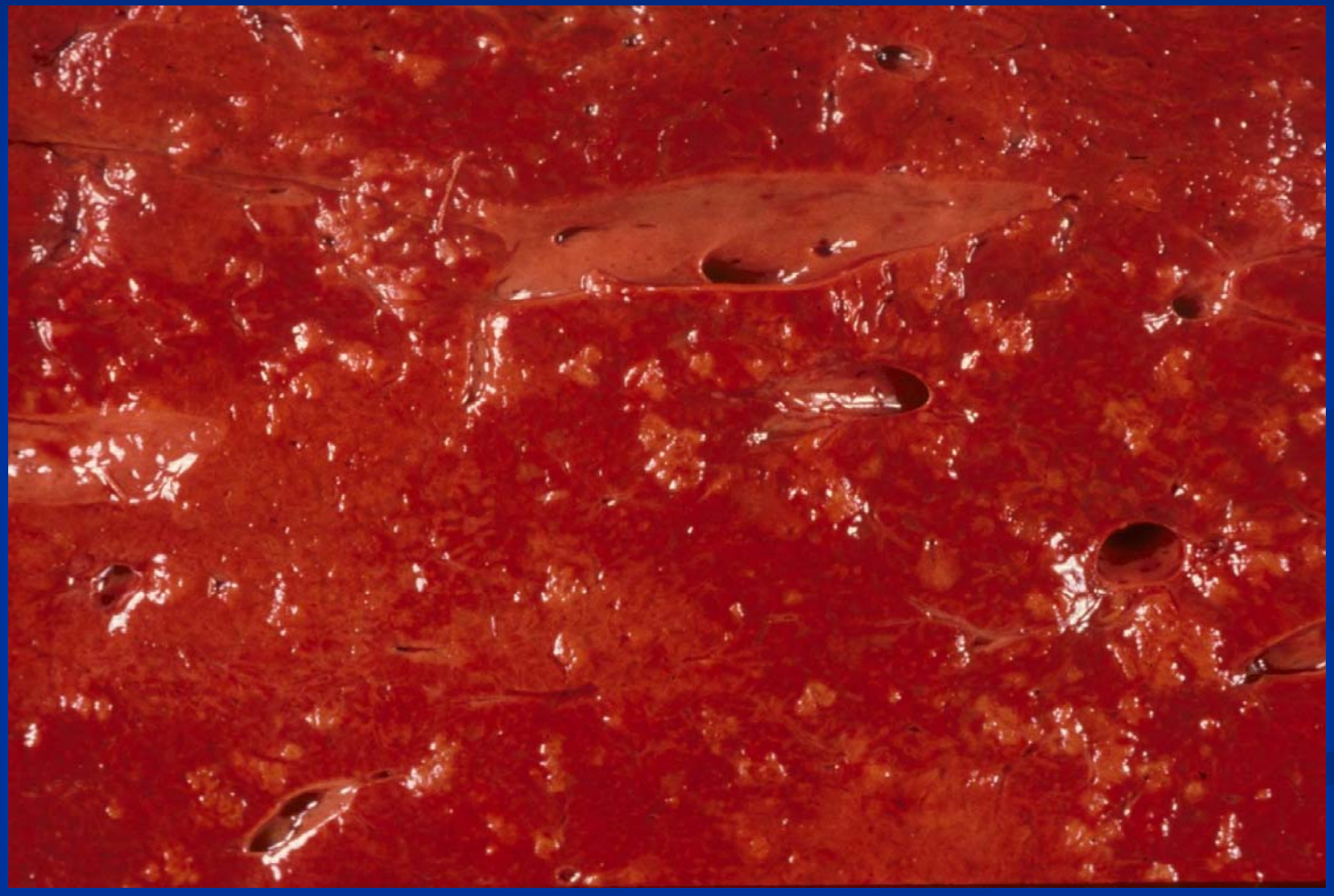
Parascarus equorum

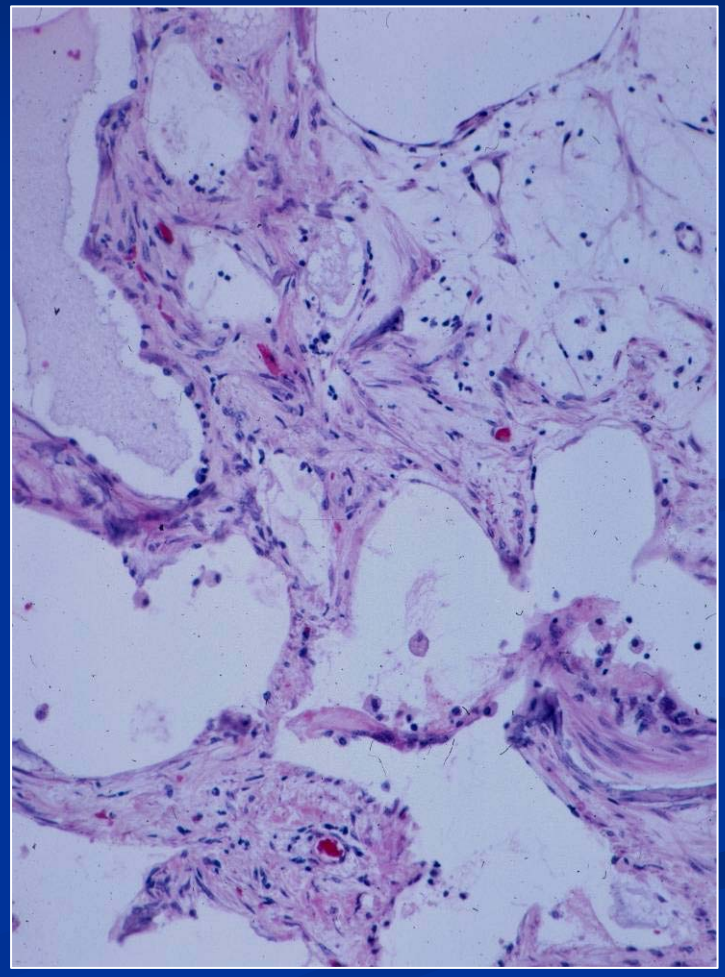


Toxic Injury

- Mineralization
  - Uremia—fibrosis
  - Hypervitaminosis D
- Edema
  - Smoke inhalation – chemical injury
- Granulomatous pneumonia
  - Silicosis
- Interstitial pneumonia
  - Plant toxins

