Respiratory Tract Disease

Foal

*Rhodococcus equi*

**Clinical signs**
- Foals 1-5 months of age
- Typical signs of pneumonia
  - Frequently heat intolerant
  - Now observing ARDs with some cases
- Often ill thrifty
- Long hair coat
- Dry cough
- Minimal to no respiratory tract mucus

**Diagnosis**
- Clinicopathologic data
  - Leukocytosis
  - Hyperfibrinogenemia
  - Frequently anemia
- Ultrasonography
  - Typical lesions associated with pyogranulomatous masses
  - Cannot differentiate from *Streptococcus zooepidemicus*
  - With ARDS, may appear to be an interstitial pneumonia

**Treatment**
- Macrolides – DO NOT FORGET ABOUT HYPERTHERMIA!
  - Azithromycin
  - Clarithromycin
  - Gamithromycin
Vancomycin
Doxycycline
Minocycline
Rifampin
Gallium
  No benefit for prophylactic use
  Equal to macrolides on subclinical disease
  No drug resistance will develop
  No changes in microbiome
NSAIDS
Bronchodilators
  Clenbuterol
  Aminophylline
Nebulized
  Albuterol
  Ipratropium
  Colloidal silver
Antibiotics
  Cefiofur
  Gentamicin
Nursing Care
  Intra-nasal oxygen
  Air conditioning
  Alcohol bath
  IV fluids
  Enteral / parenteral nutrition

Prevention
Plasma
  1-2 days, 28 days later
  Variable results in several studies
Verminous pneumonia

Clinical Signs
Mild to severe pneumonia
Tachypnea
Tachycardia

Diagnosis
Physical examination
Ultrasonography
Generally, less severe changes than primary pneumonia
Clinicopathologic data
Generally, less severe changes in WBC than primary pneumonia
Fecal egg count may or may not be helpful
Trans-tracheal aspirate
Typically, common pathogens that are susceptible to previous therapy
Infrequently, parasite larvae

Treatment
Based on bacterial culture / sensitivity report
Fenbendazole, double-dose for 5-10 days
Designer anthelmintic cocktails

Interstitial pneumonia

Clinical signs
Respiratory distress
May or may not be associated with R. equi
Tachycardia
Tachypnea
Anxious behavior
Abdominal effort
Fever

Diagnosis
Clinical signs
Ultrasonography
“Whiteout” or ground glass appearance
Generally, no TTW

Treatment
Air-conditioned stall
Intra-nasal O2
Anti-inflammatory agents
Corticosteroids
Methylprednisolone or prednisolone sodium succinate
Dexamethasone
Sodium Phosphate likely better than standard dexamethasone
NSAIDS
Dipyrone
Antibiotics
Broad spectrum if no TTW
Consider R. equi involved in infection
Nebulization
Antibiotics
Ceftiofur
Gentamicin
Bronchodilators
Albuterol
Ipratropium
Colloidal silver
Bronchodilators
Clenbuterol
Aminophylline

Adult
Pleuropneumonia

Clinical Signs
- Generally associated with transport
- Fever – usually high
- Toxic mucous membranes
- Tachypnea
- Tachycardia
- May be in respiratory distress
- May appear foot sore – but generally thoracic cavity is sore
- Absent to “muted” cough
- Muffled lung sounds ventrally
- Muffled heart sounds

Diagnosis
- Clinical signs
- Clinicopathologic data
  - Generally, leukocytosis (acutely maybe leukopenia)
  - Frequently azotemia (prerenal)
- Ultrasonography
  - Fluid in pleural space – variable character
    - Hypoechoic
    - May contain fibrin
    - Cellular
- Radiography
  - Fluid lines
- Trans-tracheal aspirate
  - Cytology
  - Culture / sensitivity
Thoracocentesis
  Culture
  Fluid analysis
Primary differential diagnosis
  Thoracic neoplasia
    May diagnose with cytology
    Generally negative bacterial culture
    Generally afebrile
    Generally normal WBC
    Typically, copious amounts of pleural effusion

Treatment
  Pleural drainage
    24-32 Fr. indwelling catheter
    Cytology
    Culture and sensitivity
Antibiotics
  Broad spectrum
  Usually bactericidal initially
  Usually IV initially
Anti-inflammatory agents
  NSAIDS whether febrile or not
    Flunixin meglumine
    Phenylbutazone
    Ketoprofen
    Pentoxifylline
DMSO
Plasma
Heparin
Aspirin
Nursing care
- Alcohol bath
- Ice feet
- Fans / air conditioning
- Intra-nasal oxygen

Long-term
- Oral antibiotics for months
- Potential to place several thoracic drains
- Thoracotomy
  - Inter-costal
  - Rib resection

Prognosis for athletic performance
- Decreased if:
  - Pulmonary abscess
  - Bronchopleural fistula
  - Laminitis