

Respiratory Pathology of Swine

Disclaimer: diseases described as occurring in US
with notations regarding Australian situation

Pathology of Respiratory System

- Upper Respiratory Tract
 - Non-infectious Disease
 - Laryngeal edema
 - Pharyngitis
 - Infectious Diseases
 - Viral
 - Inclusion body rhinitis
 - Swine influenza
 - Bacterial
 - Atrophic rhinitis

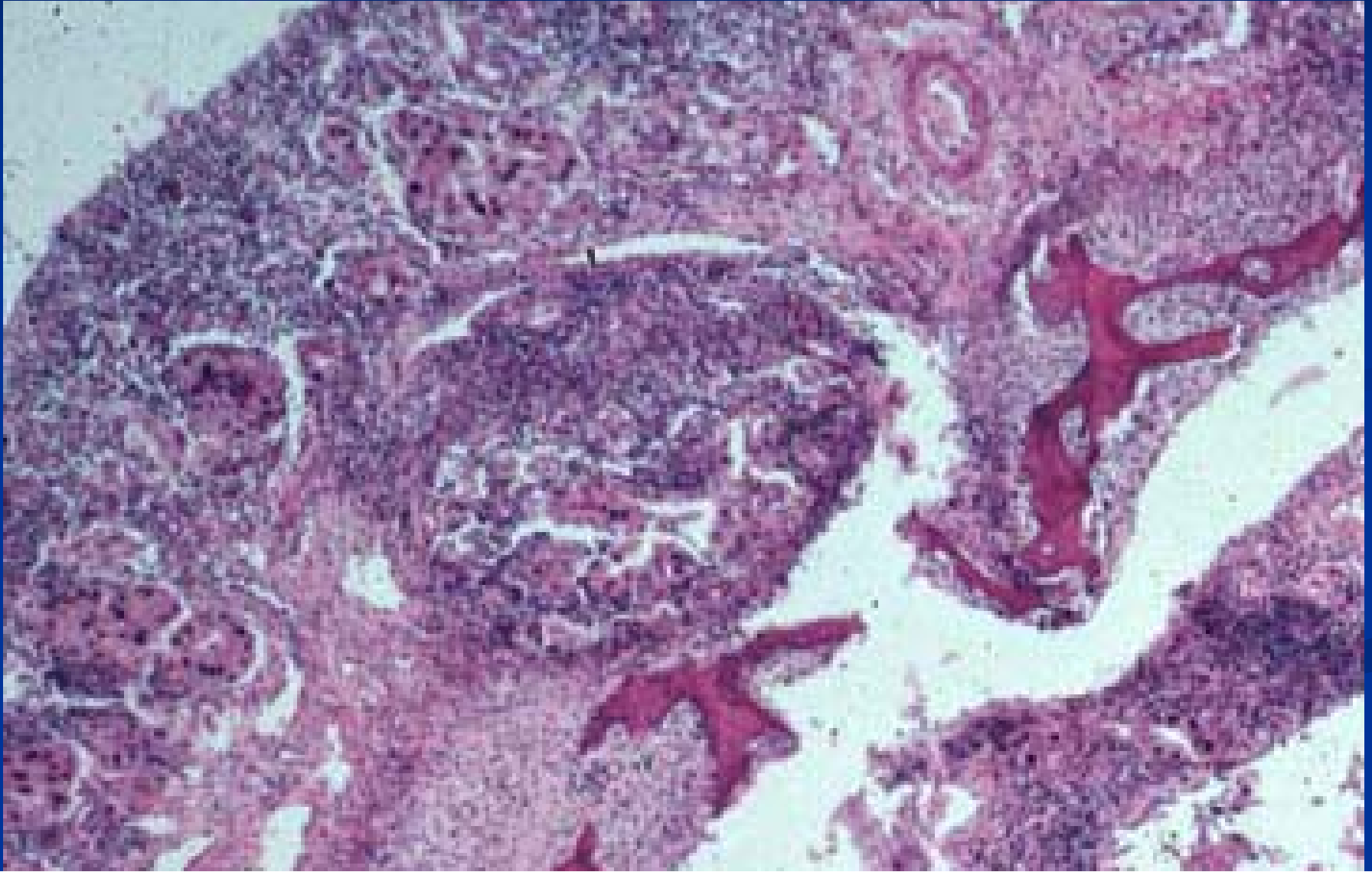
NonInfectious Diseases

- Pharyngitis
 - Pharyngeal diverticulum predisposes to lodgement of food particles e.g. barley awns, leading to inflammation and swallowing problems
 - Iatrogenic trauma e.g. drenching gun
- Laryngeal edema
 - Allergic response to tattooing noted in Australia

Inclusion Body Rhinitis

- Etiology: porcine cytomegalovirus (herpesvirus)
- Disease
 - Typically mild rhinitis
 - High morbidity, low mortality unless immunosuppressed
- Pathology
 - Nonsuppurative rhinitis with inclusion bodies (very large, often in submucosal gland epithelium)
 - Can be typical systemic herpes viral disease if severe

Inclusion Body Rhinitis



Porcine Atrophic Rhinitis

- Common worldwide disease of pigs
- Important because of production losses
- Etiology
 - *Bordetella bronchiseptica*
 - Toxigenic *Pasteurella multocida* types A & D
- Questionable predisposing factors
 - Viruses, other bacteria, genetics, environment, nutrition

Porcine Atrophic Rhinitis

- Pathogenesis
 - *Bordetella bronchiseptica* promotes colonization
 - *Pasteurella multocida* cytotoxin (dermatonecrosis toxin)
 - Cytotoxin is plasmid associated
 - Inhibits osteoblasts and stimulates osteoclasts
 - Cause liver injury experimentally
- Pathology
 - Nonsuppurative rhinitis
 - Atrophy of turbinates (osteopenia)
 - Facial deformity may occur

Porcine Atrophic Rhinitis



Porcine Atrophic Rhinitis



Atrophic Rhinitis—Porcine

