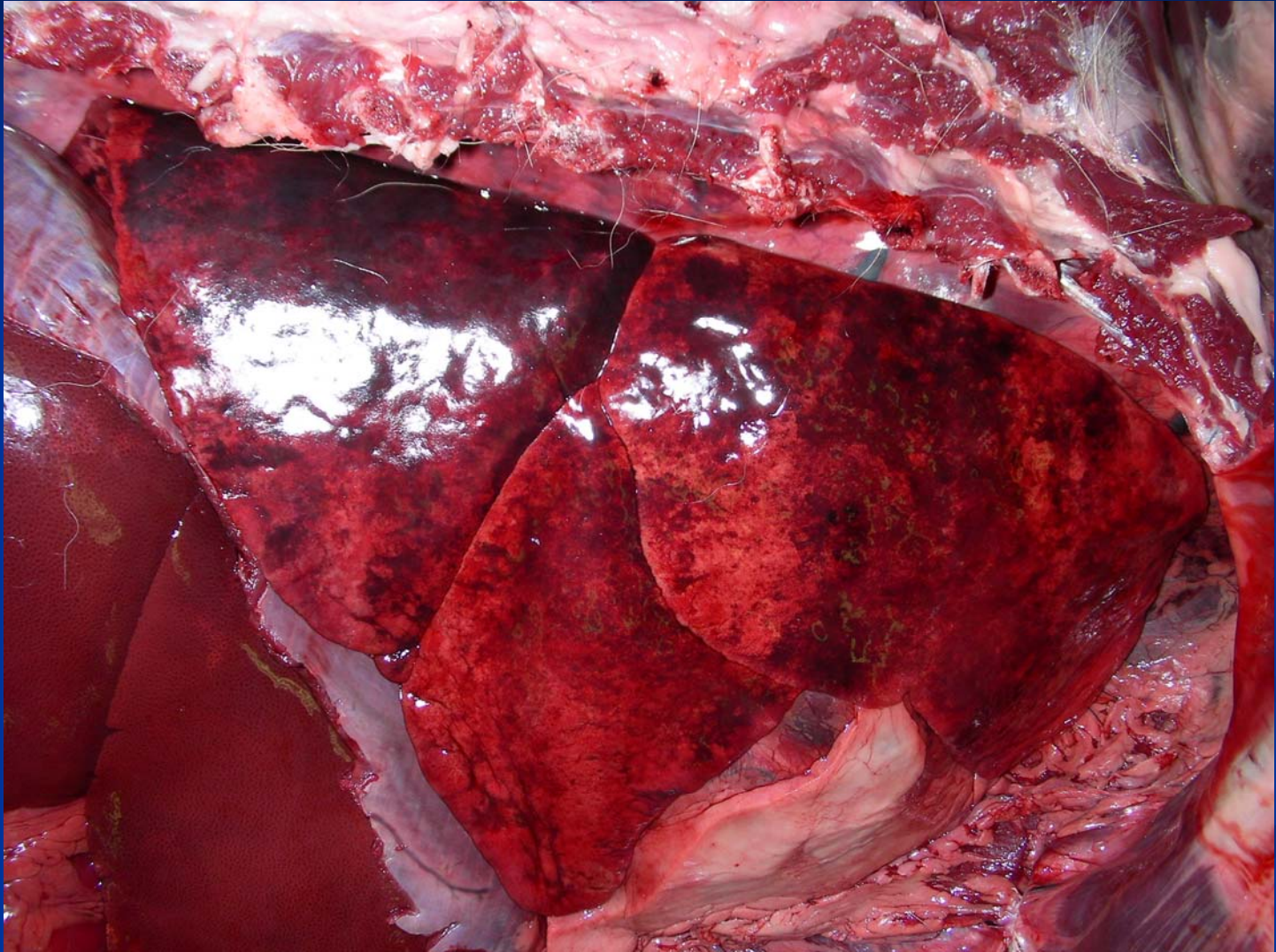


Canine Distemper

