



AUBURN UNIVERSITY
COLLEGE OF VETERINARY MEDICINE

Case #: P23-018443

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Signalment: 8-month-old, spayed female, Domestic Shorthair cat.

History: The patient was presented to the rDVM for non-pruritic papules on the chin, suspicious for feline acne, which improved with changing of food bowls and topical therapy (medicated shampoo with miconazole and chlorhexidine). Three weeks later, the animal developed acute profound pruritus of both ears. The pinnae and external ear canals were profoundly erythematous with crusts, multiple papules, and thin, light-yellow exudate. The patient received injectable antibiotics (Convenia 8mg/kg) and oral corticosteroids (Prednisolone 2 mg/kg/day). Cytology revealed large numbers of cocci and rods with some neutrophils.

Gross findings: Three 4 mm punch biopsies from the right and left ear pinnae and chin, respectively, and a 5 x 5 x 3 mm wedge biopsy from the right ear cartilage were received. The haired skin samples were irregular with abundant tan to brown crusts.



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Signalment: 8-month-old, spayed female, Domestic Shorthair cat.

Histopathology: Haired skin (chin, right and left ear pinnae): The epidermis is markedly hyperplastic, extending to and anastomosing with the infundibular epithelium, accompanied by inter- and intracellular edema, extensive superficial and follicular parakeratotic hyperkeratosis, and thick crusts composed of degenerate neutrophils, cellular debris and occasional cocci. Moderate to large numbers of transmigrating neutrophils and eosinophils are within the epidermis and follicular epithelium, with occasional intraepithelial micropustule formation. There is multifocal superficial epidermal pallor and numerous shrunken, deeply eosinophilic and pyknotic (apoptotic) keratinocytes throughout the mid-to-superficial epidermal and infundibular strata. Follicular ostia and infundibula are distended by massive plugging of several apoptotic keratinocytes, inflammatory debris, and lamellar keratin. Variable numbers of viable and degenerate neutrophils, eosinophils, macrophages and, to a lesser extent, lymphocytes, plasma cells and mast cells are scattered throughout dermal perivascular and periadnexal interstitium, and multifocally obscure the dermo-epidermal junction.

Morphologic diagnosis and etiology: Dermatitis, proliferative and necrotizing, diffuse, severe, with folliculitis, parakeratosis, crusting, numerous apoptotic keratinocytes, and superficial cocci.

Comments: Histopathology was consistent with the condition “proliferative necrotizing otitis externa (PNOE) of kittens”, which is a rare, highly characteristic syndrome of unknown etiology. The syndrome is typically found in cats less than 1 year of age and, in many cases, it spontaneously regress by 12-24 months. Plaques and thick debris are predominantly identified at the pinna/external canal and the periauricular region, but extra-auricular and extensive facial lesions have been documented, and spreading beyond the neck is not a typical feature. Whereas hyperkeratotic erythema multiforme and feline thymoma-associated exfoliative dermatitis may be considered differential diagnoses, the extensive neutrophilic crusting and parakeratosis, along with prominent eosinophilic infiltrates observed in the proliferative necrotizing otitis of kittens often help determine the diagnosis in conjunction with the signalment. PNOE can present as a pruritic condition; however, the bacteria identified in the crusts and potential underlying allergic component could have played a role in this patient’s pruritus.

References:

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