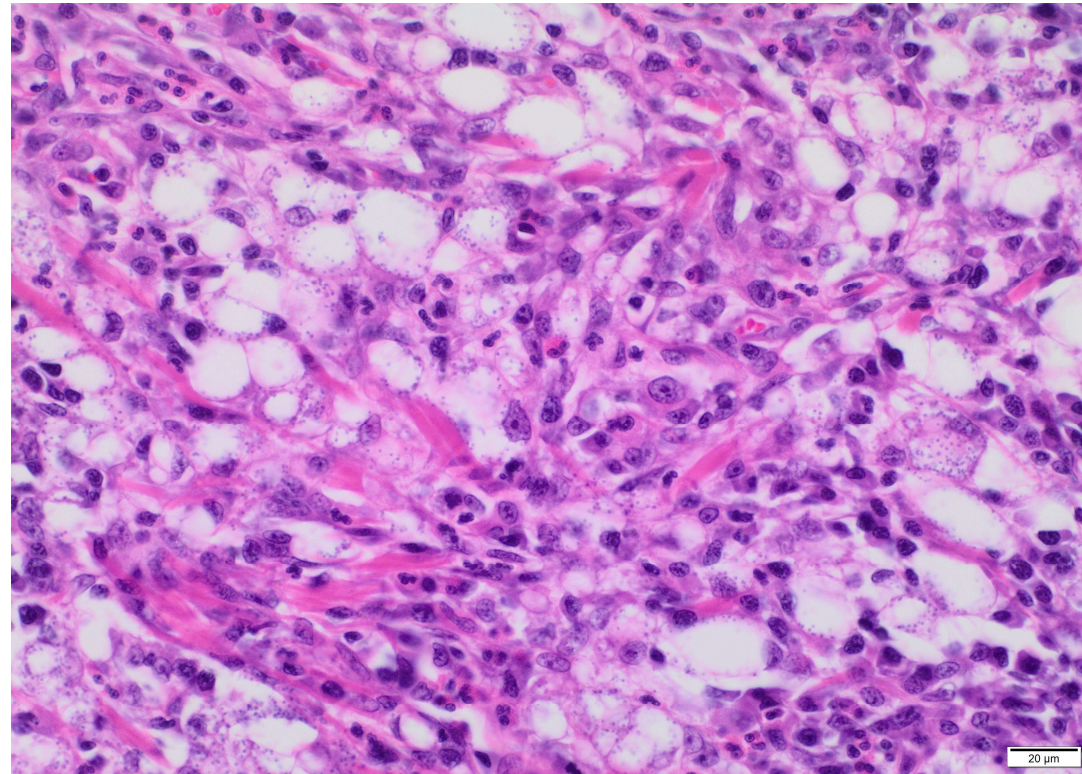
Photo: Baneth G, et al. 2016. *Leishmania major* infection in a dog with cutaneous manifestations. *Parasites & Vectors*.



Case #4- Feline – 3 yo FS DSH

Histopathology Features:

- Feline – amastigotes more numerous
- Amastigotes often line parasitophorous vacuoles within macrophages



Case #4- Feline – 3 yo FS DSH

Key Points:

- *Leishmania mexicana* is endemic in the US (Texas)
- Cutaneous lesions in cats
- K9 – most common in Foxhounds in the US and dogs with travel history
- Zoonotic but requires a vector
 - Transmission via sandfly