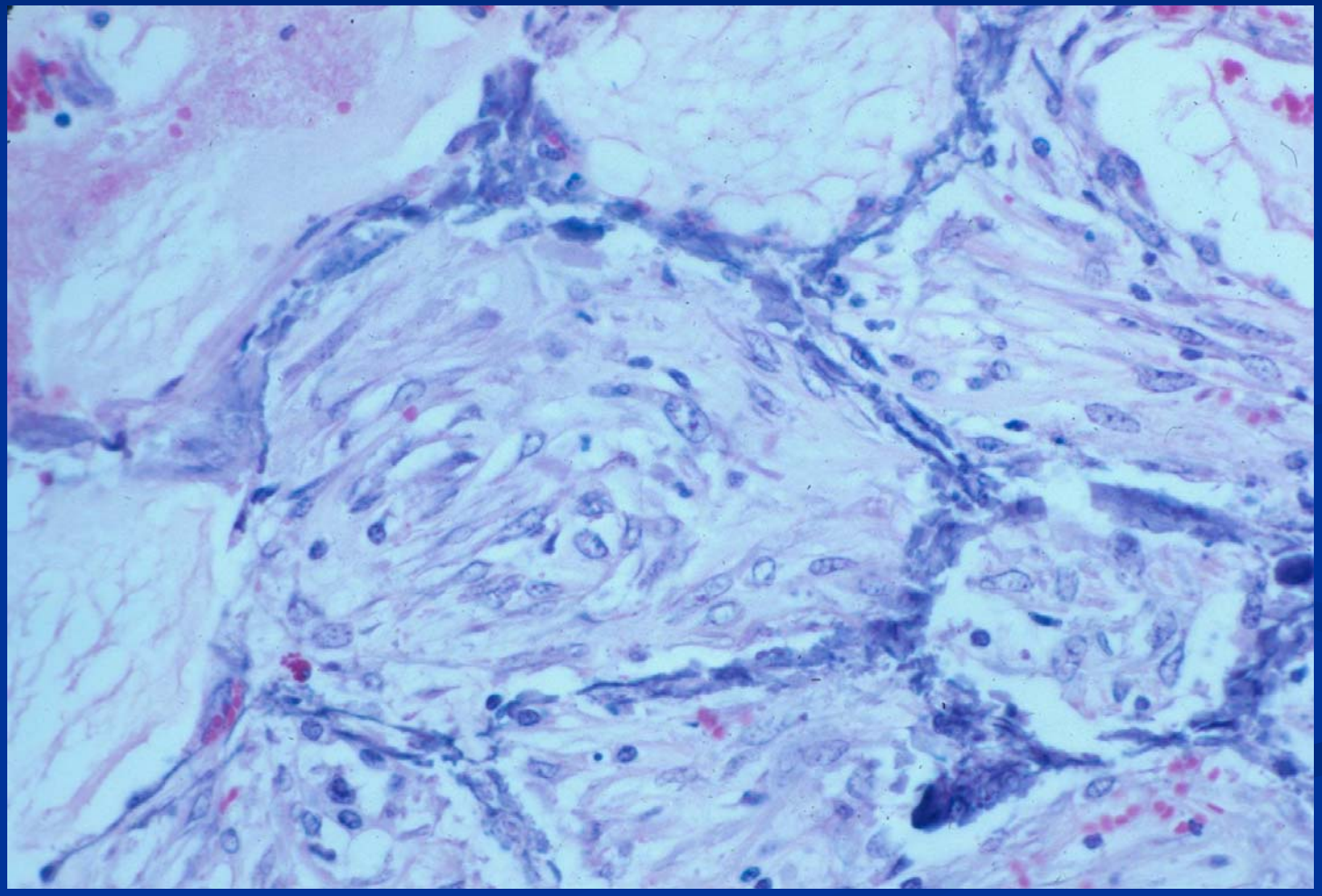
Vitamin D Toxicity – Horse

Mineralization and fibrosis



Uremia – Horse

Mineralization and fibrosis



Plant Toxins

- Crofton weed, *Eupatorium adenophorum*
  - Acute or chronic interstitial disease
- Pyrrolizidine alkaloids – while most cause hepatic injury some can cause pulmonary injury
  - Plants: *Crotalaria spp*, *Senecio spp*
    - Edema, hemorrhage, inflammation
