Salmonellosis

Gram-negative intracellular pathogen
Facultative anaerobe

Clinical Signs
Variable
Endotoxemia
Dark mm
Tachycardia
Tachypnea
Increased DP’s
Fever
Diarrhea

Diagnosis
Fecal culture is gold standard
Reveal – preliminary results
PCR – high sensitivity, moderate specificity

Treatment
Antibiotics
Based on culture / sensitivity
Frequently becomes resistant
Maybe associated with plasmids from E. coli
Enrofloxacin
In foals consider chondroprotectants
Parenteral and enteral
Clostridiosis – *C. difficile* and *C. perfringens*

- Gram-positive rods, anaerobic, spore-forming
- Often associated with antibiotic administration
- Spores can be aerosolized
- Necro-hemorrhagic diarrhea

**Pathogenesis**

- *C. difficile* – TcdA (enterotoxin); TcdB (cytotoxin); CDT (binary toxin)
- *C. perfringens* – four major exotoxins and enterotoxins; novel NetF toxins recently identified

**Diagnosis**

- **Culture**
- **Fecal cytology**
  - Large Gram-positive rods
- **ELISA**
  - *C. difficile* – toxin and antigen
  - *C. perfringens* – toxins
- **PCR**
  - *C. difficile* and *C. perfringens* toxins
  - Culture and demonstration of toxin gene – *C. difficile*

**Treatment**

- **Antibiotics**
  - K Penicillin
  - Metronidazole
  - Chloramphenicol
  - 3rd Generation cephalosporins
- **Supportive**

*Lawsonia intracellularis*

**Pathogenesis**

- Facultative intracellular pathogen
Malabsorption / maldigestion associated with loss of villi

Diagnosis

Severe hypoproteinemia - suggestive

Titer

1:64 highly suggestive

PCR - feces

Treatment

Oxytetracycline

Doxycycline / minocycline

+- rifampin

Chloramphenicol

Macrolides

Supportive

Potomac Horse Fever (PHF)

*Neorickettsia risticii*

Gram-negative obligate intracellular bacterium

Freshwater snails, caddisflies, mayflies, stoneflies, damselflies, and dragonflies

Laminitis in 20-40% of cases

May cause abortion

Pathogenesis

Infects mononuclear cells

Diarrhea presumed to be the result of infection of enterocytes and colonocytes

Endotoxemia frequently leads to laminitis

Diagnosis

PCR whole blood, feces

Titer

Treatment

Oxytetracycline

Doxycycline / minocycline

Supportive
Prevention

Vaccination – only effective against 1 of the 14+ serovars

Rotavirus

One of the most common causes of foal diarrhea
Strong association with gastric ulceration
RNA virus
Clinical signs
  Anorexia
  Diarrhea
  Abdominal pain
Diagnosis
  ELISA
  PCR
Treatment
  Ulcer medications
    Omeprazole
    Ranitidine
    Sucralfate
  Supportive
Prevention
  Vaccination of mares
    Does not prevent disease
    Lessens severity and duration

Coronavirus

An emerging pathogen at this point
An RNA virus
Clinical signs
  Fever
Lethargy
Anorexia – mild colic
Change in fecal character – but not diarrhea
Neurologic signs – associated with hyperammonemia
Clinicopathologic data
  Leukopenia
  Hypoalbuminemia

Diagnosis
PCR

Treatment
  Supportive

Supportive Therapy for Cases of Colitis
  IVF
    Supplement electrolytes / bicarbonate as needed
  NSAIDS
    Low dose or regular dose?
    Aspirin / Clopidigral (Plavix®)
  Heparin
  Pentoxifylline
  Plasma
    J5
    High - gamma
  VetaStarch®
    Generally, when TP starts down or is below 4.5
    Prefer to administer prior to plasma
  Ice feet
  Prebiotics
Probiotics
   No benefit in foals for *C. difficile; C. perfringens*
Diatomaceous earth
Activated charcoal
Bismuth subsalicylate
Fecal Microbial Transplantation (FMT, Transfaunation)