Photo: Dr. Jenise Daigle



Case #5

Feline – 4 yo FS DSH



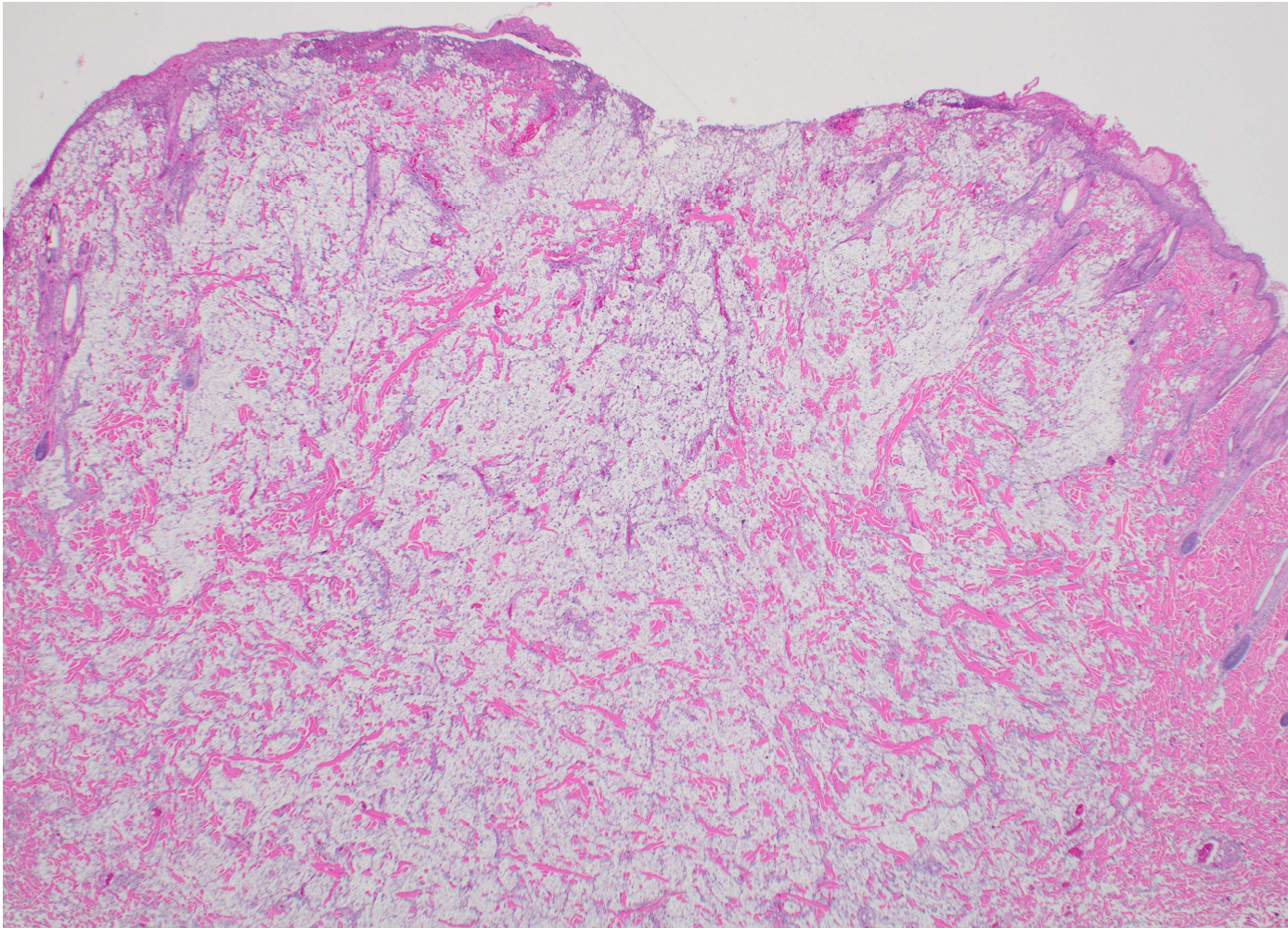
Case #5- Feline – 4 yo FS DSH



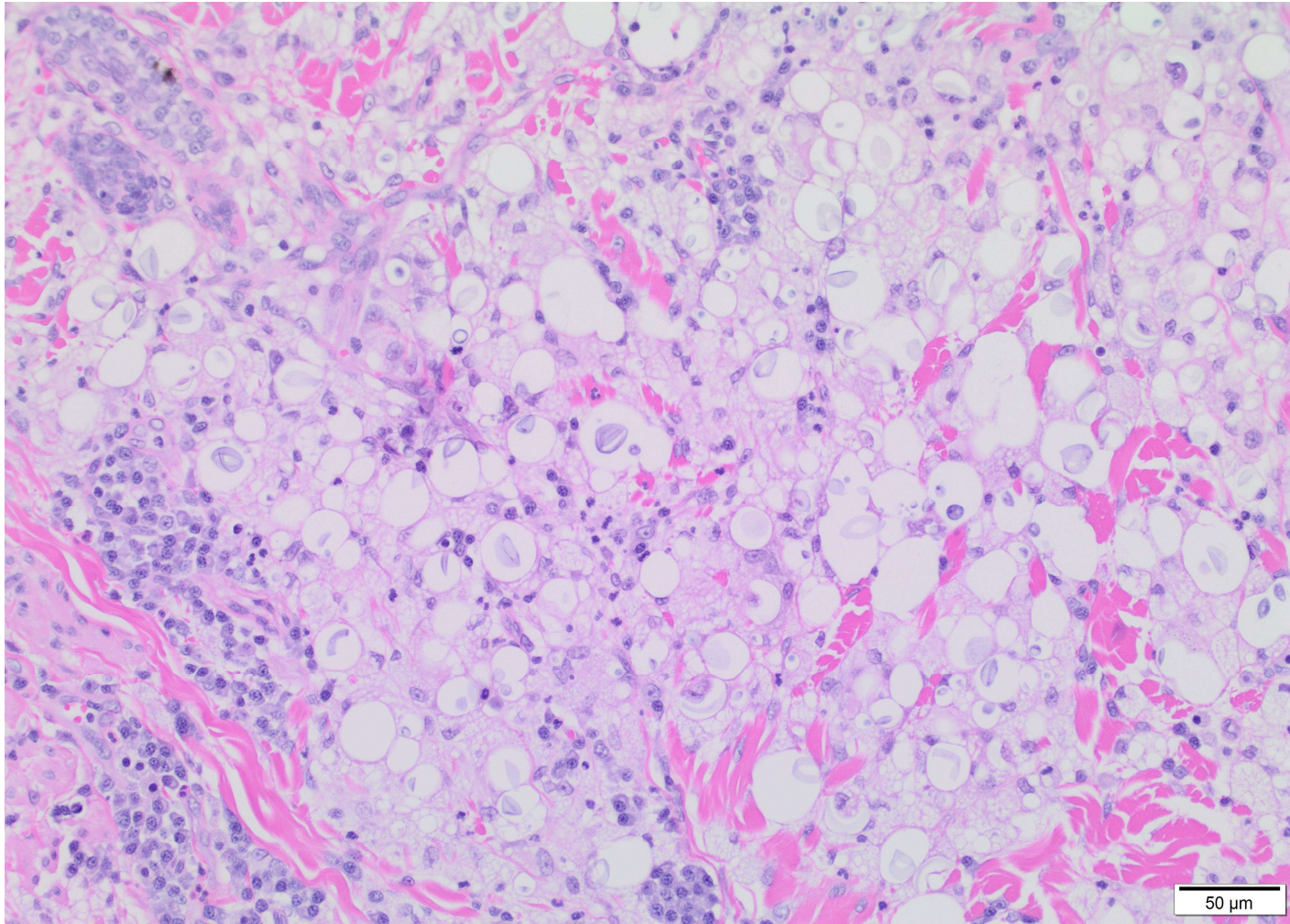
Photos: Dr. Ian Spiegel



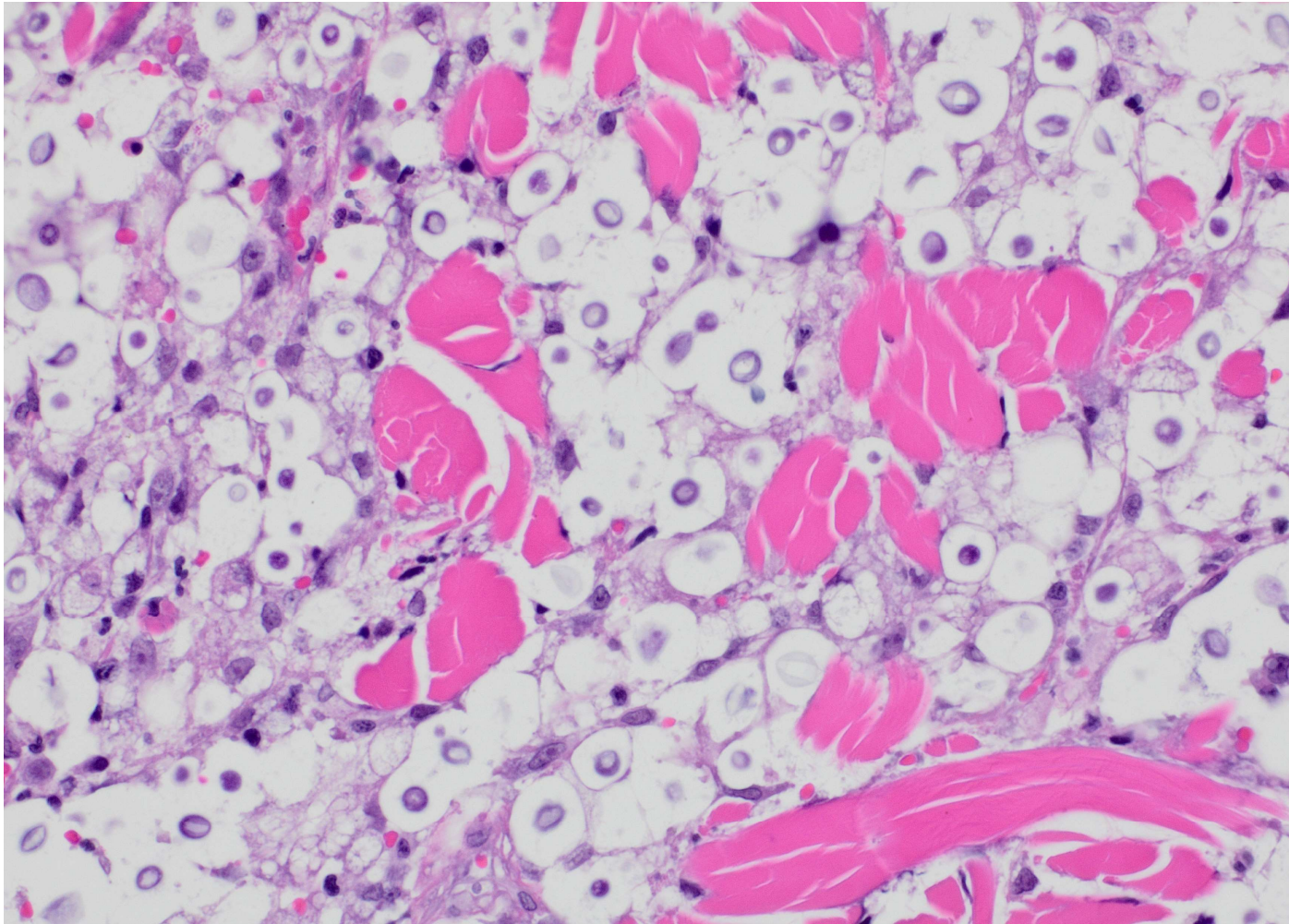
Case #5- Feline – 4 yo FS DSH



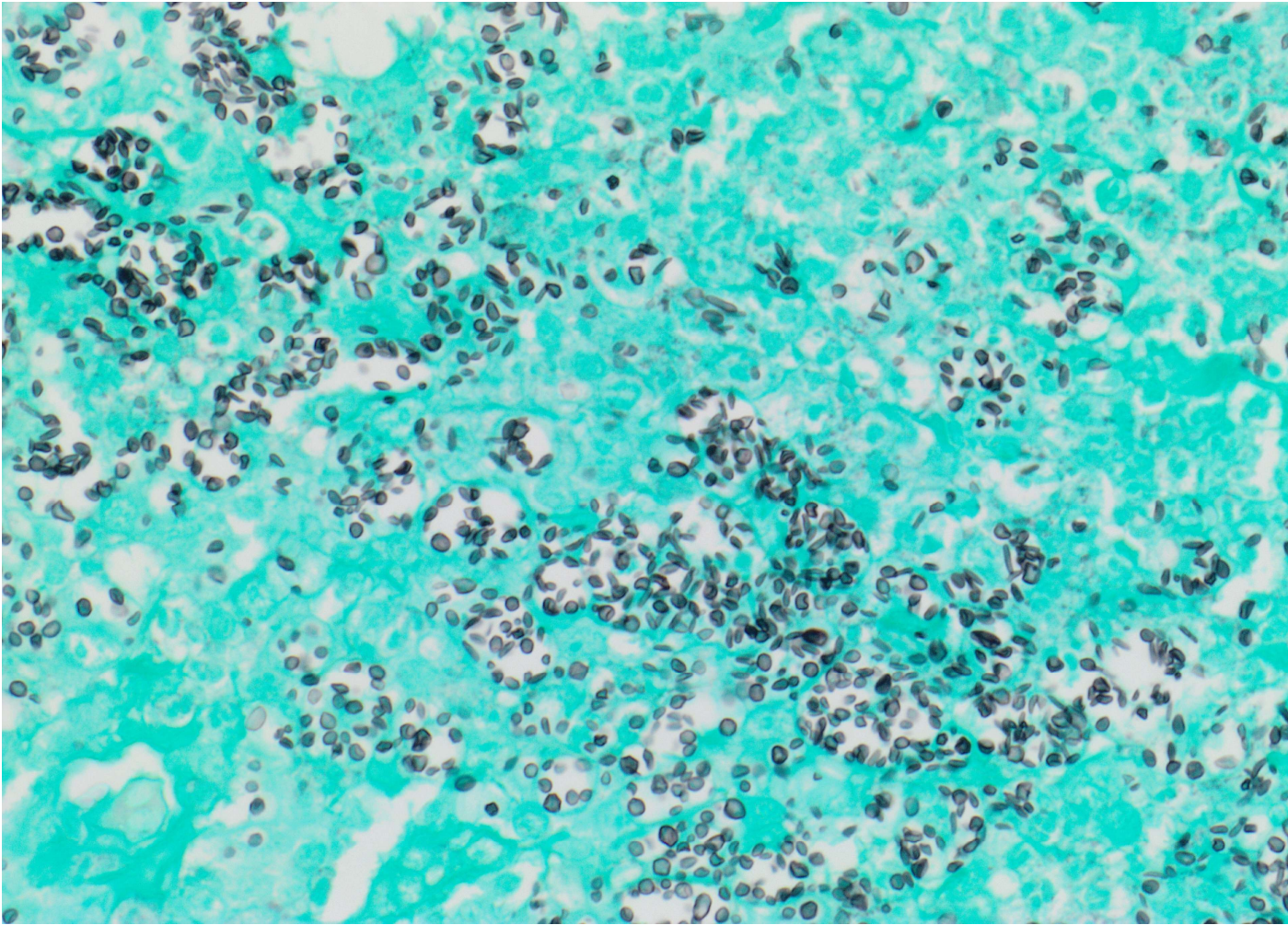
Case #5- Feline – 4 yo FS DSH



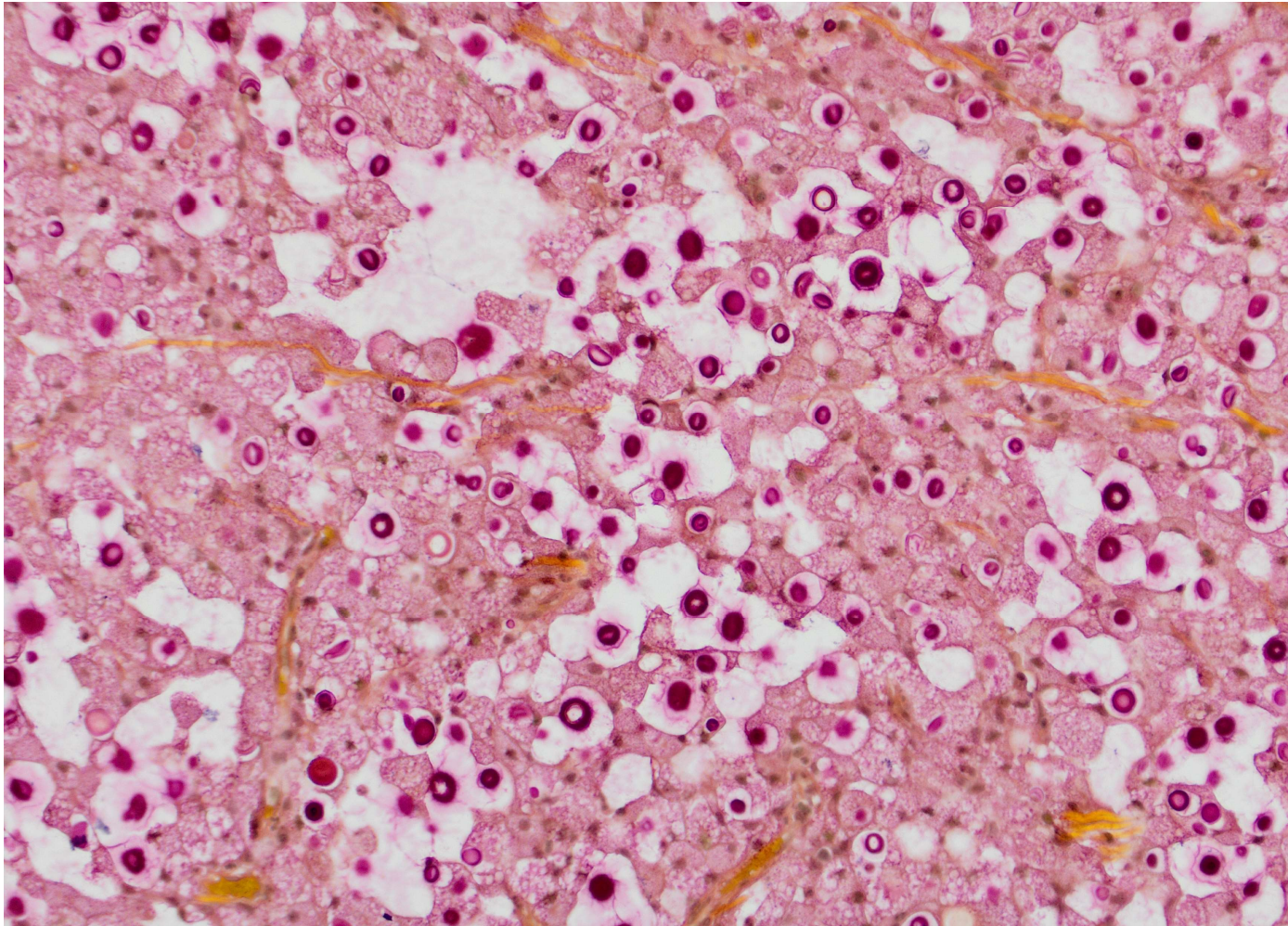
Case #5- Feline – 4 yo FS DSH



Case #5- Feline – 4 yo FS DSH



Case #5- Feline – 4 yo FS DSH



Case #5- Feline – 4 yo FS DSH

Clinical Features:

- More common in cats > dogs
- Firm to fluctuant, well-circumscribed dermal or SQ nodules
- May become ulcerated or drain
- Head, neck, and ears most common sites



Photo: Dr. Ian Spiegel



Case #5- Feline – 4 yo FS DSH

Clinical Features:

- Roman nose
- Visceral or nasal lesions also possible
- Can develop in indoor cats
- Siamese may be over-represented



Photo: Pennisi M, et al. 2013.
Cryptococcosis in cats. J of Feline Medicine
and Surgery



Case #5- Feline – 4 yo FS DSH

Cytologic Features:

- Extracellular yeasts 4–15-micron diameter
- Thick, 5–10-micron clear halo
 - Soap-bubble appearance
- Narrow-based budding

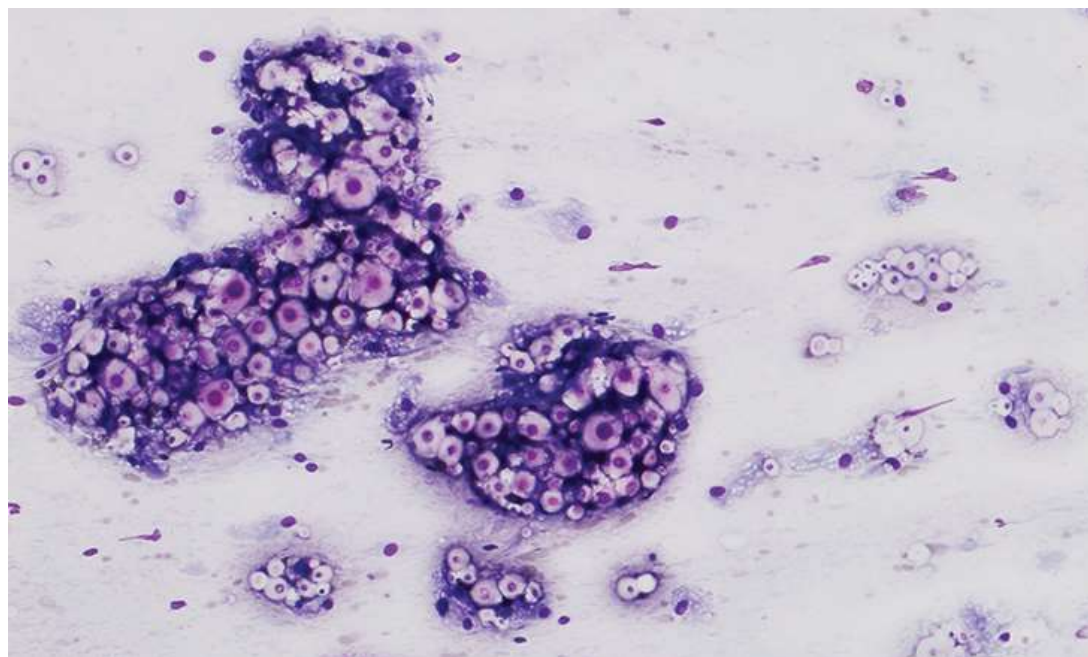


Photo: Drs. L. Chapman and R. Taggart. 2018.
Lameness and osteomyelitis in a cat.
Clinician's Brief.



