Malignant Catarrhal Fever
in a White Tailed Deer
Case # C1700083

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Nine month old, female white tailed deer (*Odocoileus virginianus*)

The animal had arrived to a rehabilitation center a few days before in poor body condition.

Over the days, its condition worsened and was found dead one morning.
Necropsy findings

- Severe autolysis.

- Carcass in poor body condition with severe depletion of body fat stores, 19.8kg (43.5 lbs).

- Severe dehydration with markedly sunken eyes.
Necropsy findings

- Significant changes included:
  - Multiple ulcerative lesions on the skin, perianal, periocular, caudal ventral abdomen, pectoral, mandibular and the right hip regions.
  - Ear canals reddened, with some purulent-like material.
  - Hard palate, multiple, large, coalescing ulcers coated with purulent material.
  - Tongue, large, longitudinal ulcer with purulent material.
  - Dry contents in rumen and spiral colon.
Histological findings (tongue)

- Diffusely, submucosa expanded with edema and inflammatory cells, including lymphocytes, plasma cells, macrophages, eosinophils and neutrophils.

- Blood vessels in the submucosa, plump endothelial cells and inflammatory cells dissecting through and expanding the vessels’ walls.

- Occasional thrombi.

- Lining epithelium, extensive ulcer, exposed submucosa coated with a thick, fibrinous crust.

- Deep musculature, occasional blood vessels with similar inflammatory changes with lesser degree of severity.
White-tailed deer, tongue, HE, 4x
White tailed deer, tongue, HE, 20 x
White tailed deer, tongue, HE, 20 x
White tailed deer, tongue, HE, 4 x
Morphologic diagnosis & etiology

- Tongue, submucosa: Vasculitis, pleocellular, with occasional thrombosis and extensive ulceration.

- Etiology: Gamma Herpesvirus, White Tailed deer strain of Malignant Catarrhal Fever (WTD-MCFV).
Confirmatory tests

- Confirmatory test: PCR on spleen tissue:
  - Positive for WTD - MCFV strain.
  - Negative for Bluetongue virus (BTV) and Epizootic Hemorrhagic disease (EHD).
MCF Overview

► MCF is an infectious systemic disease (Gamma-Herpesvirus) that presents as a variable complex of lesions affecting mainly ruminants and rarely swine.

► Susceptible species domestic cattle, water buffalo, moose, Bali cattle, bisons, goats and multiple species of deer (among others). In some species, such as bison and some deer, MCF is acute and highly lethal. Outbreaks.
MCF Etiology

- The principal carriers and their viruses are sheep (ovine herpesvirus-2 [OvHV-2]), wildebeest (alcelaphine herpesvirus-1 [AIHV-1]), and goats (caprine herpesvirus-2 [CpHV-2]).

- White-tailed deer Malignant Catarrhal Fever Virus (WTD-MCFV), domestic goat is the reservoir host.