    - Epithelial proliferation/megalocytosis
    - Interstitial fibrosis
- *Perilla frutescens* ketone
  - Interstitial pneumonia

Plant Toxins –

Interstitial pneumonia due to pyrrolizidine alkaloids

Smoke Inhalation

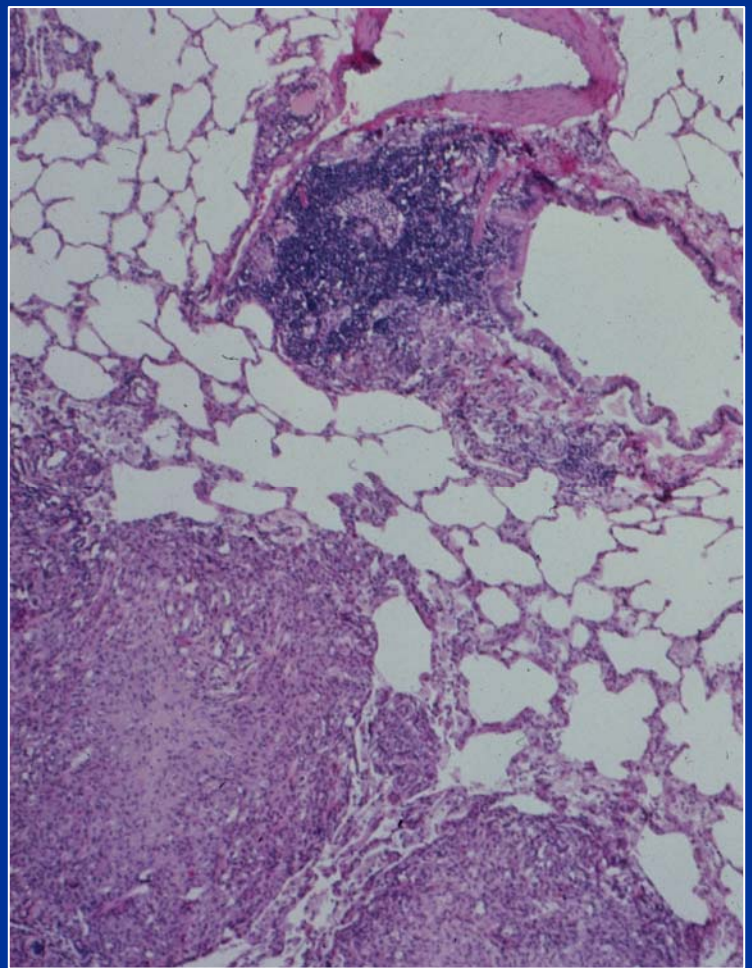
- Injury due to
  - Thermal injury (URT)
  - Chemical injury (LRT)
- Lesions
  - Langeal/tracheal necrosis with fibrin
  - Pulmonary edema
  - Often find carbon (soot) particles