Case #5- Feline – 4 yo FS DSH

Cytologic Features:

- Extracellular yeasts 4–15-micron diameter
- Thick, 5–10-micron clear halo
 - Soap-bubble appearance
- **Narrow-based budding**

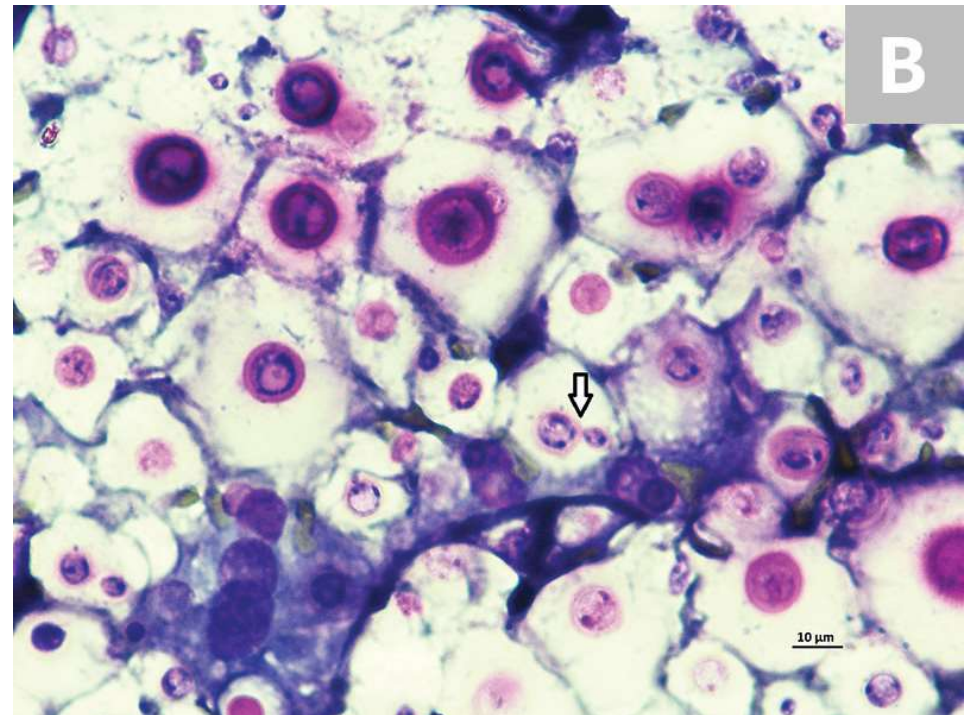


Photo: Drs. L. Chapman and R. Taggart. 2018.
Lameness and osteomyelitis in a cat.
Clinician's Brief.



Case #5- Feline – 4 yo FS DSH

Cytologic Features – textbook vs. reality

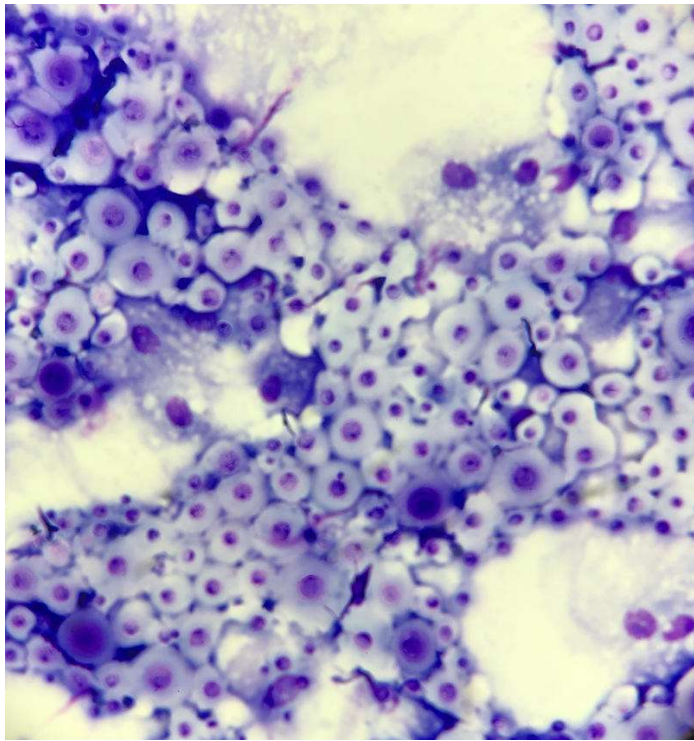


Photo: Dr. Ashleigh Newman

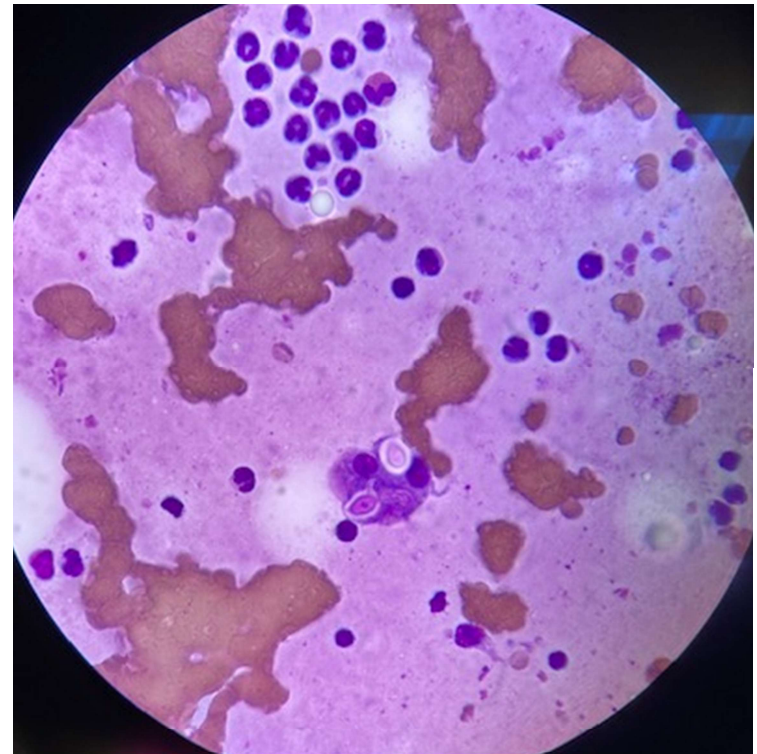


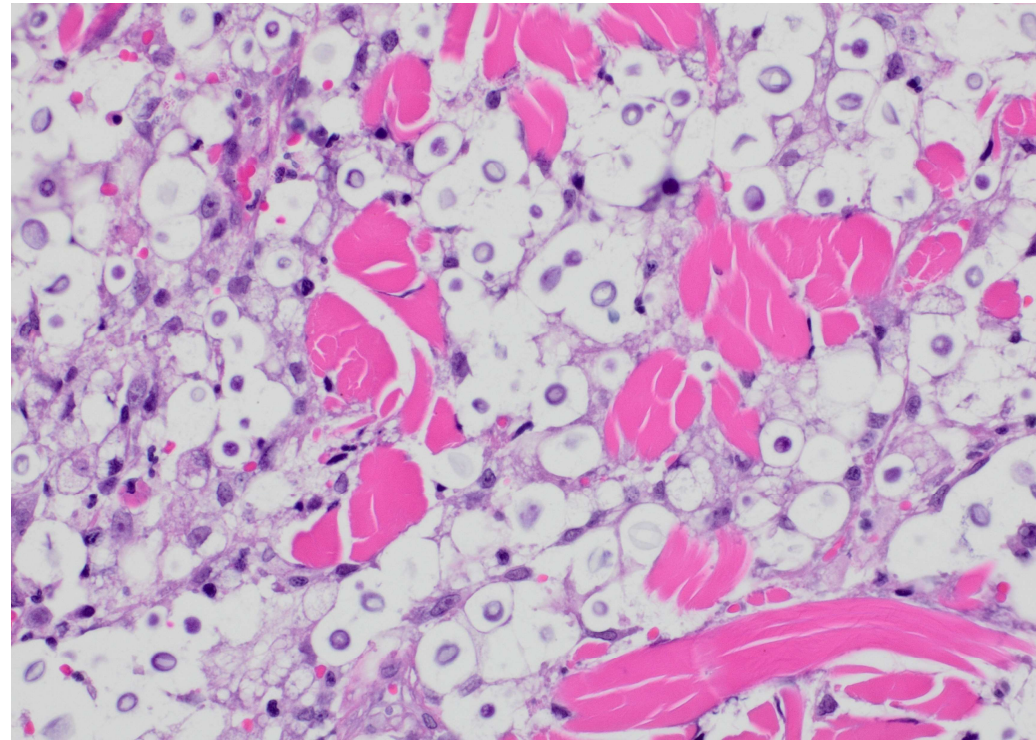
Photo: Dr. Ian Spiegel



Case #5- Feline – 4 yo FS DSH

Histopathology Features:

