



Diagnostic Exercise

From The Davis-Thompson Foundation*

Case: **172**; Month: **September**; Year: **2021**

Question Sheet

Contributors: Alex dos Santos*, DVM, MS, Doctorate candidate, Mariana Martins Flores*, DVM, MS, Doctor in Veterinary Pathology. *Laboratory of Veterinary Pathology, Universidade Federal de Santa Maria (UFSM), Santa Maria, Rio Grande do Sul, Brazil. mariana.flores@ufsm.br

Clinical History: This 8-month-old, male, mixed breed domestic shorthaired cat had a recent history of acute apathy and anorexia. It remained under hospital care for two days, during which it did not produce any urine. On the second day of hospitalization, another cat from the same household was brought in with similar clinical signs. These cats did not have any history of recent ingestion of antibiotics or other medication. Furthermore, they did not have any street or yard access since they were kept in an apartment. Both cats died spontaneously after a brief hospitalization period.

Laboratory Findings: Marked increase of urea and creatinine in both cats was reported (values not informed). On abdominal ultrasound, both cats had perirenal edema, and small amount of free abdominal effusion was observed in this cat.

Pathology: At **necropsy** there was moderate amount of translucent, slightly yellowish fluid within the abdominal cavity, thoracic cavity and pericardial sac. There was moderate diffuse pulmonary edema. Moderate perirenal edema was observed bilaterally. The kidneys were diffusely swollen and pale (Fig. 1). On **histopathologic** exam, the cortical tubular epithelial cells were swollen, with hypereosinophilic cytoplasm and nuclear changes (karyolysis, pyknosis and karyorrhexis). These cells were frequently detached from the basement membrane. Some other tubular epithelial cells were swollen and markedly vacuolated. Accompanying these changes, multiple granular casts filled the tubular lumens in the cortical and medullar regions (Fig. 2).

Gross and Microscopic Images:

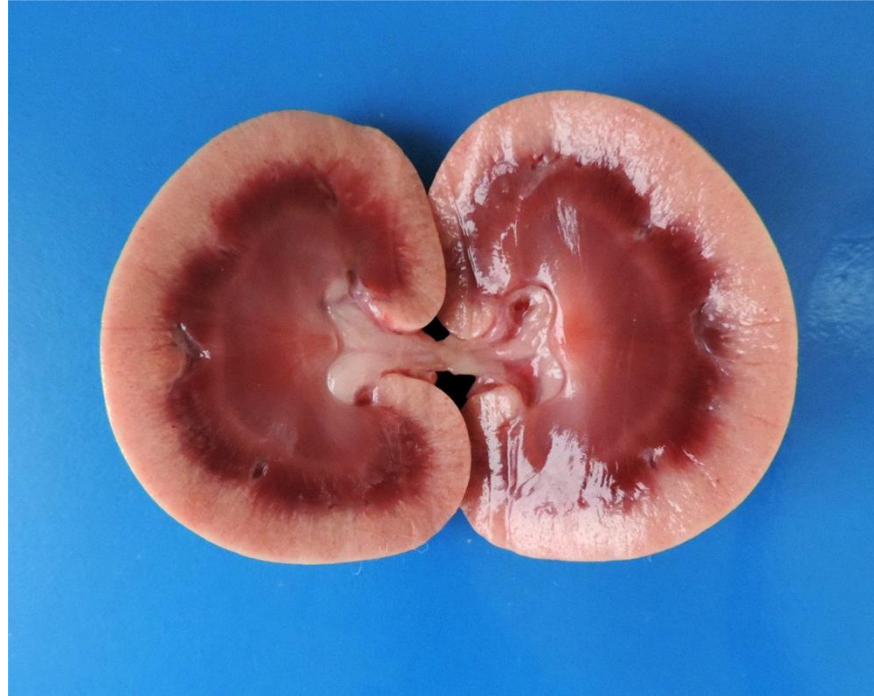


Figure 1

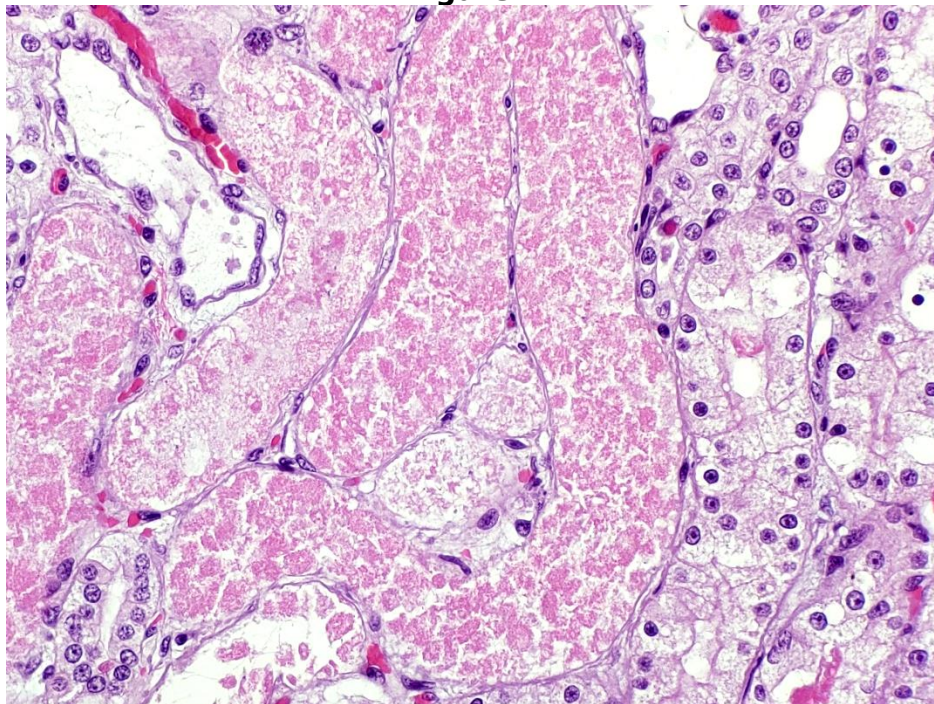


Figure 2

Follow-up Questions:

- *What is your morphologic diagnosis?*
- *What is your etiologic diagnosis?*
- *What is the pathogenesis for the acute anuria presented by this cat?*
- *Can you name possible causes for this condition in cats?*

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