

7-year-old spayed female domestic short-haired cat with multiple well-demarcated, dark red to purple, depressed foci on the skin of the right inguinal region.

Question: What is the most likely diagnosis?

- A. Eosinophilic plaque
- B. **Atypical mycobacteriosis**
- C. Sterile granuloma/pyogranuloma
- D. Dermatophytic pseudomycetoma

Clinical history: A 7-year-old spayed female domestic short-haired cat was presented for multiple small areas of erythema and thickening of the right inguinal skin. Upon dermatologic examination, the right inguinal skin was alopecic with swelling and multiple well-demarcated, dark red to purple depressed foci on the right inguinal region (Fig. 1 and 2). The lesion was unresponsive to Cefovecin.

Histopathologic description

The dermis and subcutaneous tissue are expanded by multifocal to coalescing nodules of large numbers of neutrophils and epithelioid macrophages (Fig. 3), surrounding scattered discrete non-staining spaces (extracellular lipid) (Fig. 4). These clear spaces rarely contain small numbers of 3-5 μm in length, filamentous, light eosinophilic bacilli (Fig. 5), which were acid-fast positive (Fig.6). There is moderate regular acanthosis with variable orthokeratotic hyperkeratosis.

Morphologic diagnosis

Pyogranulomatous dermatitis and panniculitis, multifocal to coalescing, severe with intralesional filamentous, acid-fast positive bacteria.

Comments

The clinical and histopathological findings are consistent with atypical mycobacterial infection, supported by the acid-fast positive rods within lesions. Feline atypical mycobacterial skin disease is caused by saprophytic, opportunistic and rapidly-growing mycobacteria (e.g. *M. fortuitum*, *M. chelonae*, *M. abscessus*). Infection is presumably via open wounds and/or trauma because most infected cats reportedly present with a history of trauma, bite or fight wounds. This group of mycobacteria demonstrates a tropism for lipids, and the inguinal fat pad is a commonly affected site. Female cats are over-represented. Gross lesions usually present as single to multiple cutaneous and subcutaneous nodules, which appears as red to purple superficial depressions or ulcers with subjacent inflammation. Fistulous tracts may be present. In feline atypical mycobacteriosis, pyogranulomatous dermatitis and panniculitis surrounds variably-sized clear spaces (free lipid) that may contain flocculent material representing bacilli. Demonstration of acid-fast organisms within the clear spaces are strongly supportive of atypical mycobacteriosis; however, bacterial culture is the gold standard for a definitive diagnosis, particularly when acid-fast organisms are not apparent in tissue section. Differential diagnoses include other high-order bacteria such as *Nocardia* spp., which is variably and partially acid-fast positive, *Actinomyces* spp. and *Streptomyces* spp., which are both acid-fast negative, and idiopathic/sterile pyogranulomatous dermatitis/panniculitis. The prognosis for feline atypical mycobacteriosis is fair to guarded, as debridement is the preferred treatment, although lesions may be extensive and complete surgical excision may be difficult. Long-term antimicrobial therapy is also often required. Atypical mycobacteriosis is not considered zoonotic.

References

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Figures



Figure 1.



Figure 2.

