Severe Ascites in a Dog

Case# 09N-934

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Signalment

- 7-month-old, female, Alaskan Klee kai, Canine
History and Physical exam

- One week history of abdominal distention and lethargy
- 3-4 day history of diarrhea
- Pale mucous membranes
- Pendulum shape abdomen
Additional tests

CBC & Chemistry panel
- Minimal, normocytic, hypochromic, non regenerative anemia
- Mild, panhypoproteinemia, hyponatremia, hypocalcemia & hypocholesterolemia

Radiography, Ultrasound & Echocardiogram
- Right sided cardiomegaly
- Ascites
- Right sided congestive heart failure
Gross Necropsy Findings

- Marked dilatation of heart with almost complete loss of apex. Multifocal pale white areas on the epicardium and myocardium of the right ventricle
- Approximately 1-2 L of clear amber abdominal fluid
- Approximately 15-20 ml of serosanguineous thoracic fluid
- Moderately enlarged liver with multiple fibrin plaques on the capsule. On cut surface, diffusely dark red with dilated veins and multifocal prominent pale areas surrounding the central vein (nutmeg appearance)
Histopathology

Morphological diagnosis

- Heart: Severe multifocal to coalescing lymphoplasmacytic and histiocytic pancarditis with protozoal amastigotes

**Etiology:** *Trypanosoma cruzi*
Discussion

- Chagas’ disease: endemic in the southeastern United States; an important cause of sudden death in dogs due to widespread myocarditis

- Three morphological forms of *Trypanosoma cruzi*:
  1. Trypomastigote (Blood form)
  2. Amastigote (Intracellular)
  3. Epimastigotes (Reduviid vector subfamily Triatomae)

- Myocarditis result from cell damage as trypomastigotes rupture from cardiac myocytes

- Major human health problem in South and Central America
Trypomastigotes of *T. cruzi* in a blood smear

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(Barr SC 2009)
Electron micrograph of an extracellular *T. cruzi* amastigote

(Nabity *et al* 2006)
Acknowledgements

- LSU histology Lab
References

