Case N13-580:
Farmed juvenile American alligators

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December 2013

- A Florida alligator farm was having **5-30 juvenile mortalities per day** for 1 mo.
- The afflicted juveniles (~20-40cm snout to vent) were held in pens of approximately 500-600 juveniles each
- Most were healthy with good appetite
- 1-5 per house **appeared lethargic and swam in circles**
1. Hypopyon, unilateral or bilateral (2/3)
   - Flocculent, white strands and clumps of fibrin

2. Pneumonia, multifocal, acute, moderate (1/3)
   - Wet and heavy with rare, multifocal, randomly located, pale tan, pinpoint foci

3. Hepatitis, multifocal, acute, mild (1/3)
   - Rare, miliary, pale tan, pinpoint foci

4. Pericarditis, focal, acute, minimal (1/3)
   - Pleural surface has a single, pale tan, pinpoint focus

5. Hydropericardium, moderate (1/3)
   - Moderately increased amount of clear, serous fluid
Histopathologic findings

Ventriculitis
Histopathologic findings

- Heterophils & macrophages
- Macrophages w/ bacteria
- Multinucleated giant cells
Histopathologic findings

Gram negative bacilli
Histopathologic findings

Hepatitis
Histopathologic findings

Iritis
Histopathologic findings

Pericarditis and myocarditis
Ancillary testing

Aerobic culture: *Providencia rettgeri*

Immunohistochemistry for West Nile Virus and Eastern Equine Encephalitis virus: **negative**
Providencia rettgeri

- Gram negative, flagellated, motile, facultative anaerobic bacillus
- Thought to be opportunistic
  - In the environment or normal flora
  - Husbandry-related stress is considered to cause outbreaks—primarily water temperature changes
- Can cause mass mortality events on farms
- Causes septicemia and multisystemic infections including meningoencephalitis in both alligators and saltwater crocodiles
• **West Nile Virus**

Alligators are thought to be competent amplifying hosts for West Nile Virus

– Clinical signs:

  • Star gazing, loss of leg control and neck spasms, intention tremors, swimming on side (loss of righting reflex)

– Pathology:

  • Meningoencephalitis and multisystemic inflammation characterized by **heterophils**, **lymphocytes**, and **plasma cells**
Thiamine deficiency

Reported in saltwater crocodiles. Freshwater crocodiles likely resistant. Alligators—unknown

- Clinical signs:
  - Laying on side or back (loss of righting reflex)

- Pathology:
  - Bilaterally symmetrical malacia
Thanks for listening.