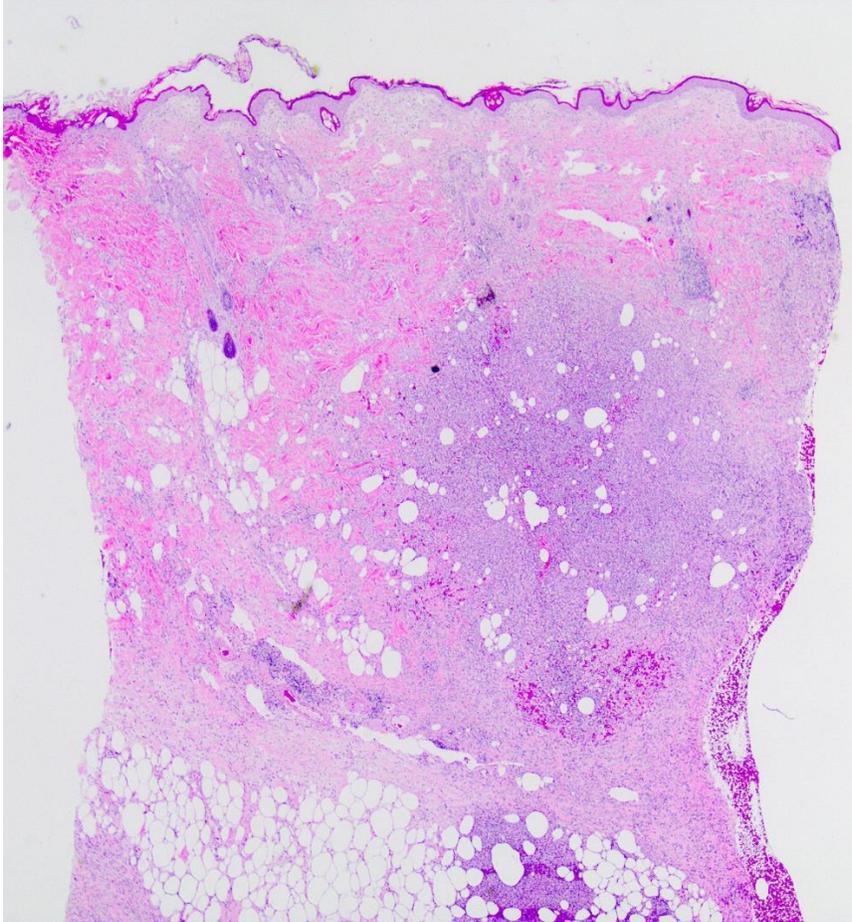


Figure 3.

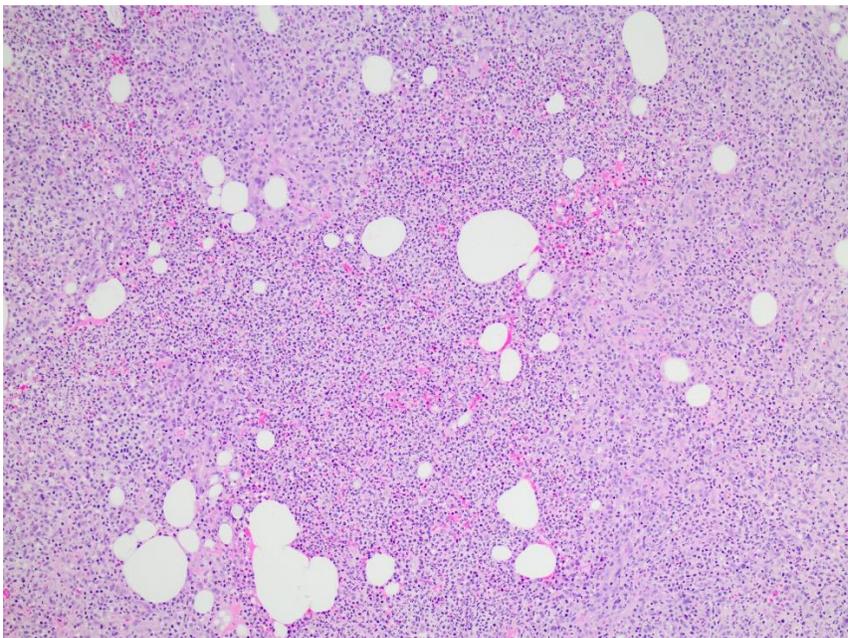


Figure 4.

