Cardiovascular Spiroorchidiasis in a Green Sea Turtle (*Chelonia mydas*)

Annie Page, DVM Candidate 2011
Elizabeth Howerth, DVM, PhD, DACVP
Sonia Hernandez, DVM, PhD, DACZM
University of Georgia College of Veterinary Medicine

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SIGNALMENT, HISTORY AND GROSS PATHOLOGY

- Juvenile, male Green sea turtle (*Chelonia mydas*) raised on a sea turtle farm in the Caribbean
- This turtle was a “floater” and could not dive.
- The turtle was euthanized.
- No significant gross findings.
Atrioventricular endocarditis, sinusoiditis, and endarteritis with villous proliferation
Cardiac sinusoiditis and endocarditis
Adult spirorchid trematode
Multiple egg granulomas scattered throughout the myocardium
Fungal, acid-fast, and Lillie Twort gram stains were negative

Other histopathologic changes included:

– Disseminated spirorchid granulomas
– Medial hypertrophy of the pulmonary vasculature, with endothelial proliferation
DIAGNOSIS

• Severe, diffuse, proliferative, lymphocytic and eosinophilic endocarditis and endarteritis
• Lymphoplasmacytic myocardial sinusoiditis
• Intralesional spirorchid adult and multifocal spirorchid egg granulomas
COMMENTS

• Green sea turtles play host to at least 14 species of parasitic cardiovascular trematodes

• *Learedius learedi* is the most consistent etiology
  – Digenea: Spirorchidae

• Adult spirorchids in the heart generate a strong immune response

• Spirorchid eggs disseminate in the circulation

Illustration courtesy of Werneck, et.al., 2006
COMMENTS

• *Learedius learedi* life cycle not well known

• Effects of spirorchidiasis:
  - Particularly affects juveniles
  - May affect reproductive lifespan of their host

• Relatively severe changes due to these parasites can be seen with no apparent relationship to cause of death

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REFERENCES


• Stacey, B. Personnel communication.


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QUESTIONS?