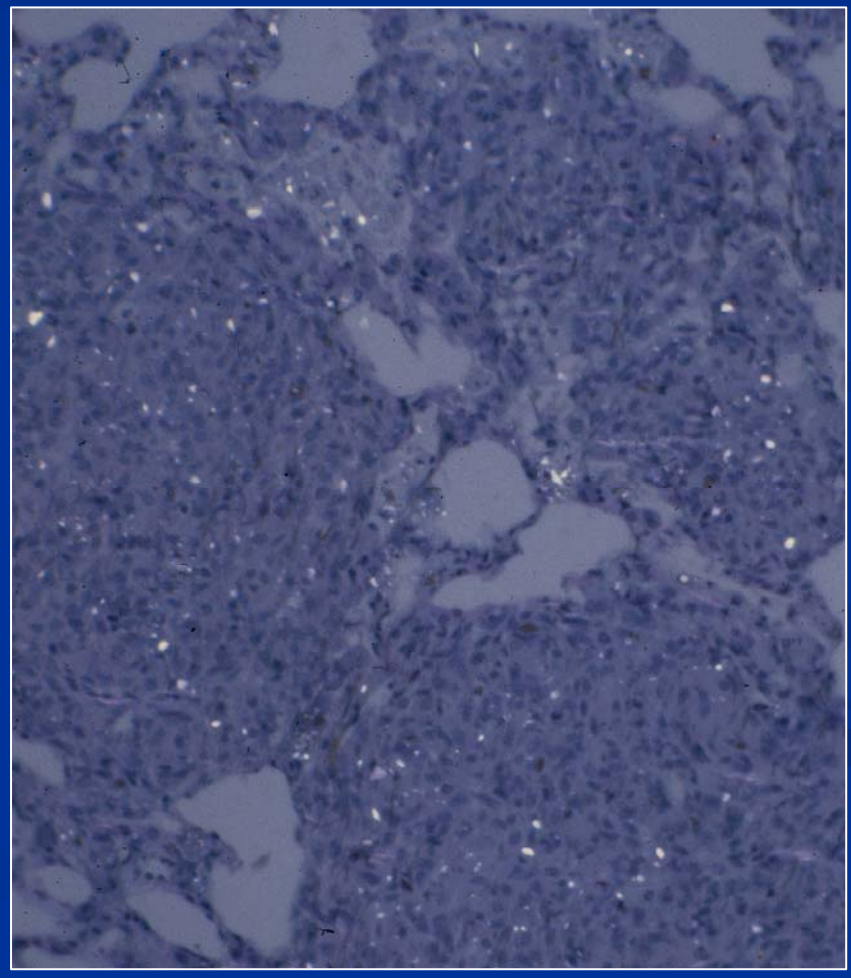
Silicosis

- Origin: mines, sandblasting, sand flouncing, soil
- Reported from California in horses fed off the ground following removal of top soil
- Pathology
  - Progressive granulomatous disease
  - Look for refractile silica particles
- Pathogenesis: cytotoxicity to macrophages

Silicosis

Experimental in rats – note granulomas and refractile silica particles (right)





Disease of Unknown Etiology

- Acute interstitial pneumonia of foals (Angela Begg)
  - 3-6 mths, generally found dead
  - Hyaline membranes, type II cell proliferation
  - Clinical treatment with steroids
- Multisystemic eosinophilic epitheliotropic disease (MEED)