

### What is cowpox?

- The cowpox virus is a member of the family *Poxviridae* with a wide host spectrum including man (zoonosis).
- Gloves should be worn when examining suspect cases.
- In domestic cats, the infection occurs sporadically.

### Epidemiology and infection

- Cowpox virus infection occurs predominantly in rodents, which represent a natural reservoir.
- Cats with rodent contact are at risk of infection.
- In most cases, affected cats are reported to have been in contact with rodents (through hunting).
- Human cases may occur by direct transmission from cats or pet rats. The infection may be fatal in immunosuppressed people.

### Clinical signs

- Skin lesions usually start on the head and then spread to other body parts, particularly the paws and ears.
- The lesions become inflamed and later are covered by crusts.
- Pneumonia may occur.
- In kittens and immunosuppressed cats, generalized cowpox virus infection may be fatal.

### Diagnosis

- Biopsy or scabs from the marginal zones of the lesions can be submitted for:
  - PCR
  - Antigen detection (e.g. immunofluorescence assay)
  - Detection of Cowdry type A inclusion bodies
  - Electron microscopy
  - Virus isolation
- In cats with pneumonia, the virus may be isolated or detected in bronchoalveolar lavage samples, oropharyngeal swabs, pleural fluid or fine needle aspirates from the lung.

### Disease management

- The lesions should be cleaned and treated to prevent secondary bacterial infection.
- The use of corticosteroids must be avoided.
- Most cases recover spontaneously in 1 to 2 months.
- Poxviruses are relatively resistant to chemical and physical inactivation.
- Effective disinfectants include sodium hydroxide solution (0.8%), sodium hypochlorite (1%), quaternary ammonium compounds, chloramine T (0.2%), iodine and phenolic compounds (3%) and certain detergents.
- Owners of affected cats and pet rats need to be warned about the zoonotic risk.

### Prevention

- No vaccines against cowpox virus infection are available for cats.



## Cowpox virus infection in cats



Image courtesy of Marian Horzinek

- Cowpox virus-induced skin lesions on the ear; gloves should be worn when examining a cat with a suspected poxvirus infection.



Image courtesy of the Feline Centre, University of Bristol (UK).

- Cowpox virus-induced skin lesions on the head of a cat.



Image courtesy of Marian Horzinek

- Skin lesions covered by crusts.



Image: CDC

- Cowpox lesions on a person's arm. The patient's dog had orthopoxvirus-specific antibodies, indicating a possible transmission route.