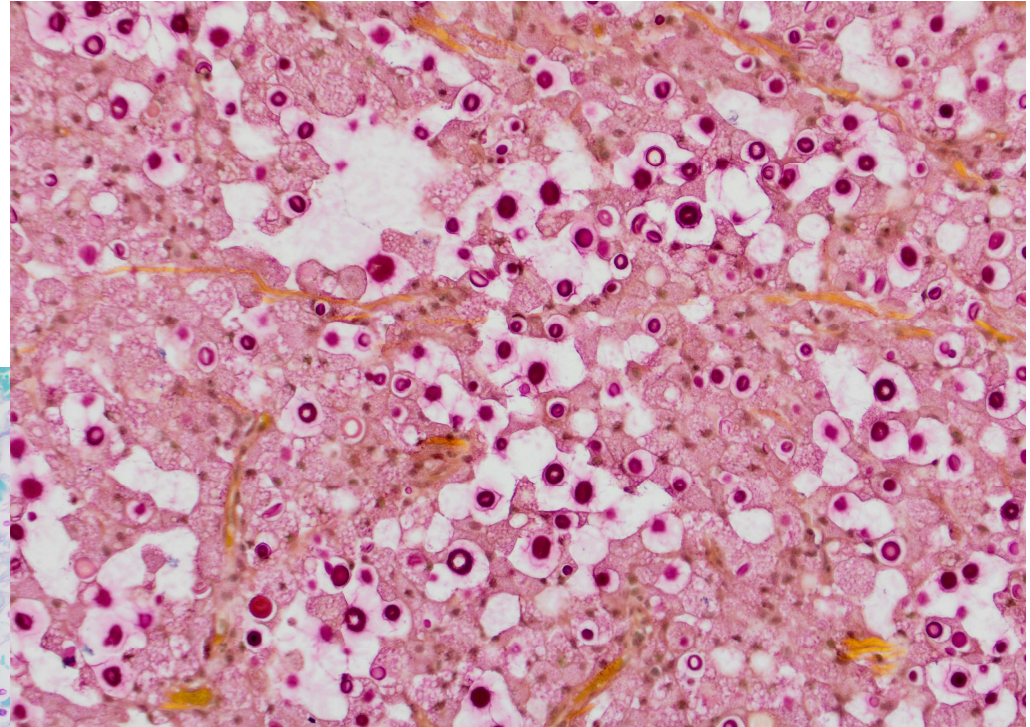
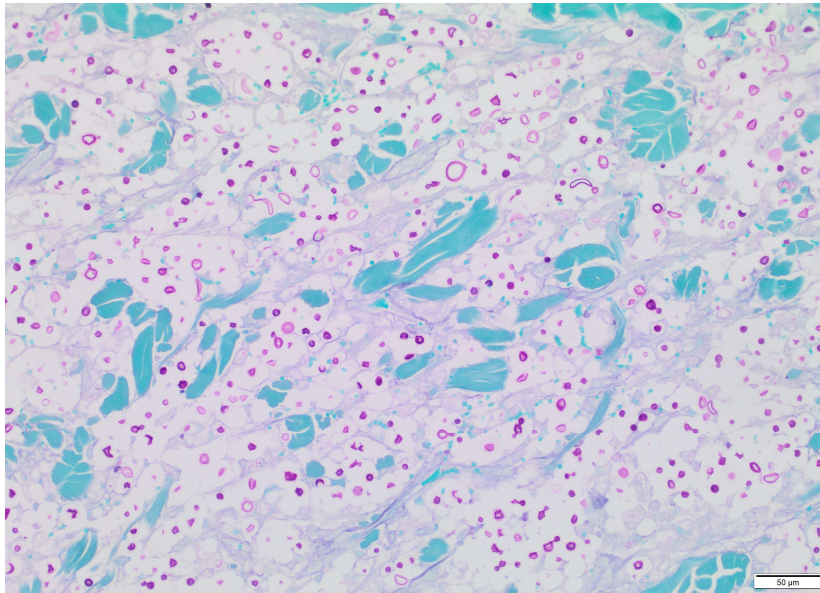
- Can be cell-poor inflammation or granulomatous inflammation
- Organisms can be numerous
- 4-15 micron diameter yeasts with thick negative staining capsule on H&E



Case #5- Feline – 4 yo FS DSH

Histopathology Features:

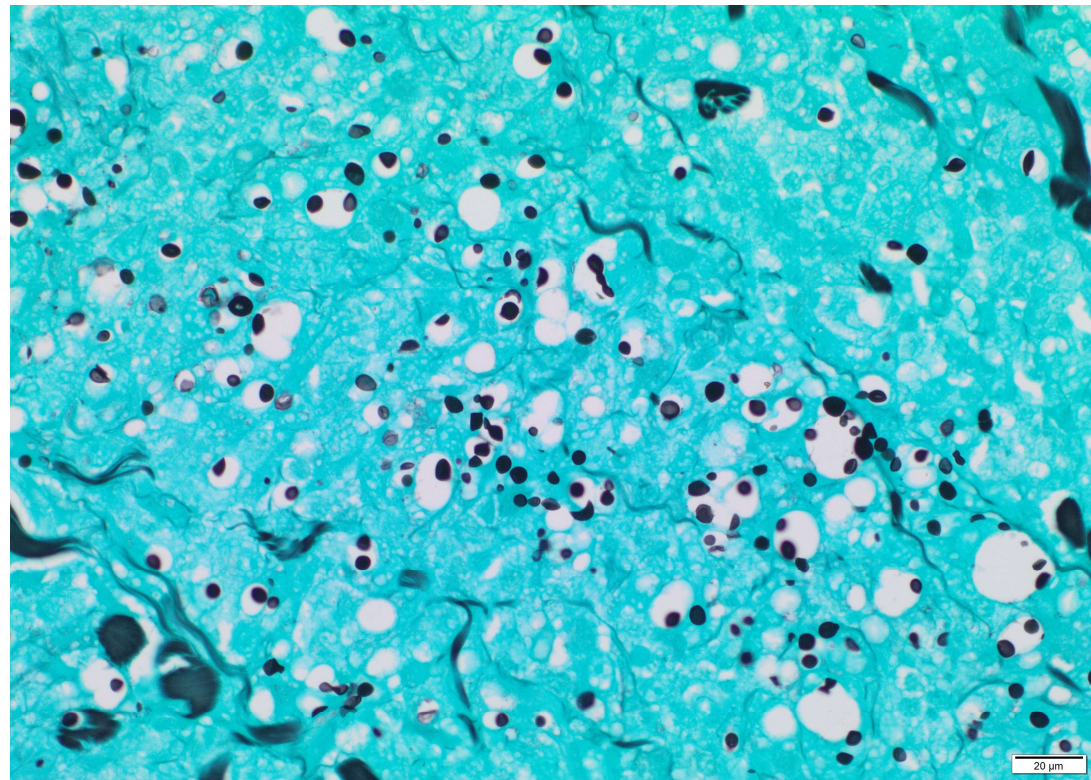
- Polysaccharide capsule stains with Mayer's mucicarmine
- Also stains with GMS or PAS



Case #5- Feline – 4 yo FS DSH

Key Points:

- Opportunistic and may occur in immunocompetent or immunocompromised animals
- Thick-walled capsule
 - Soap bubble appearance
- Mucopolysaccharide capsule stains with Mayer's mucicarmine



