Case 28
(A14-24770)

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History

- Flat Coat Retriever puppy
- 10 days old
- Female
History

- Dam 2 years old
- First litter
- Dam had nasal discharge and coughing
- Treated with amoxicillin and clavulanic acid
- 12 puppies, 5 died
Necropsy

• Minimal autolysis
• Widely scattered petechiation
• Small intestine
  – Serosal surface segmentally reddened
  – Scant mucous digesta
Coagulative necrosis of villi and crypts
Most submucosal blood vessels with fibrin thrombi
Necrotic villi lined by numerous bacilli
Morphologic Diagnosis

• Enteritis, acute, diffuse, severe, with extensive submucosal thrombosis and numerous extracellular gram-positive bacilli compatible with *Clostridium perfringens*
Comments

- Gut contents sent to ELISA test for Clostridial Enterotoxin (CPE) confirmed *Clostridium perfringens* as etiologic agent
• **C. perfringens:**
  classified into 5 toxinotypes (*A, B, C, D, and E*)
  according to combination of 4 major toxins:
  – alpha (CPA)
  – beta (CPB)
  – epsilon (ETX)
  – iota (ITX)

• PLUS other toxins that are LETHAL:
  – perfringolysin O (PFO)
  – beta2 toxin (CPB2)
  – enterotoxin (CPE)
Conclusions

• Unusual presentation of *C. perfringens*

• Presumably related to mother’s antibiotic therapy at the time of parturition

• Antibiotics in milk created inappropriate colonization of the neonatal gut and opportunities for *C. perfringens*

• Similar condition recorded in humans
Thank you! Obrigado!

Aldo Locatelli

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