



CASE OF INTEREST

A Case of Feline Herpesvirus Ulcerative Dermatitis

By Richard Fox, Veterinary Pathologist

A three-year-old domestic short haired cat presented with an acute onset focal area of ulceration with exudation and regional cutaneous erythema affecting the dorsal muzzle. Adherent crusts were attached to the surrounding hair coat.

Surgical biopsy of the perimeter of the lesion identified haired skin displaying moderate acanthosis and extensive ulceration. There was marked eosinophil-dominated serocellular crusting in which there were coccoid bacteria. Within the epidermis were hypertrophied keratinocytes with plentiful eosinophilic cytoplasm. Nuclei contained hyaline basophilic intranuclear inclusion bodies. Within the epidermis there were moderate perivascular to interstitial accumulations of eosinophils with lesser macrophages. Within hair follicles there were also moderate numbers of Demodex mites.

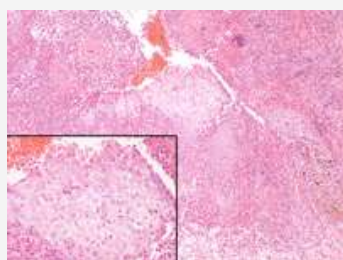


Figure 1. Skin: Intense eosinophil infiltration with numerous intranuclear hyaline basophilic inclusion bodies (inset). HE Stain.

Immunohistology was performed on tissue sections for Feline Herpesvirus 1. Keratinocytes of the epidermis and follicular epithelium exhibited a strong cytoplasmic reaction confirming the presence of Feline Herpesvirus 1 antigen.

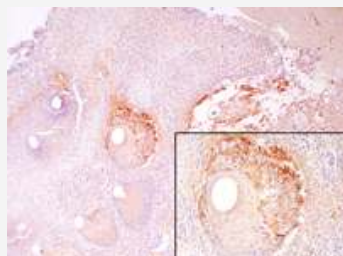


Figure 2. Skin: Numerous follicular keratinocytes exhibit strong cytoplasmic staining for FHV-1 antigen. Peroxidase-antiperoxidase, Papanicolaou's Haematoxylin counterstain.

Feline Herpesvirus ulcerative dermatitis is caused by a herpesvirus indistinguishable from feline herpes virus 1, and affected cats may have a history of upper respiratory tract disease and/or show chronic signs of sneezing and excess tearing. Stress and immunosuppression may activate a latent infection in the trigeminal ganglia.

The lesions are represented by erosions and ulcers, which are often crusting and mostly confined to the head. Occasionally there is involvement of the distal limbs and trunk. Regional lymphadenopathy is often present. Lesions can be painful or pruritic. One in ten cats are reported to exhibit oral erosions and ulcerations. The histopathological diagnosis is straightforward when the typical intranuclear inclusion bodies are evident. If inclusion bodies are absent, PCR and/or immunohistochemical analysis may allow confirmation of the diagnosis. Cowpoxvirus may cause somewhat similar lesions but the inclusion bodies are intracytoplasmic and distinctly different to those of herpesvirus.

References:

1. Skin Diseases of the Dog and Cat 2nd edition, 2005, by Gross, Ihrke, Walder and Affolter pg 124-126
2. Holland JL, Outerbridge CA, Affolter VK, Maggs DJ. Detection of feline herpesvirus 1 DNA in skin biopsy specimens from cats with or without dermatitis. J Am Vet Med Assoc. 2006 Nov 1;229(9):1442-6.

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JOURNAL Reviews(with e-links)

1. Théon AP, Wilson WD, Magdesian KG, Pusterla N, Snyder JR, Galuppo LD. Long-term outcome associated with intratumoral chemotherapy with cisplatin for cutaneous tumors in equidae: 573 cases (1995-2004). J Am Vet Med Assoc. 2007 May 15;230(10):1506-13. [Link](#)

Medical records of horses, mules, donkeys, and ponies with cutaneous tumors treated via intratumoral chemotherapy with cisplatin were analyzed. 549 horses, 13 mules, 8 donkeys, and 3 ponies with 630 histologically confirmed cutaneous tumors were included. Tumors included sarcomas (n = 409), squamous cell carcinomas (151), soft tissue sarcomas (28), cutaneous lymphomas (26), and melanomas (16). Overall cure rate, defined as local control at 4 years, was 93.3%. For all tumor stages combined, cure rates after 1 course of treatment were 96.3% for sarcomas, 96% for lymphomas, 88% for squamous cell carcinomas, 85% for soft tissue sarcomas, and 81% for melanomas. Treatment protocol, tumor stage, and prior treatment were significant prognostic factors for tumor control. Treatment efficacy was lower for large tumors, those with gross postoperative residual disease, and those that had been treated previously with other modalities. Treatment was well tolerated. Local reactions were more likely to occur and to be more severe after the third and fourth treatment sessions.