Case #6

Feline – 9 yo FS Persian



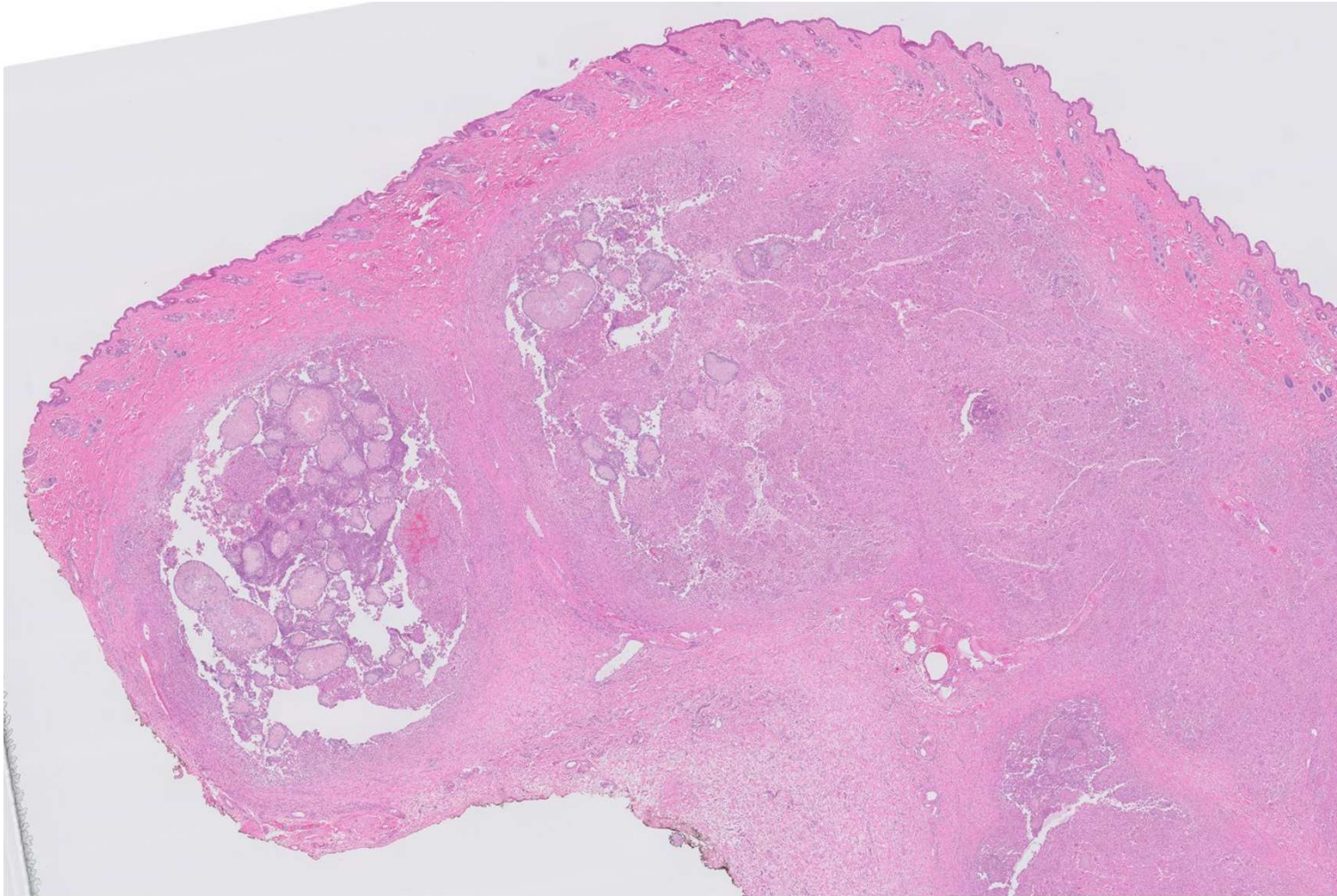
Case #6- Feline – 9 yo FS Persian



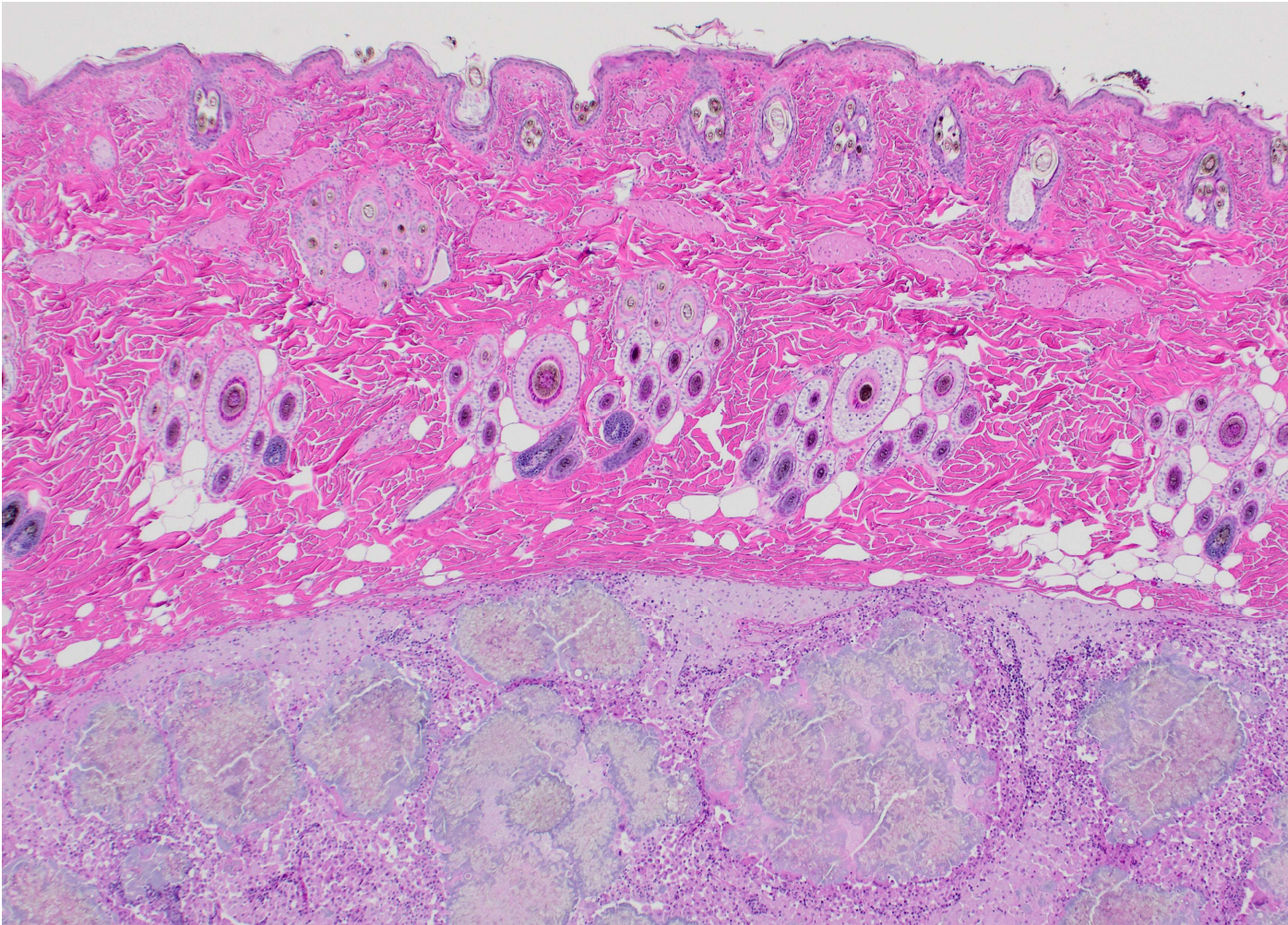
Photo: Askjpc.org WSC



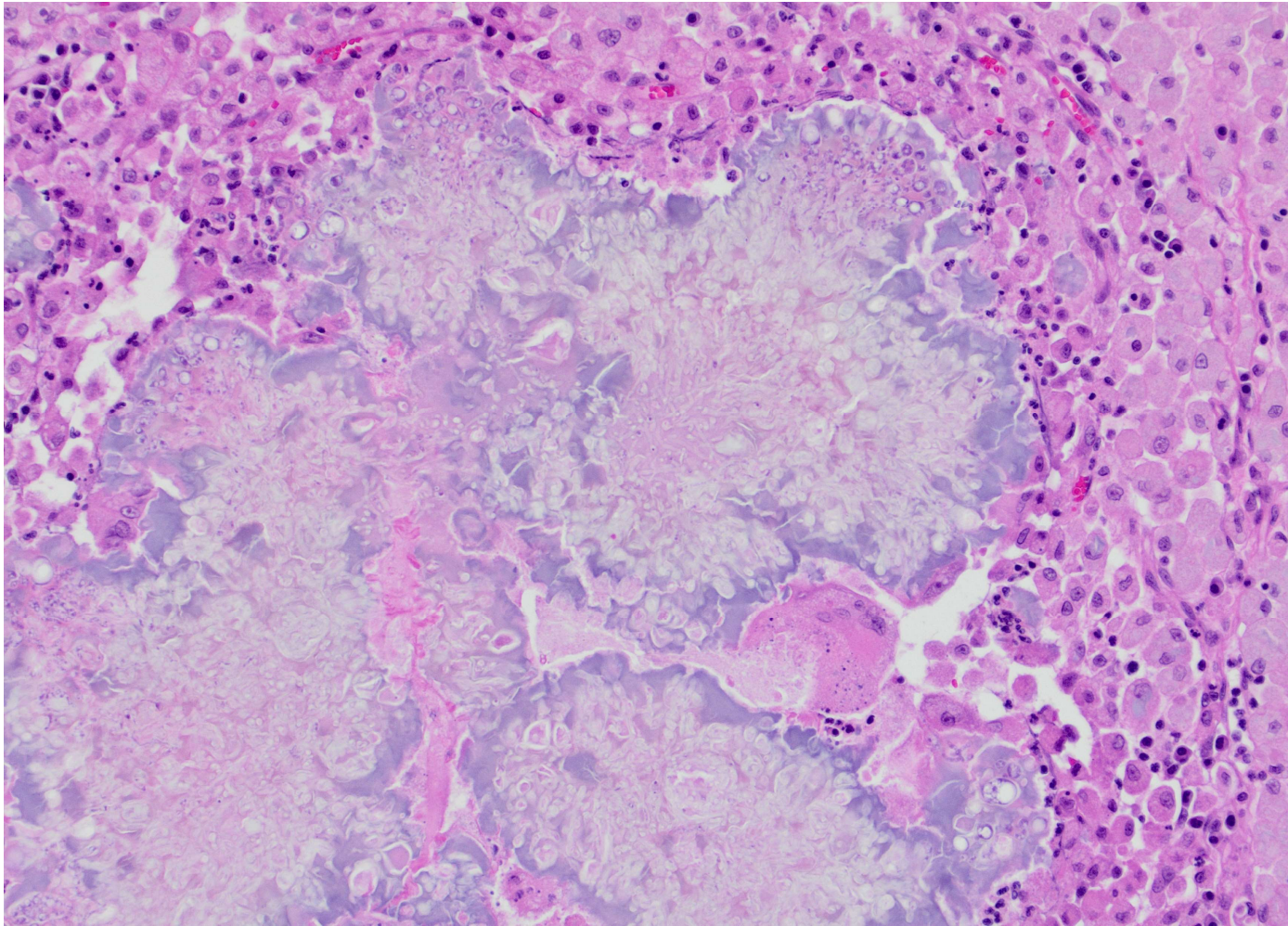
Case #6- Feline – 9 yo FS Persian



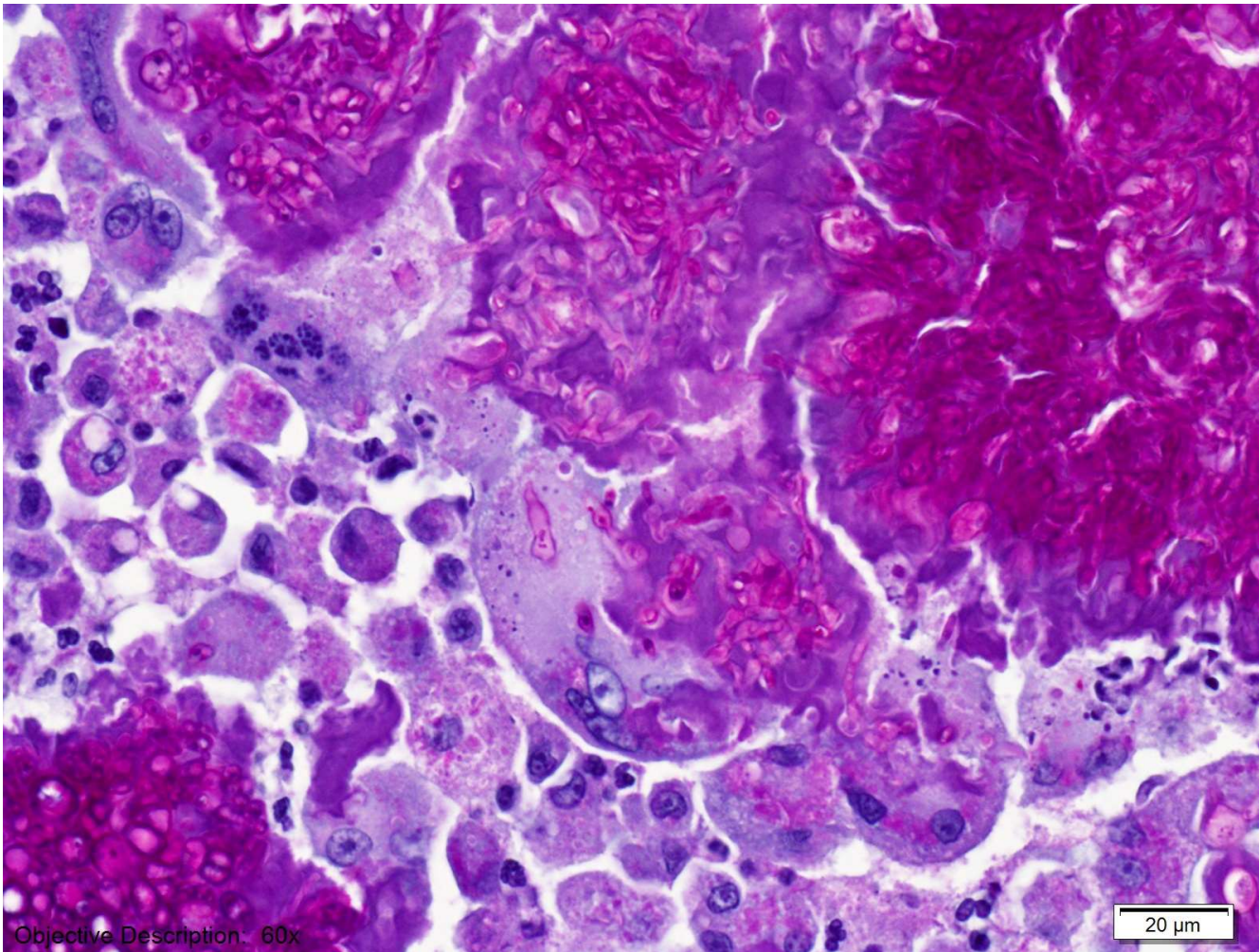
Case #6- Feline – 9 yo FS Persian



Case #6- Feline – 9 yo FS Persian



Case #6- Feline – 9 yo FS Persian



Case #6- Feline – 9 yo FS Persian

Clinical Features:

- Primarily occurs in cats – Persians and Himalayans
- Firm, irregularly round nodules – dermal +/- subcutis
- Masses may be hyperpigmented or alopecic
- Solitary or multifocal

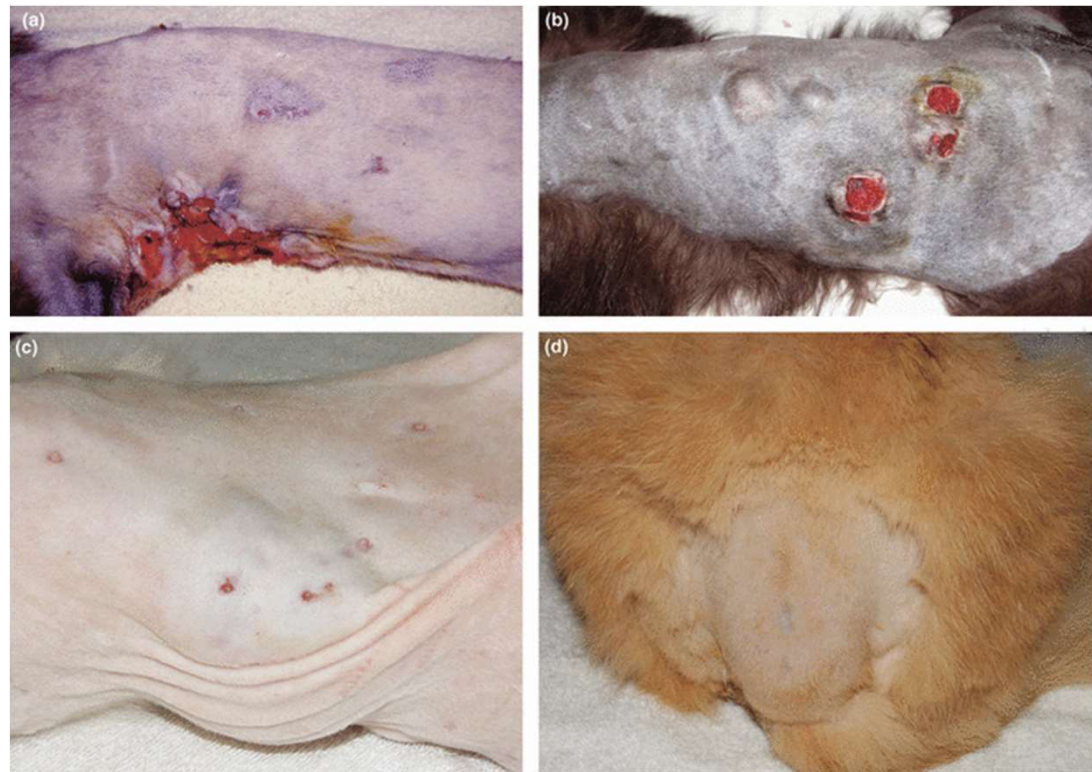


Photo: Chang SC, et al. 2011. Dermatophytic pseudomycetoma in four cats. Vet Derm.