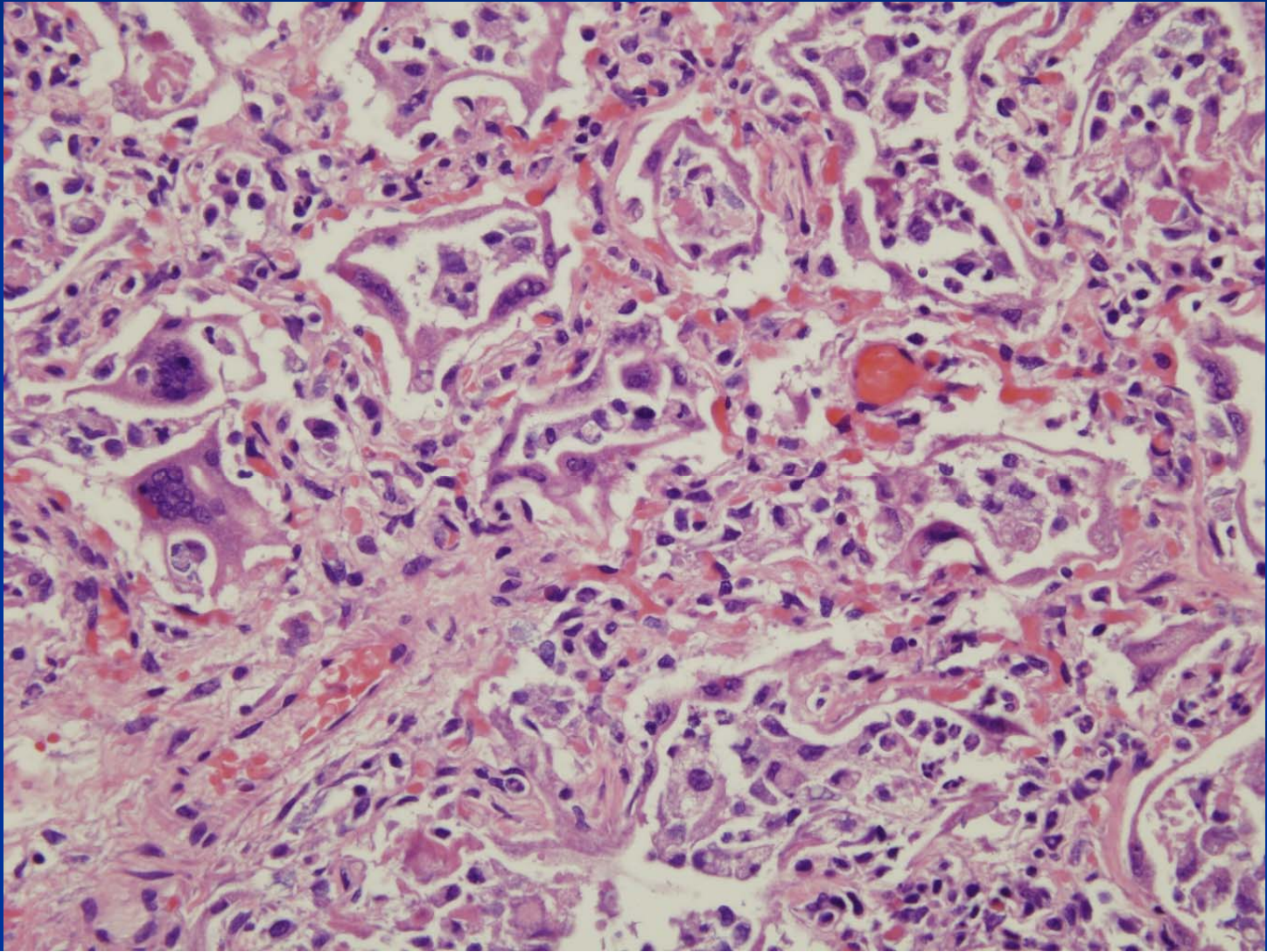


Canine Distemper Virus (CDV)