2. Dennis MM, Pearce LK, Norrdin RW, Ehrhart EJ. Bacterial meningoencephalitis and ventriculitis due to migrating plant foreign bodies in three dogs. Vet Pathol. 2005 Nov;42(6):840-4. [Link](#)

Regional suppurative meningoencephalitis and ventriculitis of variable chronicity was diagnosed in three young dogs residing in Colorado. Grass awns were grossly identified in the right occipital cortex of one dog and in the right lateral ventricle of another. Intralesional plant material was microscopically evident in the dura mater overlying the right occipital cortex of the third dog. One grass awn was identified as a floret of *Hordeum jubatum*. In each case, aerobic culture of brain tissue identified multiple isolates of bacteria. The dogs presented with clinically variable, rapidly progressive neurologic dysfunction, including tetraplegia, depressed mentation, and episodic extensor rigidity, ataxia, circling, stupor, vocalization, and head-pressing. Encephalitis due to bacteria introduced from migrating plant foreign material is a potential sequela of intranasal, periocular, or pharyngeal foreign bodies.

LATEST NEWS

Diagnosis of Chytridiomycosis

Chytridiomycosis is a lethal disease of amphibians associated with mass mortalities and population declines worldwide and can affect large collections of captive species and pet frogs.

Histopathologic techniques have been used to diagnose the disease and a polymerase chain reaction test is also available.

In a recent histopathological study at least 17 sections are needed in order to reach 95% confidence that a frog is or is not infected. The pelvic patch and the innermost finger of the hand were consistently the best places to detect the disease, although significant differences were found only with the gular area, the abdomen, and toes four and five.

Additionally a significant negative relationship between a juvenile frog's snout-vent length and its likelihood of being infected with the disease was also found.

Reference:

Puschendorf R, Bolaños F. Detection of Batrachochytrium dendrobatidis in Eleutherodactylus fitzingeri: effects of skin sample location and histologic stain. J Wildl Dis. 2006 Apr;42(2):301-6.

Additional info: [External Link](#)

CDC website: [External Link](#)

SIDE STORY

Asiatic Lilly Nephrotoxicosis

Asiatic lilies, including hybrid varieties, are nephrotoxic for cats. Renal failure secondary to renal tubular necrosis ensues 1-3 days after ingestion.

Preventing further plant digestion and inducing diuresis within a few hours after plant ingestion provide the best chance of survival. The parent compound(s) or metabolite(s) derived from Easter lily plants that induce nephrotoxic tubular necrosis is (are) presently unknown.

Therefore, treatment is not specific but rather is directed at minimizing further absorption of plant-derived compounds from the gastrointestinal tract and managing acute renal failure. Regimens include induction of emesis, gavage with activated charcoal and saline cathartics, and administration of intravenous fluids to promote diuresis.

The combination of hypoxia and toxic influences on the tubular epithelial cells results in impaired energy production and cellular respiration, damage to cell membranes, and interruption of the tubuloglomerular feedback mechanism.

These changes cause acute tubular necrosis, and if the damage is extensive, acute renal failure and death.

Further info: [JDVI journal article \(pdf\)](#)

CYTOLOGY TIPS - Ocular Pathology

- Formalin does not penetrate eyes very well, but the recommended eye preservatives which are rapidly penetrating are also toxic
- Most specimens should be placed in 10% formalin before being sent to the laboratory.
- Enucleation or exenteration specimens should be fixed with abundant amounts of fixative (10 % formalin, 5-10 times the volume of the specimen).
- If the lesion is intraocular then removal of the extraocular muscles, eyelids and third eyelid can help with more rapid fixation.
- DO NOT INCISE INTO THE EYE as this disrupts the tissue and makes it very difficult to cut in and orientate.

OUR DETAILS

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