Case #6- Feline – 9 yo FS Persian

Cytologic Features:

- Pyogranulomatous inflammation
- May see tissue grains or fungal hyphae

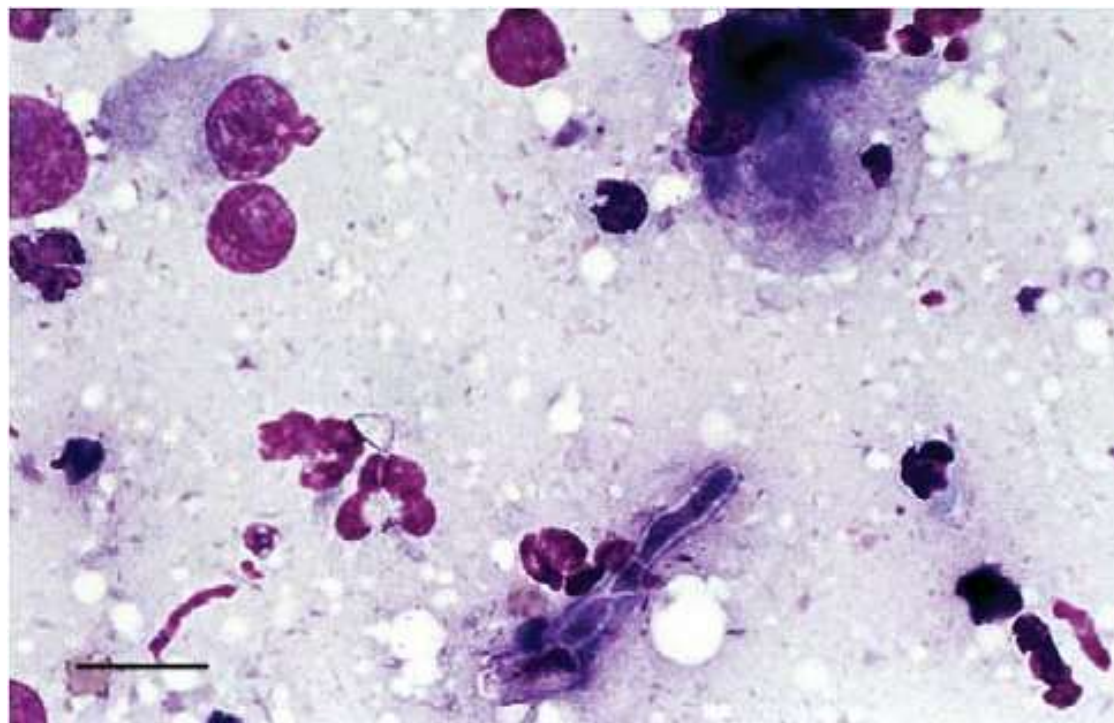


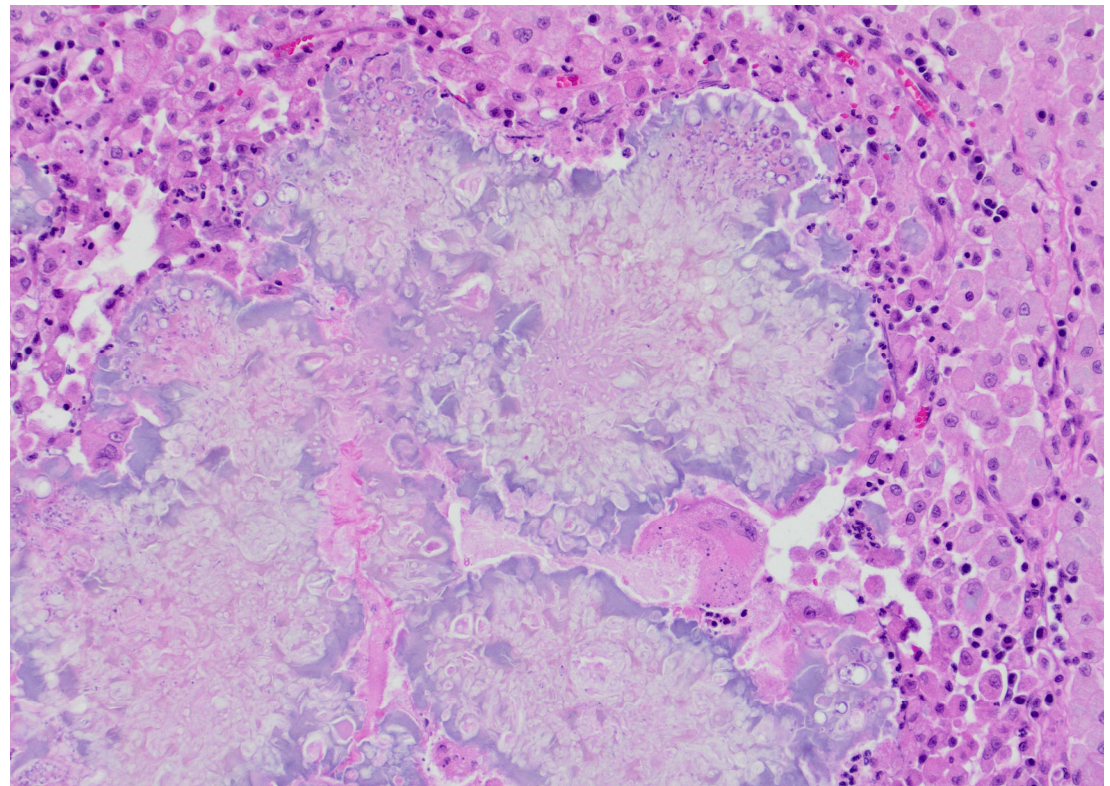
Photo: Ghisleni G, et al. 2006. Correlation between fine-needle aspiration cytology and histopathology in the evaluation of cutaneous and subcutaneous masses from dogs and cats. *Vet Clin Path.*



Case #6- Feline – 9 yo FS Persian

Histopathology Features:

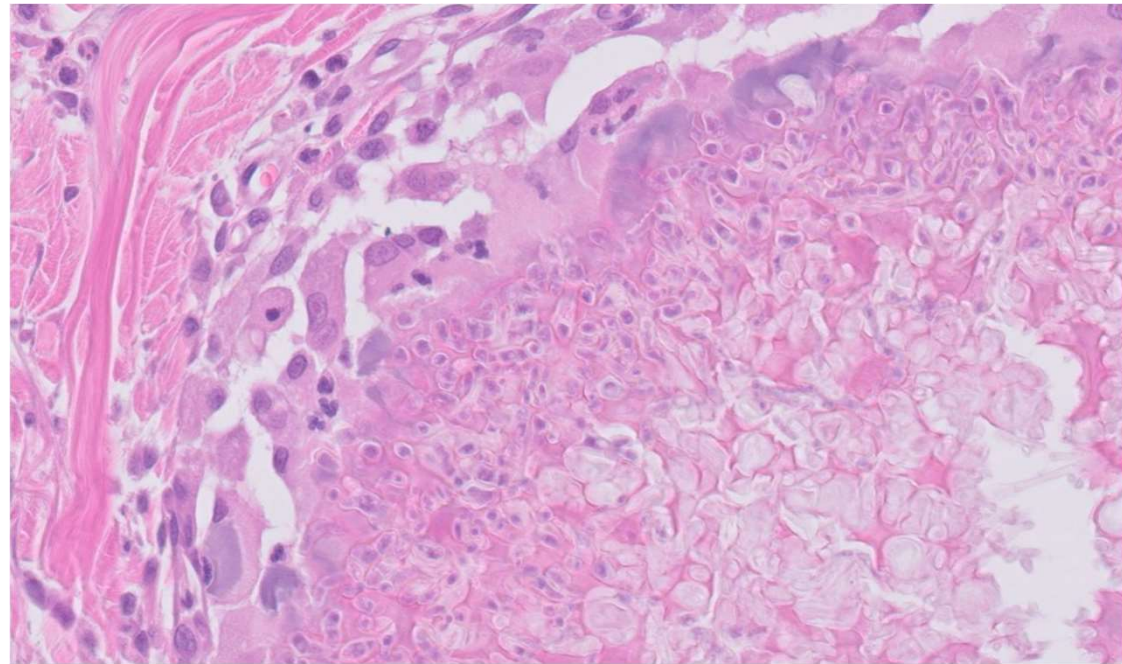
- Nodular granulomatous to pyogranulomatous dermatitis
- Large amorphous aggregates of fungal hyphae
- Splendore-Hoeppli reaction (antigen-antibody reaction)



Case #6- Feline – 9 yo FS Persian

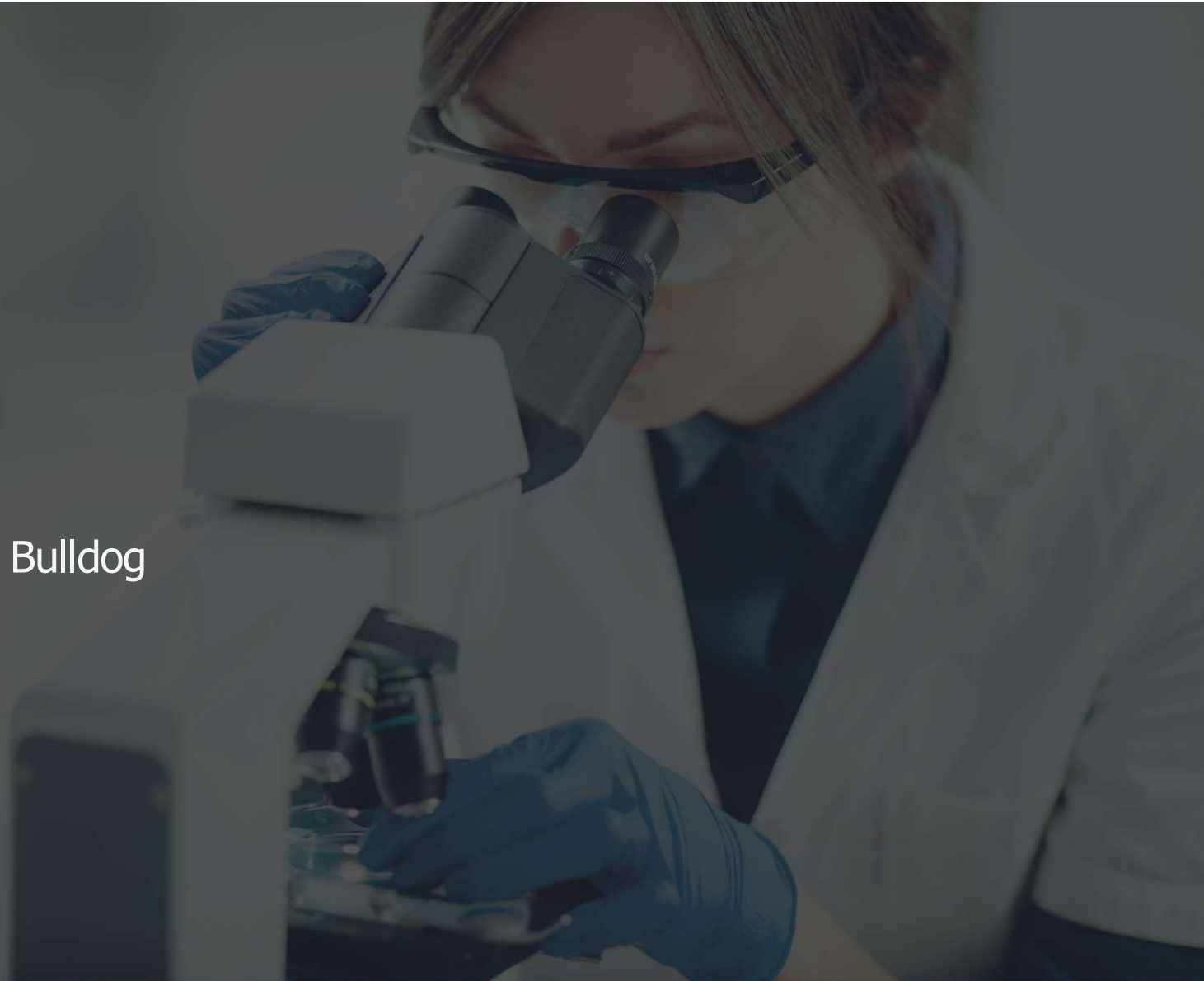
Key Points:

- *Microsporum canis*
 - Most common
- Stains with PAS or GMS
- Culture needed for speciation
- Pseudomycetoma
 - Dermatophytes rather than eumycotic fungi



