EUROPEAN
ADVISORY BOARD ON CAT DISEASES
ABCD

Leishmaniosis in cats

FACT SHEET

What is *Leishmania*?

- *Leishmania* is a zoonotic protozoan parasite, transmitted by phlebotomine sand flies to many vertebrates including humans.
- Only sporadic cases of feline disease have been reported worldwide, mainly caused by *L. infantum,* and clinical information is based only on case reports.
- Cats are naturally infected by the same *Leishmania* species that affect dogs and humans in tropical and subtropical areas worldwide *(L. infantum, L. mexicana, L. braziliensis, L. amazonensis* and *L. venezuelensis).*
- Epidemiological studies have shown that, as in dogs, *Leishmania* infection of cats is more common than the associated disease.

Pathogenesis

- There is a lack of specific information on the immunopathogenesis of feline leishmaniosis.
- In dogs, leishmaniosis is best known as a multisystemic disease with a wide spectrum of severity that reflects the balance between the protective cell-mediated immune response and the non-protective humoral immune response.
- Histopathology of feline skin lesions mainly shows a diffuse granulomatous dermatitis with macrophages containing many *Leishmania* parasites, or a granulomatous perifolliculitis and lichenoid tissue reaction/interface dermatitis, with a lower parasite load.
- Granulomatous inflammation has also been seen in the liver and kidney.

Clinical signs

- Most cats that develop clinical signs are suspected to have impaired immune systems because of concurrent infections (e.g. FIV and/or FeLV), disease (e.g. neoplasia, diabetes mellitus, autoimmune disease) or immunosuppressive treatment.
- Cutaneous lesions - ulcerative, crusty, nodular or scaly dermatitis - are the most frequent (and often only) clinical manifestations. They are found mainly on the head and neck, less often on the trunk and legs, and are usually symmetric.
- Lymph node enlargement, hyperglobulinaemia, weight loss, ocular involvement (nodular blepharitis, uveitis, panophthalmitis), decreased appetite, chronic gingivostomatitis and lethargy are the most frequent non-cutaneous findings, found alone or in combination with cutaneous signs.

Diagnosis

- Direct confirmation can be obtained by observation of organisms on cytology or histology, or by the detection of leishmanial DNA by PCR on appropriate samples, e.g. skin, lymph nodes, any other affected tissue, blood.
- Sick cats are usually serology positive for *Leishmania* antibodies.
- Serology, using validated immunofluorescence tests, ELISA, direct agglutination or Western blots, has been used to assess infection frequencies.

Disease management

- Drugs used empirically in cats are allopurinol and meglumine antimoniate, and these may be given together. Most reported feline patients received long-term administration of allopurinol (10-20 mg/kg q12 or 24h), which is usually clinically effective, even in FIV-positive cats.
- However, treatment does not clear the infection and clinical signs may recur after discontinuation of therapy.
- Surgical excision of nodules in two cats, without medical management, was followed by recurrence.
- No vaccines against leishmaniosis are available for cats.
- Although repellent ectoparasiticides against sand flies are licensed for the prevention of canine leishmaniosis (permethrin), they must never be used in cats because of their toxicity.

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Image courtesy of Maria Grazia Pennisi

- *L. infantum*-associated haemorrhagic nodule in a cat.

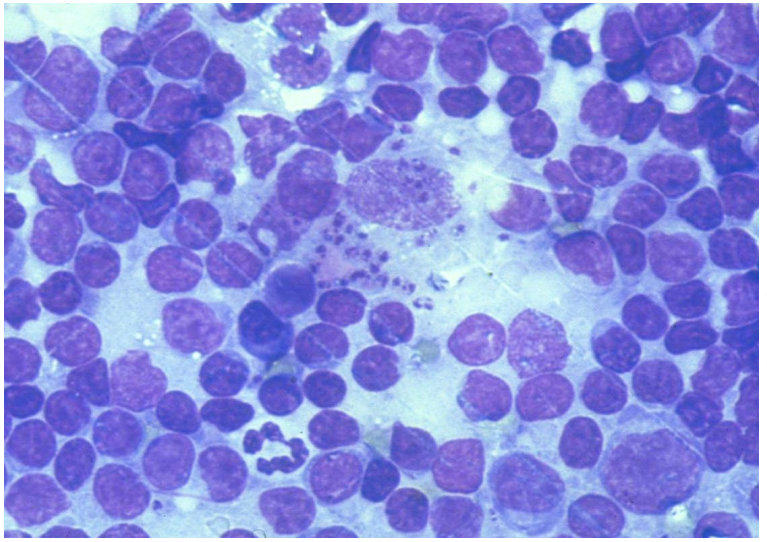

Image courtesy of Maria Grazia Pennisi

- Leishmania amastigotes in a macrophage from a lymph node smear (May Grünwald Giemsa 64 x)

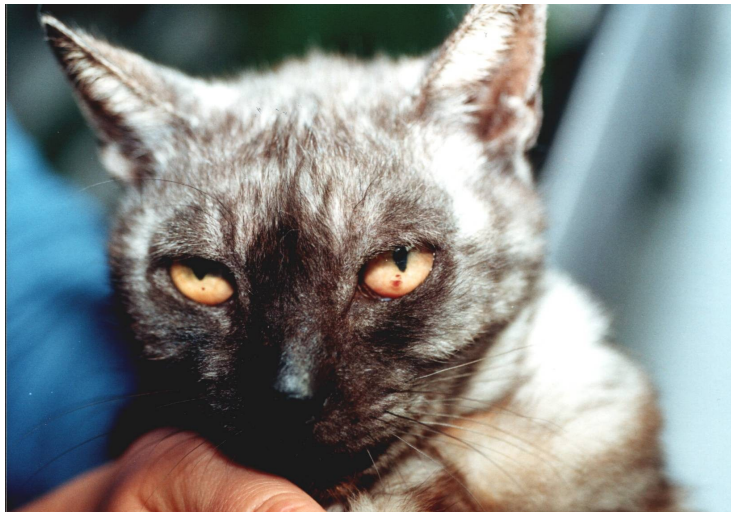

Image courtesy of Maria Grazia Pennisi

- *L. infantum*-associated acute uveitis in an FIV-positive cat.

Image courtesy of Maria Grazia Pennisi

- Ulcerative dermatitis on the dorsal carpus of a cat with *Leishmania* infection.