



ECVP/ESVP Summer School in Veterinary Pathology



Marie Curie Training Courses

Summer School 2006 – Toxicological Pathology 06-09344

Slide2, K-2. (06-09344) Dog

Description (15)

Cortical tubules variably filled with numerous rounded or pyramidal pale yellow birefringent crystals arranged as rosettes and sheaves (calcium oxalate crystals) (3)

Tubular epithelium often fragmented and sloughing into lumen (2)

Tubular rupture (2)

Interstitially infiltrated with degenerative neutrophils, also extensive cell debris and free RBCs (2)

Remaining tubules have attenuated epithelium (1)

some tubules filled with eosinophilic homogeneous to granular material (hyaline casts) (1)

some tubules filled with degenerative neutrophils and debris (granular casts) (1)

Glomeruli – multifocally thickened capillary loops that are hyalinized, mesangial thickening, glomerular basement membranes thickened and hyalinized (2)

Tubular intranuclear inclusions, deeply eosinophilic, elongated brick shaped (bonus 1)

At periphery, focal necrosis with inflammatory cells, fibrin (1)

Morphologic Diagnosis(es) (4)

Severe diffuse acute tubular necrosis with intraluminal birefringent crystals (calcium oxalate) and associated interstitial nephritis (3)

Multifocal severe membranous glomerulopathy (1)

Most likely etiologic agent (1)

Ethylene glycol (antifreeze)

Additional information: 8 yr old Great Dane dog.

Gross findings: perirenal edema, urine cloudy pink to yellow

Urinalysis: pH 5.5, protein 3+, blood 3+, SG 1.025

Kidney scraping wet mount: pyramidal refractile crystals arranged in rosettes and sheaves.

Ethylene glycol: 275 ppm by GC/FID