Case #7

Canine – 5 yo FS French Bulldog



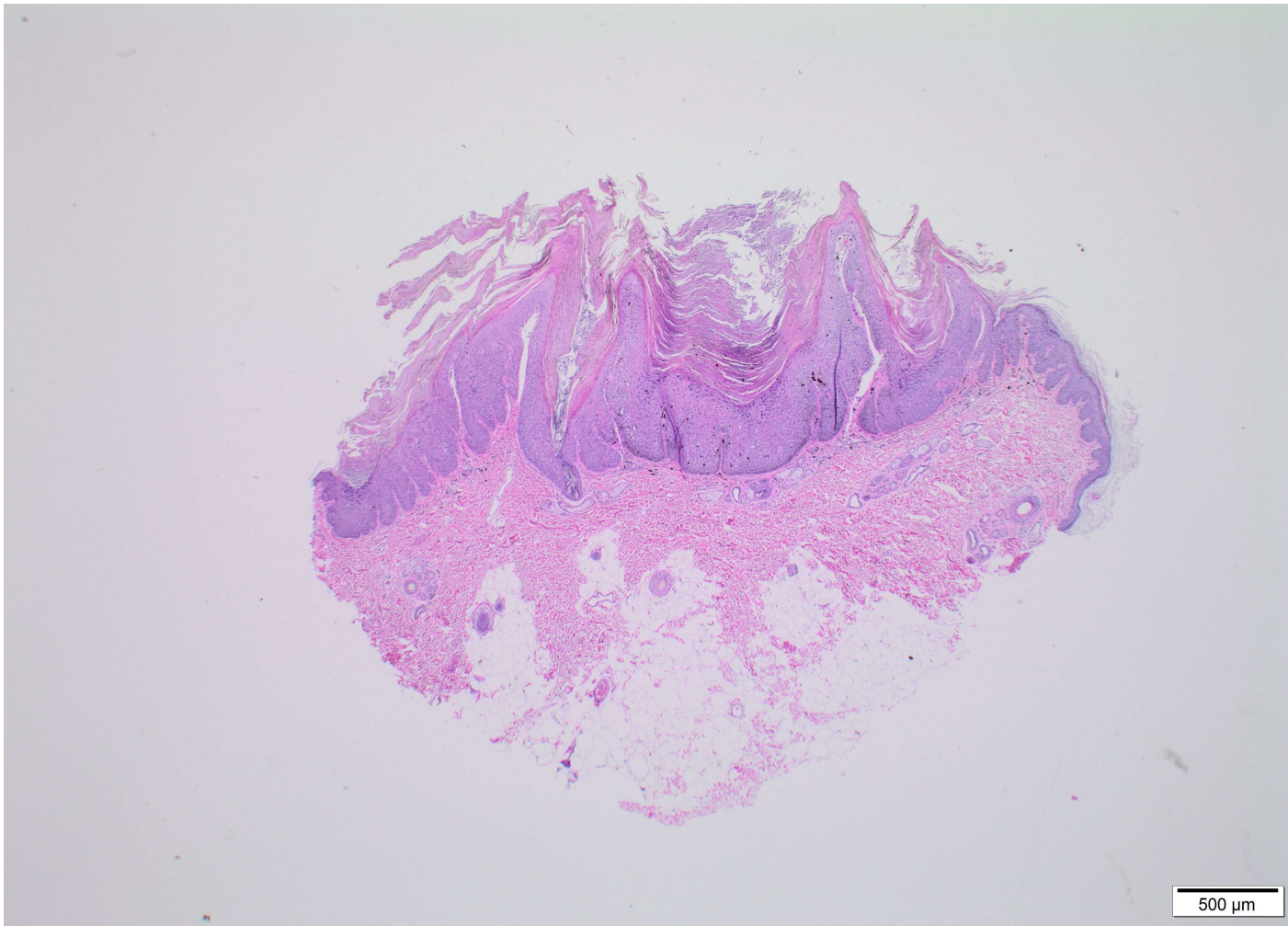
Case #7- Canine – 5 yo FS French Bulldog



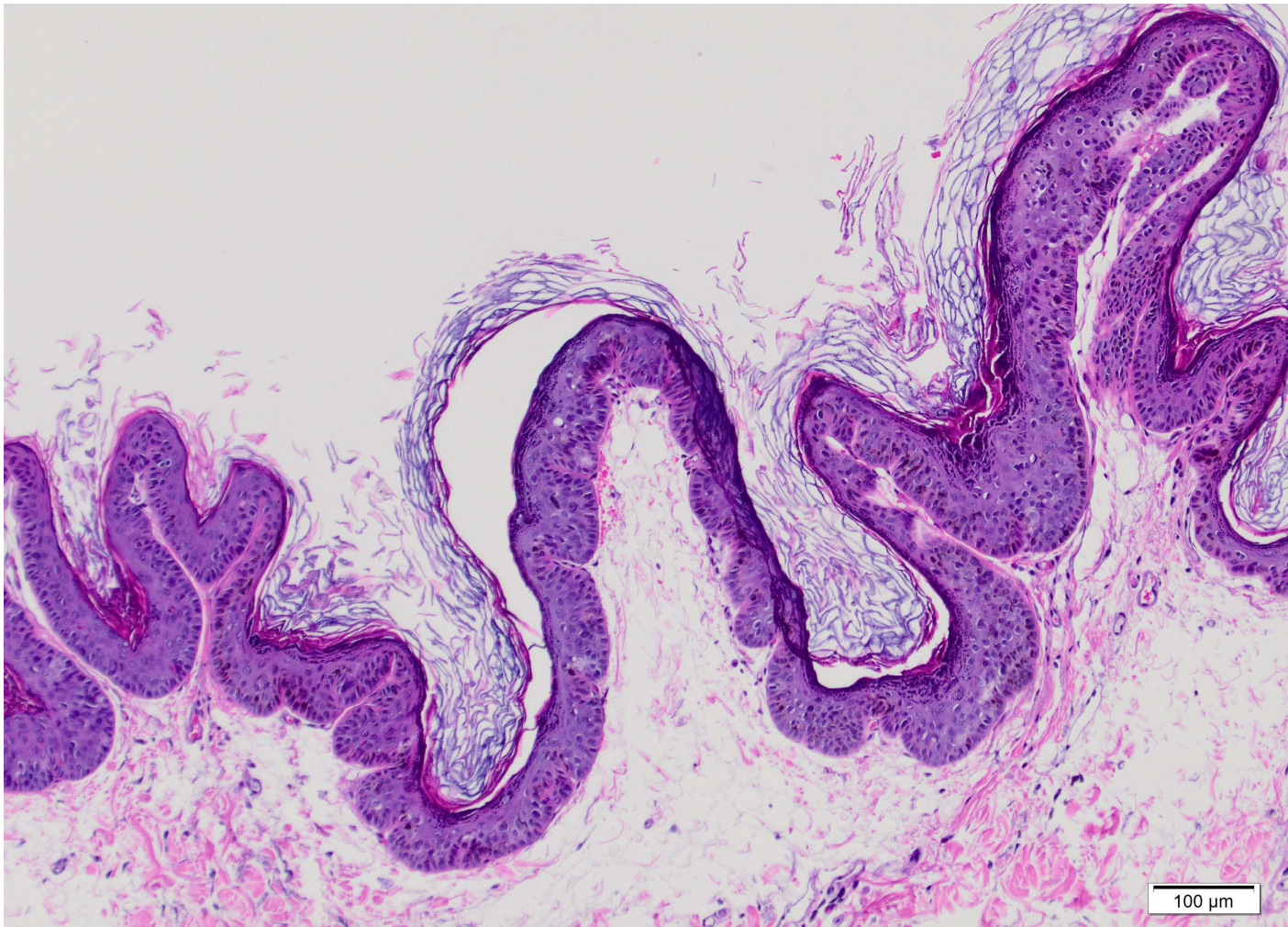
Photo: Dr. Elizabeth Falk



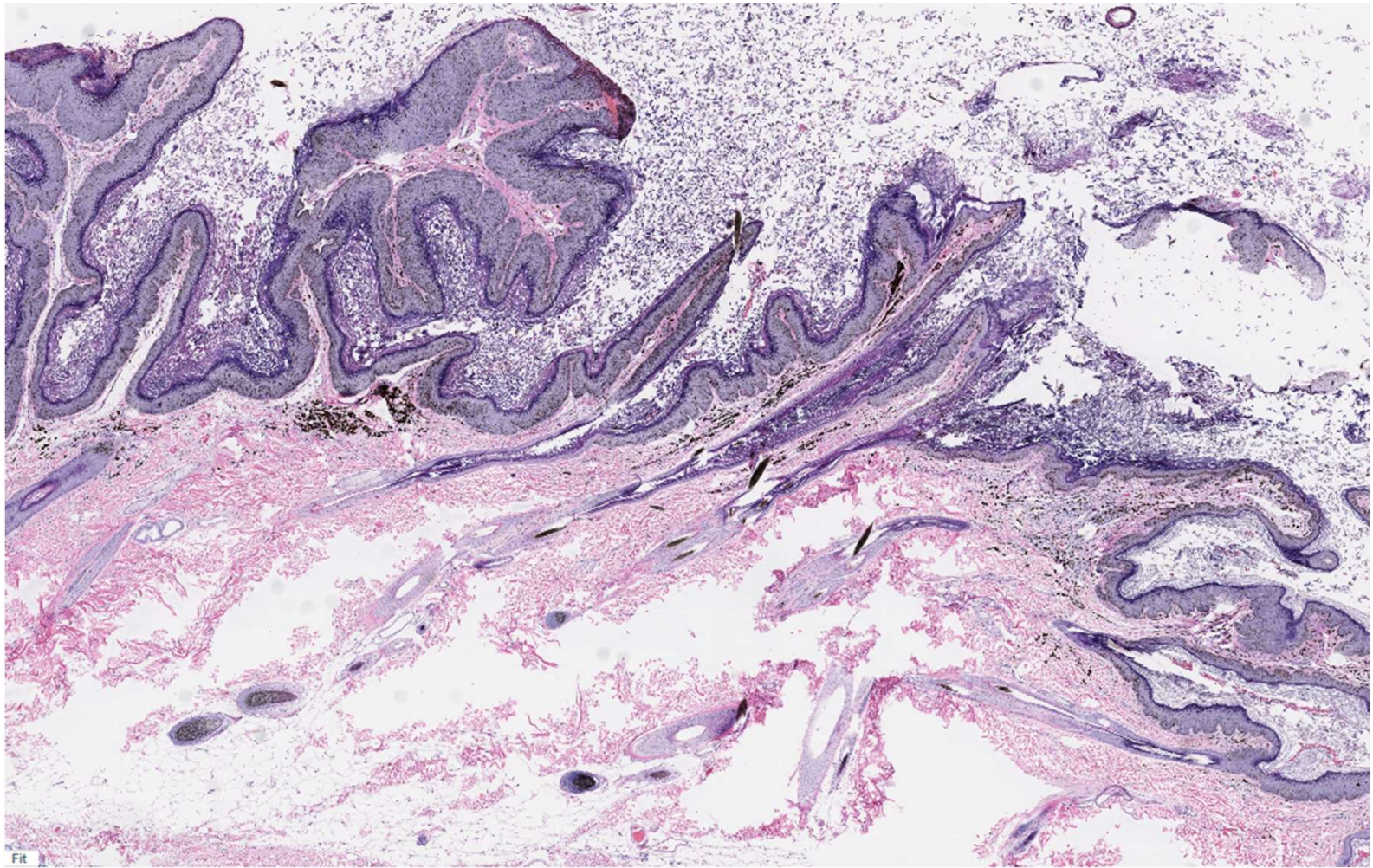
Case #7- Canine – 5 yo FS French Bulldog



Case #7- Canine – 5 yo FS French Bulldog



Case #7- Canine – 5 yo FS French Bulldog



Case #7- Canine – 5 yo FS French Bulldog

Clinical Features:

- Pugs, Mini Schnauzers, Bostons, Frenchies
- Multiple darkly pigmented circular lesions <1 cm diameter
- Ventral abdomen, medial thigh, and ventral thorax
- Young adults most commonly



Photo: Dr. David Duclos



Case #7- Canine – 5 yo FS French Bulldog

Cytologic Features:

- Not usually very cellular
- May see melanized keratinocytes
- Histopath!

