Raccoon
On a Friday Afternoon

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SEVPAC 5/20/2017
History

• Unknown age male raccoon
• Limping behind a fraternity house
• Broken leg suspected, euthanized at MSU-CVM AHC
Morphologic diagnosis

- Lungs: Granulomatous pneumonia
  - With widely disseminated trematode eggs
  - Multifocal thrombosis

Etiologic diagnosis

- Disseminated schistosomiasis
  - *Heterobilharzia americana*
  - Involving small intestines, lungs, pancreas, lymph nodes, and myocardium.
Heterobilharzia americana

Definitive host
Raccoon

Cicariae

Sporocyst

Eggs

Miracidia

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CDC.gov; Getty images: adekvat
Heterobilharzia americana

Cicarium

Liver

Eggs produce proteolytic enzymes:
Granulomatous, eosinophilic inflammation

Develop into adults

Migrate to and reside in mesenteric vein
Heterobilharzia americana

• Common finding
  – Raccoons (~60-70%)
  – Dogs

• Disseminated disease:
  – Reported in domestic species (Dog, llama, horse)
  – Widespread granulomatous inflammation and fibrosis
    • Liver failure
    • Congestive heart failure
    • Intestinal malabsorption
Additional lesions

• Spinal fracture and multifocal superficial dermal abrasions
  – Suspect vehicular trauma

• Cardiomegaly with chambers dilation
  – Multifocal granulomatous myocarditis with fibrosis
  – Associated with disseminated protozoal organisms
    • Suspect Sarcocystis sp.
    • IHC negative for: *S. neurona* & *Toxoplasma gondii* (UGA)
Questions?