

Viral Pneumonias

- Lesions
 - Interstitial pneumonia
 - Bronchointerstitial pneumonia
- Rarely kill without bacterial infection
- Diagnosis

Viral Infection

- Can lead to secondary infection
 - Depress macrophage function
 - Impair mucociliary clearance
 - Allow bacterial multiplication
- Can lead to airway hyperreactivity

Major Viral Diseases

- Especially important
 - Herpesviruses
 - Can remain latent till stress occurs
 - Can remain carrier
 - Influenza
 - Avian influenza – also felids, humans affected
 - Canine influenza – equine mutation
 - Paramyxoviruses

Bacterial Pneumonia

- Air-borne (aerogenous)
 - Bronchopneumonia (AV)
- Hematogenous: diffuse, multifocal (interstitial or embolic pneumonia)
- Secondary to
 - Infection: virus, mycoplasma, chlamydia
 - Stress e.g. shipping
 - Other e.g. environmental conditions

Bacterial Pneumonia (cont)

- Bacterial injury
 - Establishment by evasion of host defense system
 - Endotoxins
 - Exotoxins
 - etc
- Diagnosis

Mycobacterial Disease

- Zoonotic disease, reportable
- *Mycobacterium tuberculosis* (tuberculosis)
 - Man, cattle, dog, primate
- *M. bovis*
 - Man, cattle, swine, elephant, lion
- *M. avium*
 - Avian, swine, primate, dog
- Recent concerns in deer, elk

Mycobacteriosis

- Most systems can be affected
 - Ruminants: primary pulmonary
 - Pigs: ingestion, can disseminate to lung
- Pathology: granulomas
- Pathogenesis

Mycotic Pneumonia

- Etiologic agents
 - *Cryptococcus neoformans*, *C. gatti*
 - *Histoplasma capsulatum*
 - *Aspergillus spp.*
 - *Blastomycosis dermatiditis*
 - *Coccidioides immitis*

Aspergillosis

- Canine
 - Nasal
 - Disseminated if immunosuppressed
- Avian – pulmonary, air sacs
(invasive/noninvasive)
- Equine - guttural pouch infection
 - Pulmonary granulomas (embolic)
- Bovine – secondary to rumenal ulcers
 - Pulmonary granulomas (embolic)
 - Placental leading to abortion

Mycotic/Protozoal Pneumonias Secondary to Immunosuppression

- *Toxoplasma gondii*
 - Cat, dog, man, etc. (zoonosis)
 - Frequently associated with distemper, AIDS
- *Pneumocystis spp*
 - Foals, pigs. man, laboratory animals