4-year-old neutered male American domestic shorthair cat with a locally extensive area of swelling ulceration and crusting over the nasal planum.

Which of the following is the most likely disease?
1. Squamous cell carcinoma
2. Feline herpesvirus – correct answer
3. Eosinophilic granuloma
4. Cryptosporidiosis
5. Mosquito-bite hypersensitivity

Signalment and history. A 4-year-old castrated male domestic shorthair cat presented for a 7 month history of swelling and skin irritation on the nose. The lesion began as a red painful area that over the course of a few months turned black and crusted and non-painful. There is also a 1.5 year history of sneezing that is responsive to famciclovir. The nasal planum lesion was non-responsive to famciclovir and lysine. This cat snores, sneezes, has clear ocular discharge and occasionally has difficulty breathing. Skin biopsy specimens from the nasal planum were obtained for definitive diagnosis.

Histopathologic description: Overall there is epidermal hyperplasia with spongiosis overlying marked dermal interstitial infiltrates of eosinophils and moderate numbers of neutrophils, lymphocytes, histiocytes and plasma cells (Figure 2). In the epidermis there are small focal to locally extensive areas of epidermal necrosis replaced with hypereosinophilic cellular debris, fibrin, degenerate neutrophils, and karyorrhectic debris. Overlying areas of necrosis there is a variably thick serocellular crust containing lakes of serum admixed with degenerate and intact neutrophils, eosinophils, and necrotic epithelial cells (Figure 3). Large amphophilic to glassy intranuclear inclusion bodies are present in the surface and follicular epithelium adjacent to areas of necrosis (Figure 4A,B). In the superficial to mid dermis there is multifocal necrosis of follicular epithelium and replacement by large numbers of eosinophils, neutrophils, histiocytes, lymphocytes, and plasma cells admixed with free hair shafts, fibrin, and necrotic cellular debris. Feline herpesvirus-1 immunohistochemistry was performed. Multifocally there was immunoreactivity of keratinocytes adjacent to areas of epidermal and follicular epithelial necrosis (Figure 5).

Morphologic Diagnosis: Haired skin, face: Moderate diffuse eosinophilic and lymphohistiocytic interstitial dermatitis, multifocal eosinophilic folliculitis and furunculosis with ulceration and intranuclear inclusion bodies

Name the condition: Feline herpeticviral dermatitis

Comment: Felid herpesvirus 1 (FeHV-1, Feline viral rhinotracheitis virus), a well-recognized pathogen of the upper respiratory tract, is commonly associated with oral ulceration. It can also be associated with focal ulcerative lesions primarily on the haired skin of the face or on the nasal planum, with rare reports of lesions on the feet and trunk. The lesions generally occur in the absence of clinical respiratory signs. In common with other herpesviruses, FeHV-1 can establish latency in the
trigeminal ganglion. As affected cats often have a history of previous respiratory disease or recent stress, recrudescence of a latent herpesvirus infection is likely. The macroscopic lesions consist of crusts, ulcers, and vesicles, frequently on the face or nasal planum, which can be persistent or recurrent (Figure 1). Lesions most commonly affect the dorsolateral muzzle, periorbital regions, and less commonly the nasal planum. Microscopically, the lesions are ulcerative and necrotizing, and the mixed dermal inflammation frequently includes numerous eosinophils (Figure 3). There may be foci of degranulating eosinophils around collagen fibers (flame figures). Large amphophilic or glassy intranuclear inclusions are present in the surface and adnexal epithelium (Figure 4A,B). They are variable in number and sometimes hard to find in small rafts of epithelial cells surrounded by necrotic debris. The similarity of the inflammatory component in this condition with that of the feline hypersensitivity conditions, such as mosquito bite hypersensitivity or feline eosinophilic granuloma complex, warrants close scrutiny of eosinophilic necrotizing cutaneous lesions for intranuclear inclusions or examination by molecular techniques.

A similar FHV-1 associated eosinophilic dermatitis, although reportedly more severe and widespread, occurs in captive Cheetahs.

References:


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Figures

Figure 1.

Figure 2.