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Ectromelia virus

Prevalence

- Rare.
- DNA virus; Poxviridae.

Diagnosis

- Clinical signs, serology (false positive if experimental design involves dosing vaccinia virus), histology (intracytoplasmic inclusion bodies), PCR on skin lesions.

Disease

- In susceptible strains, high mortality with or without clinical signs. At necropsy there is liver and lymphoid tissue necrosis. In animals which do not succumb to Peracute death the clinical signs are ruffled fur, hunched posture, oedema of face and legs, conjunctivitis, cutaneous pustules, ulceration of muzzle, ears, limbs, tails and partial amputation of limbs and tail.

Strains

- Resistant strains include C57Bl/6, C57BL/10 and AKR (carrier status can exist in these strains)
- Susceptible strains include A, CBA, C3H, BALB/c, DBA/2.

Screening

- Routine monitoring is essential of animals and murine0-derived biological products.

Transmission

- Direct contact or fomites.

Duration

- Lesions appear 7-10 days post infection, virus is shed for 3 weeks.

Durability

- Virus may exist in skin lesions for 3-4 months post infection.

Significance

- In susceptible strains, high mortalities will affect research. In resistant animals there is evidence that Ectromelia virus may modify phagocytic cell behaviour. Muine biological products may be infected resulting in spread of the infection.

Control

- Pathogen exclusion by regular monitoring of mice and murine-derived biological products. Rederivation by hysterectomy or embryp transfer is the gold standard for disease eradication.

Reading

- Infectious Diseases of Mice and Rats National Research Council 1991.
- Pathology of Laboratory Rodents and Rabbits, 3rd Edn., Dean H Percy & Stephen W Barthold, 2007.
- University of Missouri, Research Animal Diagnostic Laboratory website, http://www.radil.missouri.edu