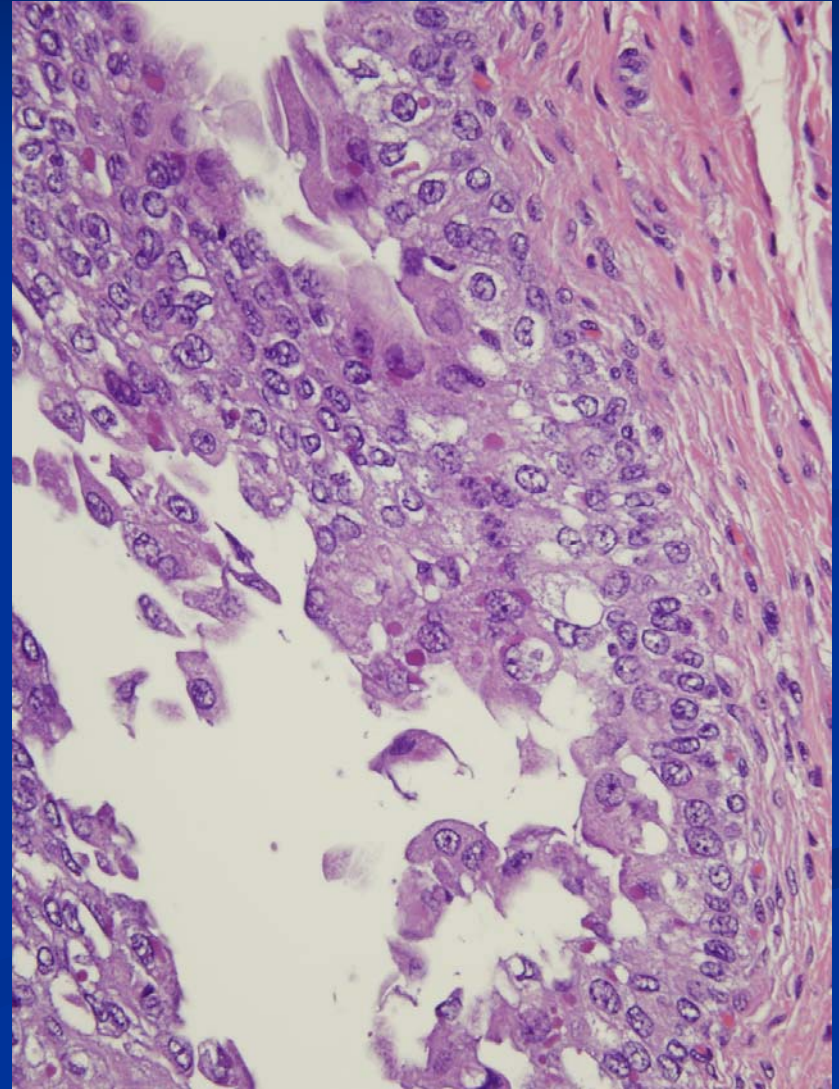
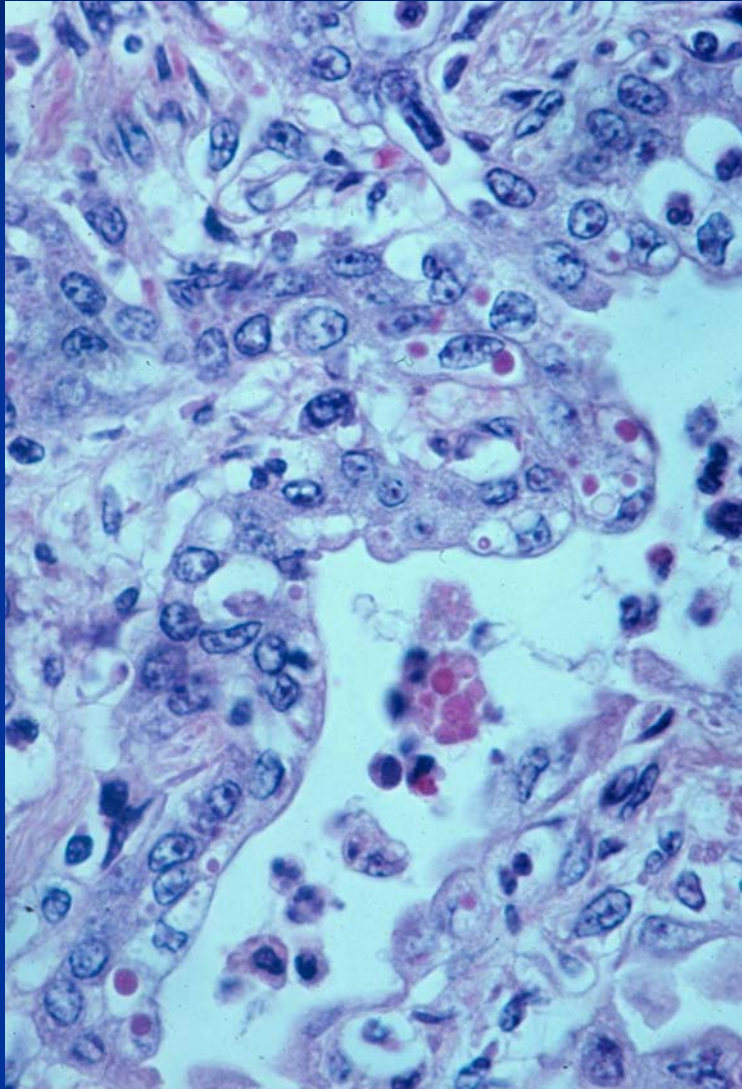
- Diagnosis
 - May see multinucleated cells in lung
 - **Inclusion bodies, intracytoplasmic and intranuclear**
(lung, renal pelvis, urinary bladder, stomach, brain)
 - IHC
 - Virus isolation
- Often secondary pulmonary infection
 - *Bordetella bronchiseptica*
 - Toxoplasmosis