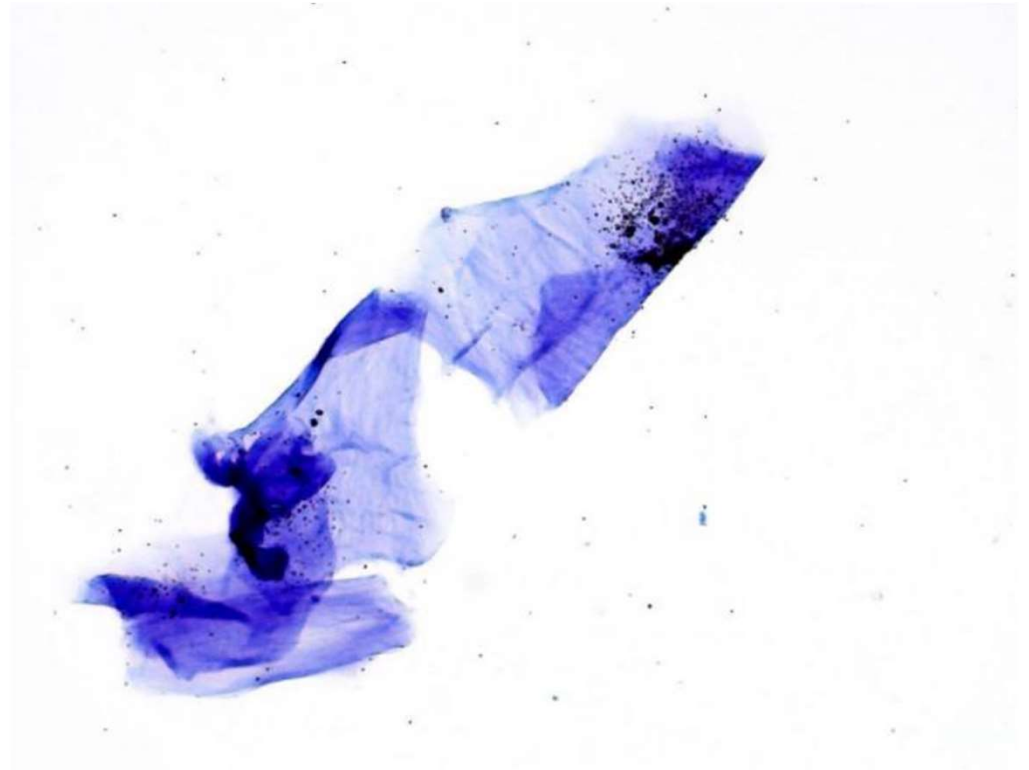


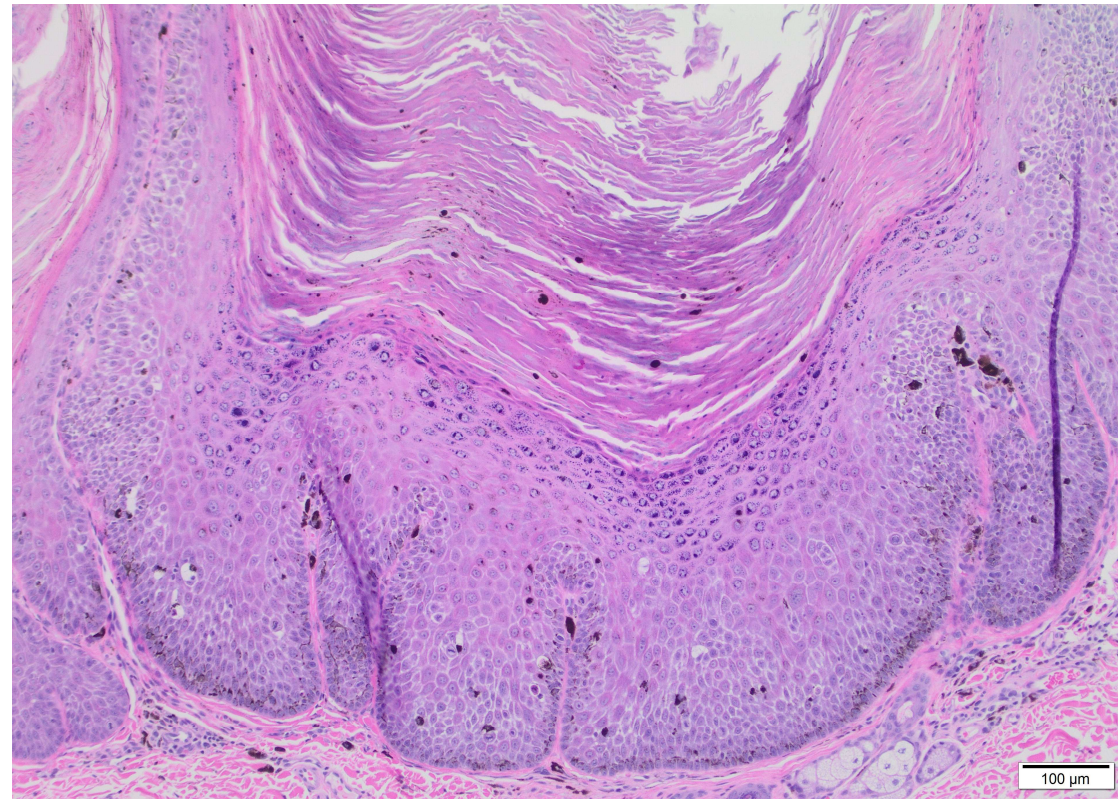
Photo: Abbey Veterinary Services



Case #7- Canine – 5 yo FS French Bulldog

Histopathology Features:

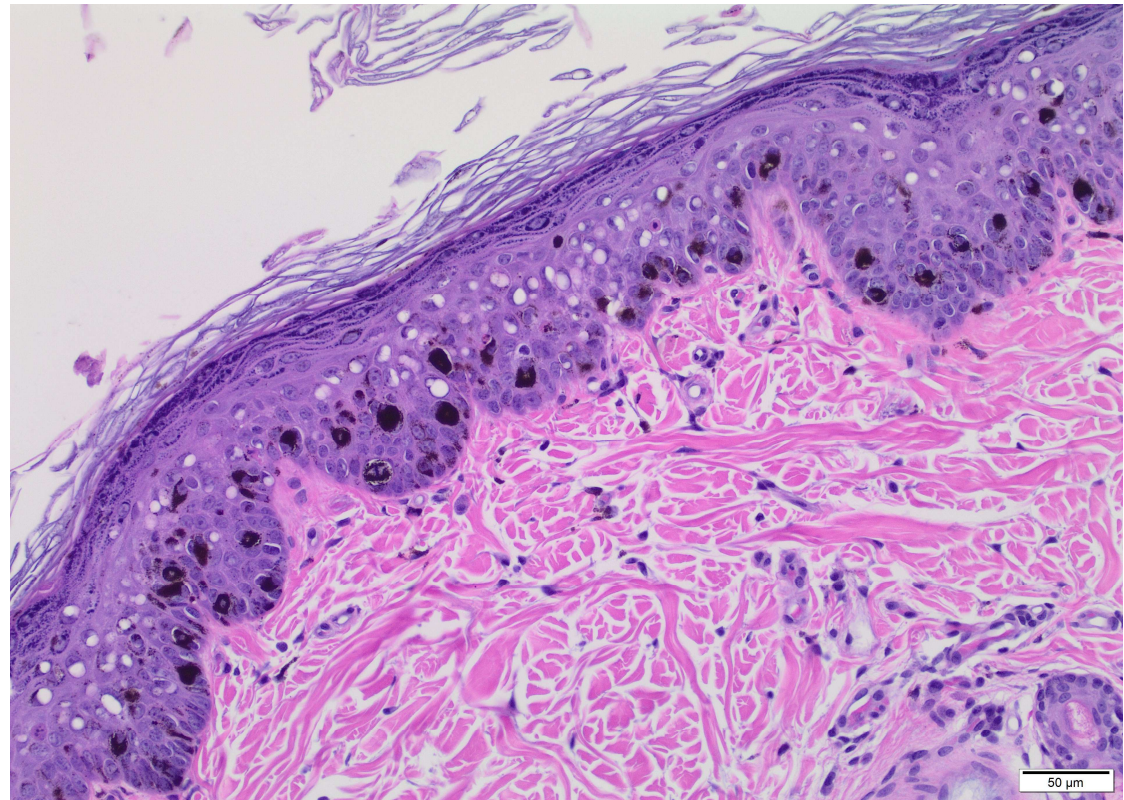
- Prominent keratohyalin granules
- Epidermis forms papillary projections and scalloping
 - “scoops” of orthokeratotic keratin.
- Keratinocytes are often melanized



Case #7- Canine – 5 yo FS French Bulldog

Histopathology Features:

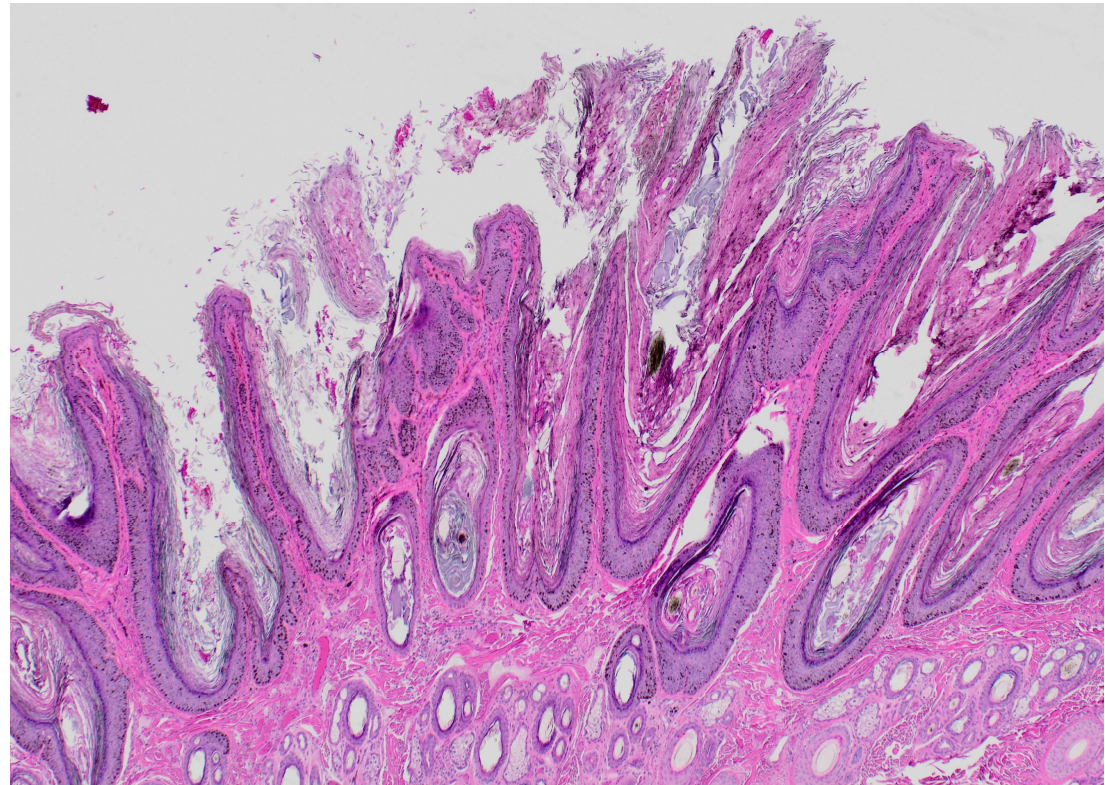
- Prominent keratohyalin granules
- Keratinocytes are often melanized
- May see koilocytes



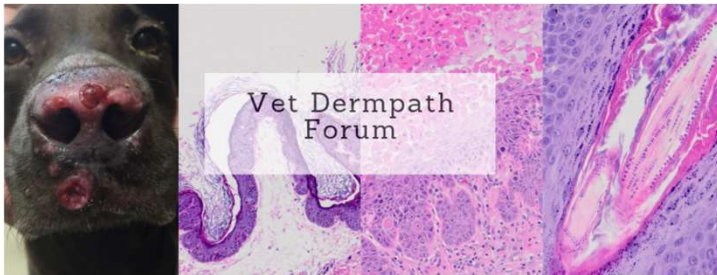
Case #7- Canine – 5 yo FS French Bulldog

Key Points:

- Rarely can undergo malignant transformation
- Melanoma or melanocytoma are the primary DDx
- Canine papillomavirus type 4 (CPV-4)



Thank you!



hello@innovativevetpath.com
Innovativevetpath.com
913-303-7717 (call or text)