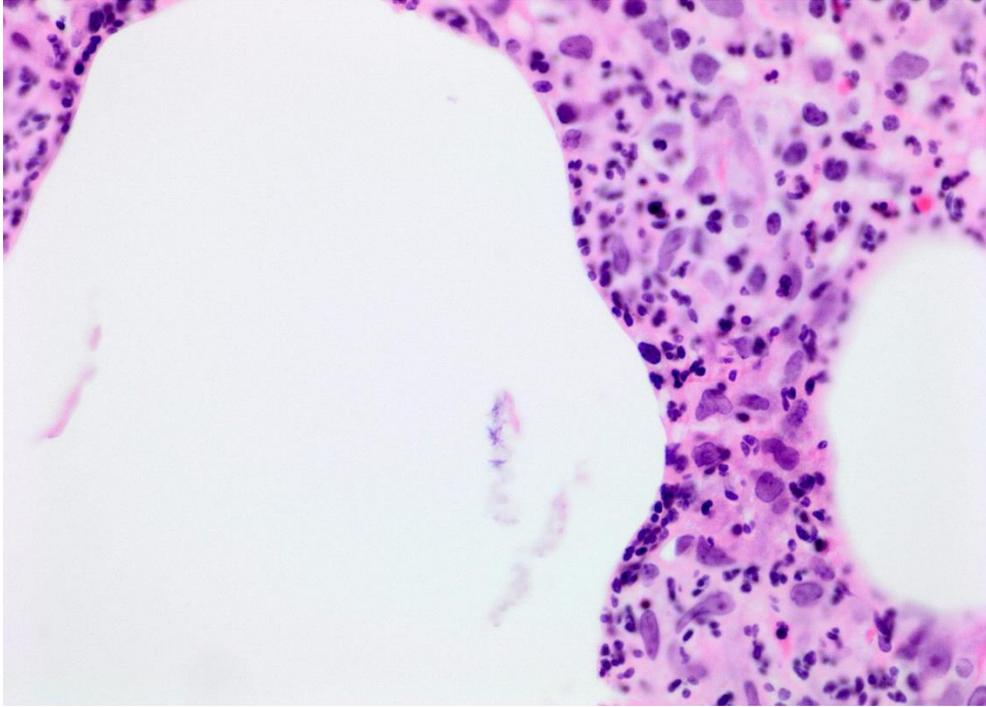


Figure 5.

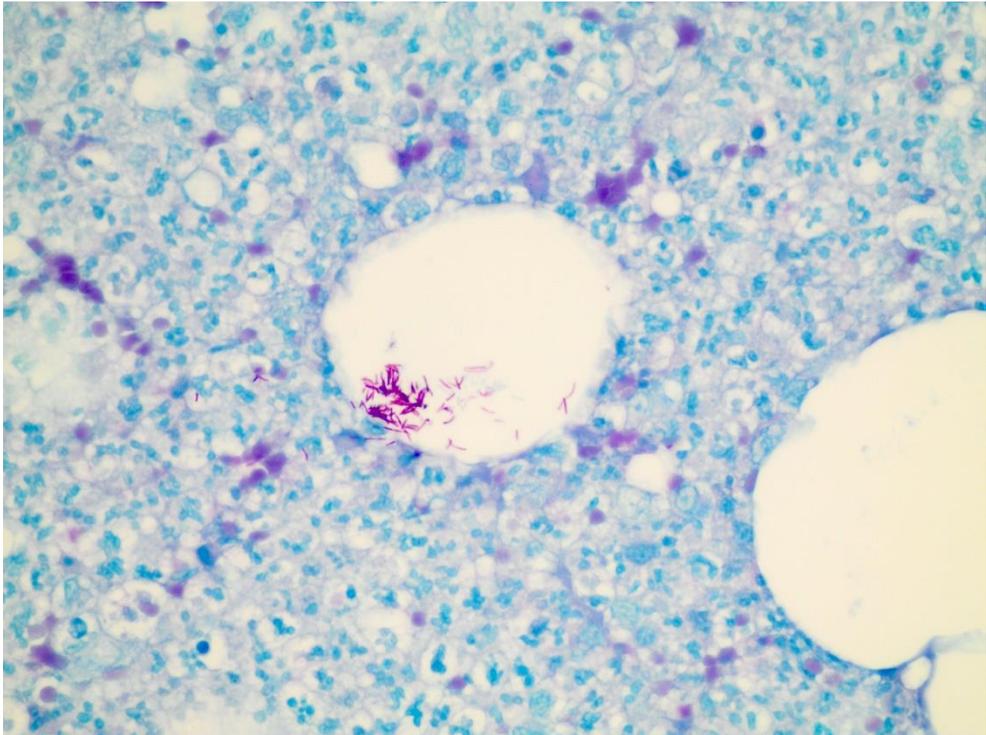


Figure 6.