

# Heartworm Infection in Cats

- Usually only one or two worms, 1/3 of infections are single sex
- Rarely microfilaremic and only for a short time during first month of mature worm life
- Worms live much shorter lives in cats compared to dogs. 2-4 years vs 6-8 years.

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## Pathological Lesions

- 3 to 5 months postinfection - acute vascular and parenchymal lung inflammatory response to immature adult worm arrival in lung. Heartworm Associated Respiratory Disease (HARD). Looks like asthma.
- Mature worm death (1-2 years postinfection)- thromboembolism/pulmonary inflammation

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## Clinical Signs

- Early stage infection - acute respiratory distress that looks like asthma, if not fatal goes into remission by 9 months post-infection.
- Mature worm death thromboemboli - severe lung congestion, sometimes sudden death.
- Otherwise chronic signs include - tachypnea, intermittent coughing, vomiting unrelated to eating. Possibly a systolic, right side heart murmur

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## Diagnosis

- Microfilaremia - timing is important, soon but maybe not immediately after first clinical signs. Use filter concentration technique
- Serology -
  - (a) Antigenemia tests usually cannot detect infection in cats, but a positive is near conclusive. Heat serum 104C 10minutes to increase sensitivity of test.
  - (b) Antibody tests - whole worm extract may detect too soon (too sensitive), stage specific recombinant antigen may be better. Serial testing

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## Diagnosis

- Thoracic radiography - valuable in evidence of disease, dorsal-ventral view and right caudal lobar artery changes. Changes may disappear and only half of cats with physical signs of infection show changes.
- Echocardiography - very good chance of making definitive diagnosis when used by an experienced operator.

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## Treatment

- Adulticide therapy is generally not recommended
- Monitoring antibody levels and radiographic signs will indicate recovery progression
- Use diminishing doses of prednisone over 2 weeks and 2 weeks at a low dose for cat with physical and/or radiographic signs.

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## Prevention

- Drugs in use - ivermectin at 24  $\mu\text{g}/\text{kg}$ , selamectin at 6-12  $\text{mg}/\text{kg}$ , milbemycin at 2  $\text{mg}/\text{kg}$ , moxidectin at 1  $\text{mg}/\text{kg}$ . Monthly intervals just as with dog.
- Serologic testing for antibody is not required. Antigenemia testing is not indicated prior to beginning preventative.