



ECVP/ESVP Summer School in Veterinary Pathology

Summer School 2014 – Toxicological Pathology (176)

1. Slide K-1 (03-16063) Cat.

Description (13 points out of 20)

Kidney (slide also has adrenal and ganglion)

Loss of differential staining, cellular detail and cell borders (necrosis) of cortical proximal and distal convoluted tubular epithelial cells some cells contain vacuoles (6).

Many tubules lined by attenuated epithelium with occasional mitotic figures (regeneration) and contain deeply eosinophilic granular casts (3).

Multifocal small interstitial aggregates of lymphocytes and plasma cells are present at the corticomedullary junction and around the subcapsular lymphatics (2).

Medullary casts (1)

A few intratubular calcium deposits (1)

Notes: No inflammation associated with tubular necrosis – assume basement membrane intact. Lack of inflammation makes it difficult to differentiate from autolysis.
Cats normally contain lipid in proximal tubular epithelium

Morphologic Diagnosis(es) (5)

Renal tubular necrosis, proximal convoluted tubules, severe, diffuse, acute

Possible Etiology(es) (2)

Easter lily toxicity (Liliacea sp)

Many other tubular toxicants (acute mercury, cadmium) would look similar

Note: Only cats appear susceptible to lily induced renal toxicity; for similar lesions in dogs consider grape/raisin toxicity. Autolysis often obscures such changes.

Case information: 2 year old female spayed (FS) cat with pale purple mucous membranes. Grossly there was perirenal edema and renal cortices were pale. The lungs were congested and edematous.

Rumbeiha WK, Francis JA, Fitzgerald SD, Nair MG, Holan K, Bugyei KA, Simmons H. A comprehensive study of Easter lily poisoning in cats. J Vet Diagn Invest. 2004 Nov;16(6):527-41. PubMed PMID: 15586568.