Canine Distemper—Dog

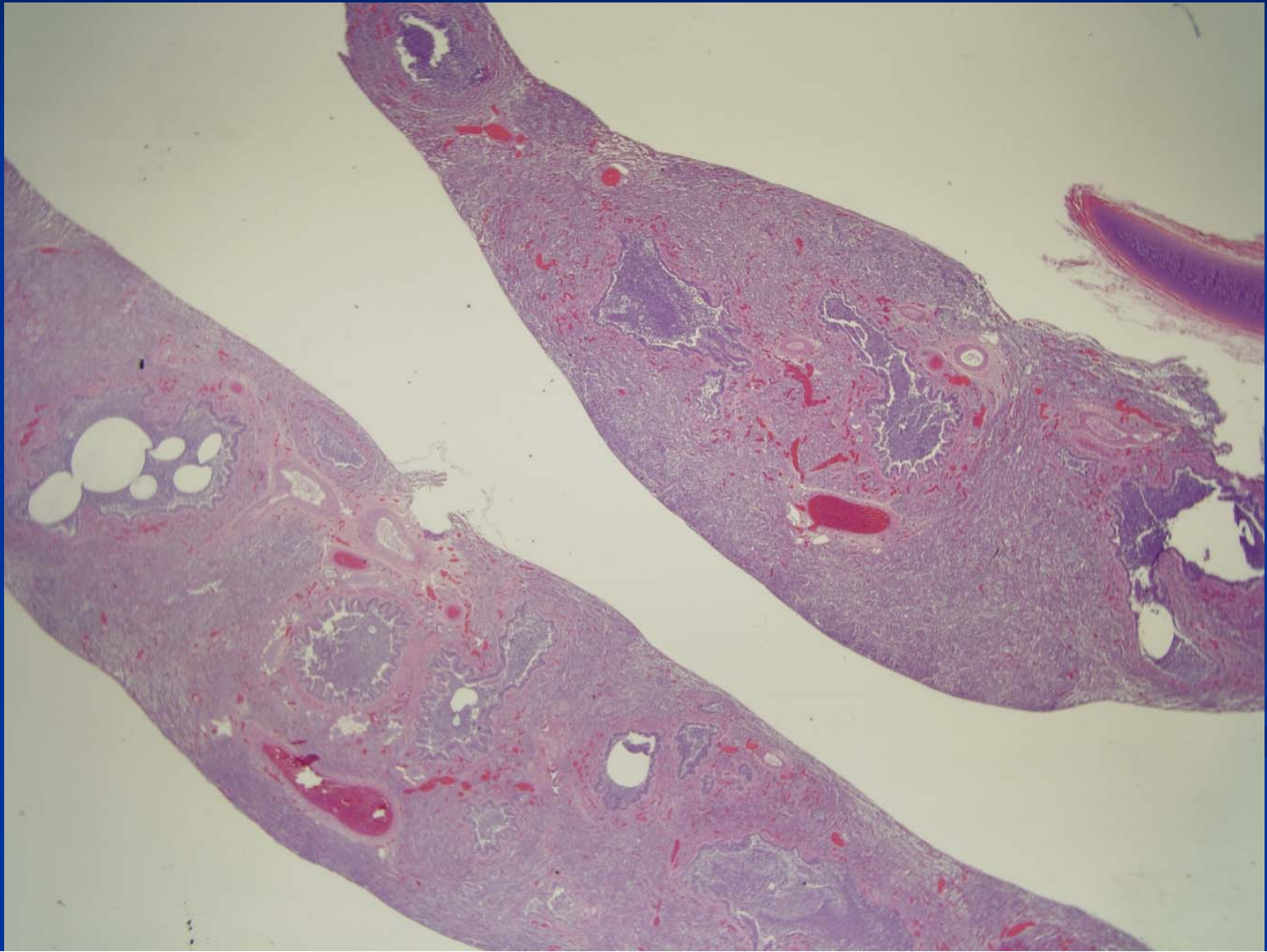
- syncytial cells



Canine Distemper Virus - Intracytoplasmic Inclusion Bodies

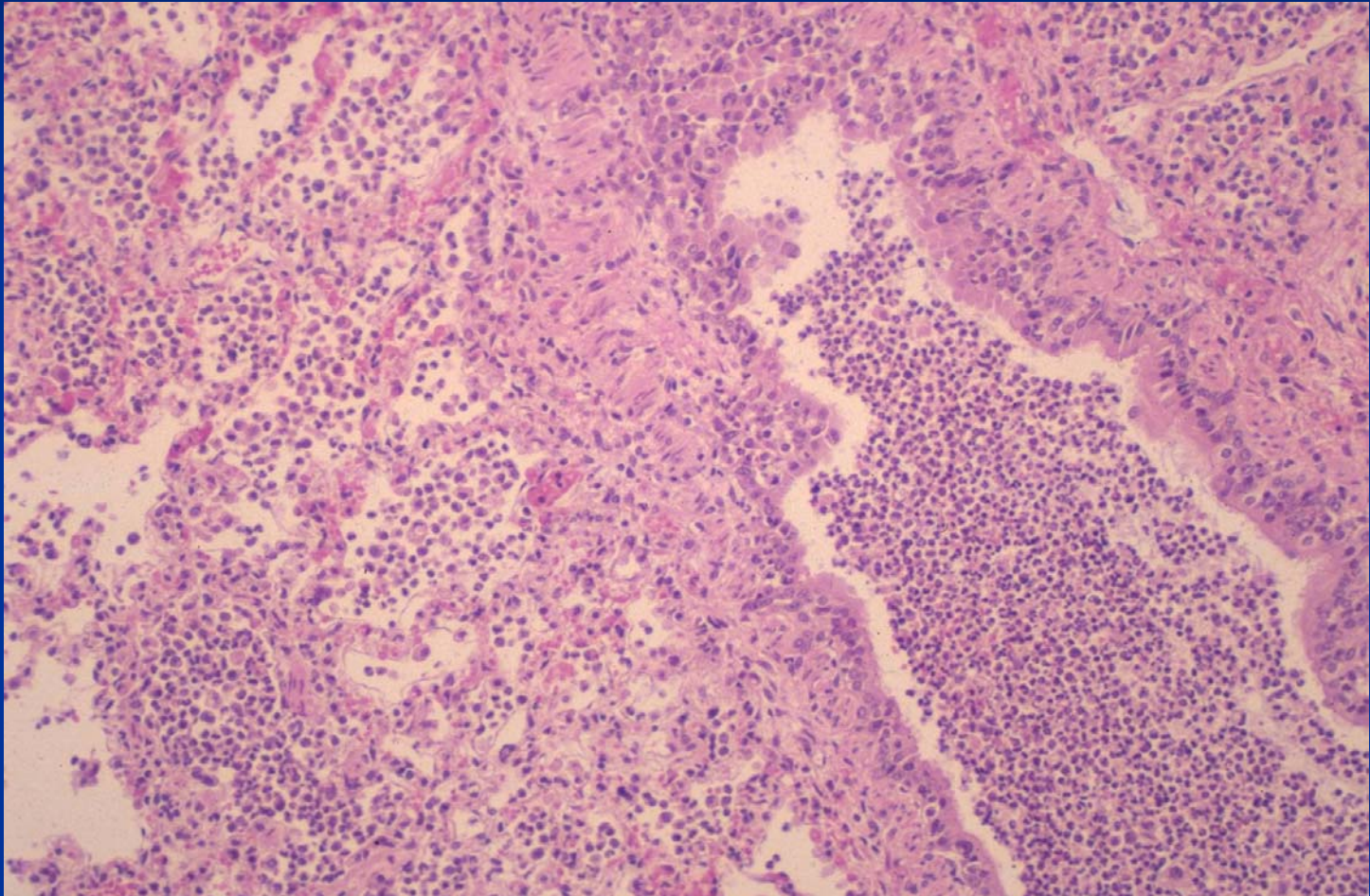


Canine Distemper—Dog Secondary Bacterial Bronchopneumonia



Canine Distemper

Secondary Bacterial Bronchopneumonia



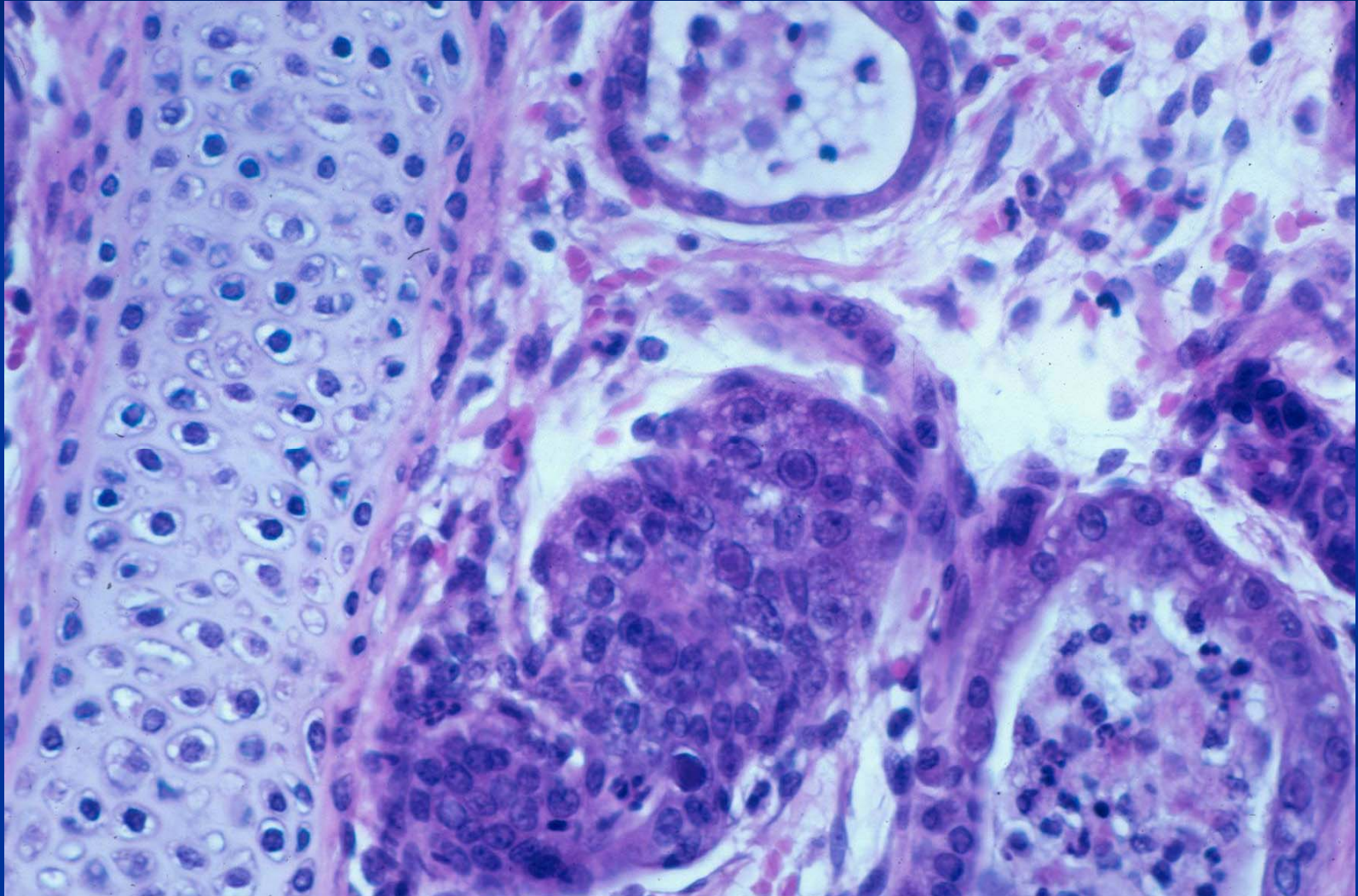
Canine Influenza (USA)

- From equine influenza A, H3N8 strain, in USA
- Racing tracks and animal shelters
- Manifest as severe cough
- High morbidity, low mortality
- Higher mortality in greyhounds
- Necrotizing bronchitis/bronchiolitis
- Pleural and pulmonary hemorrhage in greyhounds
- Secondary bacterial bronchopneumonia
- Diagnosis by IHC
- Differential for “kennel cough”

Canine Adenovirus

- Canine adenovirus type 2 (CAV-2)
- Transient mild disease unless immune suppressed/deficient
- Low morbidity, low mortality
- Pathology
 - Bronchointerstitial pneumonia
 - Intranuclear inclusion bodies
 - Often secondary bronchopneumonia

Canine Adenovirus



Bacterial Pneumonias of Dogs

- Mostly follow viral infection or aspiration
- Common agents
 - *Pasteurella multocida*
 - *Bordetella bronchiseptica*
 - *Klebsiella pneumoniae*
 - *E. coli*
 - *Streptococcus* sp
- *Streptococcus zooepidemicus* (one report secondary to dental disease)
 - Hemorrhagic pleuropneumonia
 - Death due to severe sepsis