

# UNUSUAL ULCERATIVE NECROTIZING DERMATITIS COMPATIBLE WITH CALICIVIRUS INFECTION IN A CAT

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## INTRODUCTION

Feline calicivirus (FCV) is a common pathogen of cats. It is a small RNA virus characterised by a strong genetic and antigenic variability which explain the diversity in tissue tropism and virulence. FCV is associated with fever, oral ulceration, rhinitis, conjunctivitis, chronic lymphoplasmacytic gingivo-stomatitis complex, limping and occasionally pneumonia. Outbreaks of highly virulent FCV infection characterised by disseminated intravascular coagulation and multiple organ failure are described. There is sparse evidence in literature that FCV plays a role as pathogen in skin disease. We report here a case of unusual ulcerative necrotizing dermatitis compatible with calicivirus infection in a cat.

## CLINICAL CASE

A 8 month old, male Burmese cat living in a cattery was presented with a four-month history of multiple recurrent abscesses. The cat's general condition was good. Dermatological examination showed multifocal, fistulised, cutaneous nodules draining a serohemorrhagic discharge with ulcers on the back, flanks, neck and head (Fig.1, Fig.2).

Cytology revealed neutrophils, macrophages and eosinophils at Giemsa staining. Bacterial culture, Ziehl-Neelsen staining and mycological culture of samples from three nodules were negative.

Histological examination revealed ulceration with extensive necrosis of the epidermis and hair follicles (Fig.4A), ballooning degeneration and nuclear chromatin margination in keratinocytes and epithelial cells of hair follicles, sebaceous and sweat glands, dermal oedema and degeneration of collagen fibres (Fig.4B, Fig.5B). Lysis of endothelial cells and pyknotic granulocytes in the vessel walls (Fig.5A) together with perivascular macrophage-neutrophilic infiltrate, sometimes angiocentric, extended to the deep dermis.

PCR was positive for FCV and negative for feline retrovirus, herpesvirus, distemper virus, poxvirus and mycobacteria spp.

The cat received clindamycin orally (11 mg/kg daily) to prevent secondary bacterial infection

and salicylic acid ointment (Dermaflon, Zoetis, Paris, France). It recovered within two months, but with some permanent scars (Fig. 3).

## COMMENTS

FCV is known to cause vesicles and ulcers on the tongue and hard palate. Occasionally vesicles, pustules, oedema, crusts, ulceration, ecchymoses are found on nasal planum, lips, and on the ears. In the mouth and paw disease, these lesions are also recovered on carpal or tarsal articulations and on the feet. In the systemic FCV infection, same distribution and morphology of lesions, with more facial and limbs oedema, are reported in addition to internal signs. Finally, FCV pustular dermatitis on the abdomen of two cats following ovariectomy is described.

On the basis of compatible histopathological findings, particularly ballooning degeneration of keratinocytes and epithelial cells of adnexal structures, lysis of endothelial cells and pyknotic granulocytes in the vessels walls together with FCV genetic material at the same biopsy sites, we describe an unusual case of presumptive ulcerative necrotizing FCV-dermatitis.



Fig. 1A



Fig. 1B

Fig. 1. Multifocal fistulised cutaneous nodules draining a serohemorrhagic discharge on the flank (1A) and on the neck (1B)



Fig. 2A

Fig. 2B

Fig. 2. Close-up view of cutaneous nodule (2A) and ulcer (2B)

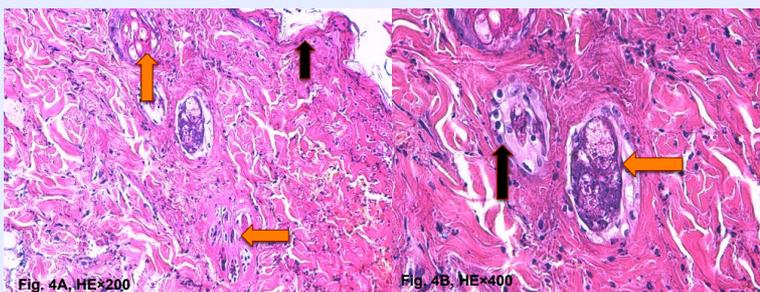


Fig. 4A, HE×200

Fig. 4B, HE×400

Fig. 4. A. Extensive necrosis of epidermis and hair follicles; B. Ballooning degeneration of sebocytes and epithelial cells of outer root sheath

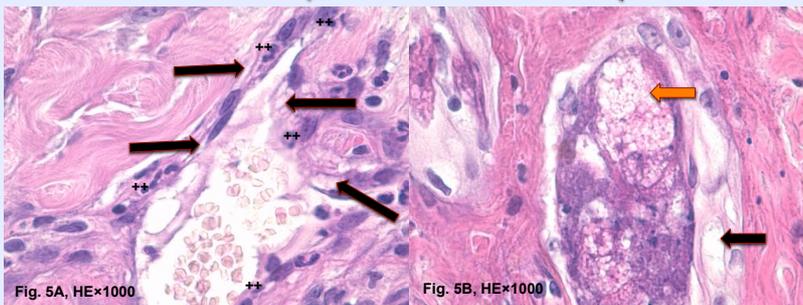


Fig. 5A, HE×1000

Fig. 5B, HE×1000

Fig. 5. A. Ballooning degeneration of endothelial cells and granular cells in vessel wall, some of them are pyknotic ++; B. Necrosis of sebocytes and ballooning degeneration of blastem cells of sebaceous glands

## REFERENCES

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Fig.3. Permanent scars on flanks, neck and head