



Diagnostic Exercise

From The Davis-Thompson Foundation*

Case #276; Month: February; Year: 2026

Question sheet

Contributors: Emily G. Lewis, Kayla J. Alexander, and Timothy W. Morgan.
Department of Pathobiology and Population Medicine, Mississippi State College of Veterinary Medicine.

Contributing author: egl141@msstate.edu

Clinical History: A 7-year-old female intact Welsh Corgi mix was presented to emergency services for vomiting, diarrhea, inappetence, and lethargy. Over the last 24 to 48 hours, she vomited approximately 5 to 6 times a day.

Physical exam:
8% dehydrated
Heart rate: 143 bpm
Respiratory rate: panting
Temperature: 97.1°F

Pertinent Bloodwork Findings:
CREA: unable to read (0.5-1.8 mg/dL)
BUN: >130 (7-27 mg/dL)
PHOS: >16.1 (2.5-16.1mg/dL)
Na: 139 (144-160mmol/L)
Cl: 98 (109-122 mmol/L)
iCa: 1.12 (1.16-1.40mmol/L)

Lactate strip:
3 mmol (<2.5mmol)

Necropsy findings:

On physical examination, the maxillary lingual mucous membranes demonstrated bilaterally symmetric, well-demarcated circular area measuring 2 x 2.5cm. The ulcerations were pale tan and margined by a rim of dark red discoloration.

Bilaterally, both kidneys were small, pale tan, and had irregular pitted cortical surfaces (**Figure 1 and 2**).

Approximately 70-90% of the serosal surface of the stomach was effaced by a sharply demarcated, dark red discoloration, which spared the region of the pylorus (**Figure 3**). The wall of the stomach was markedly thickened and measured 1cm in width (**Figure 4**). The mucosa was diffusely dark red to black.

The small intestines were mildly thickened and contained a small amount of black, opaque, mucoid fluid with red flecks. The cecum and colon contained a moderate amount of black, tarry material (melena).

The right and the left parathyroid glands were bilaterally enlarged.

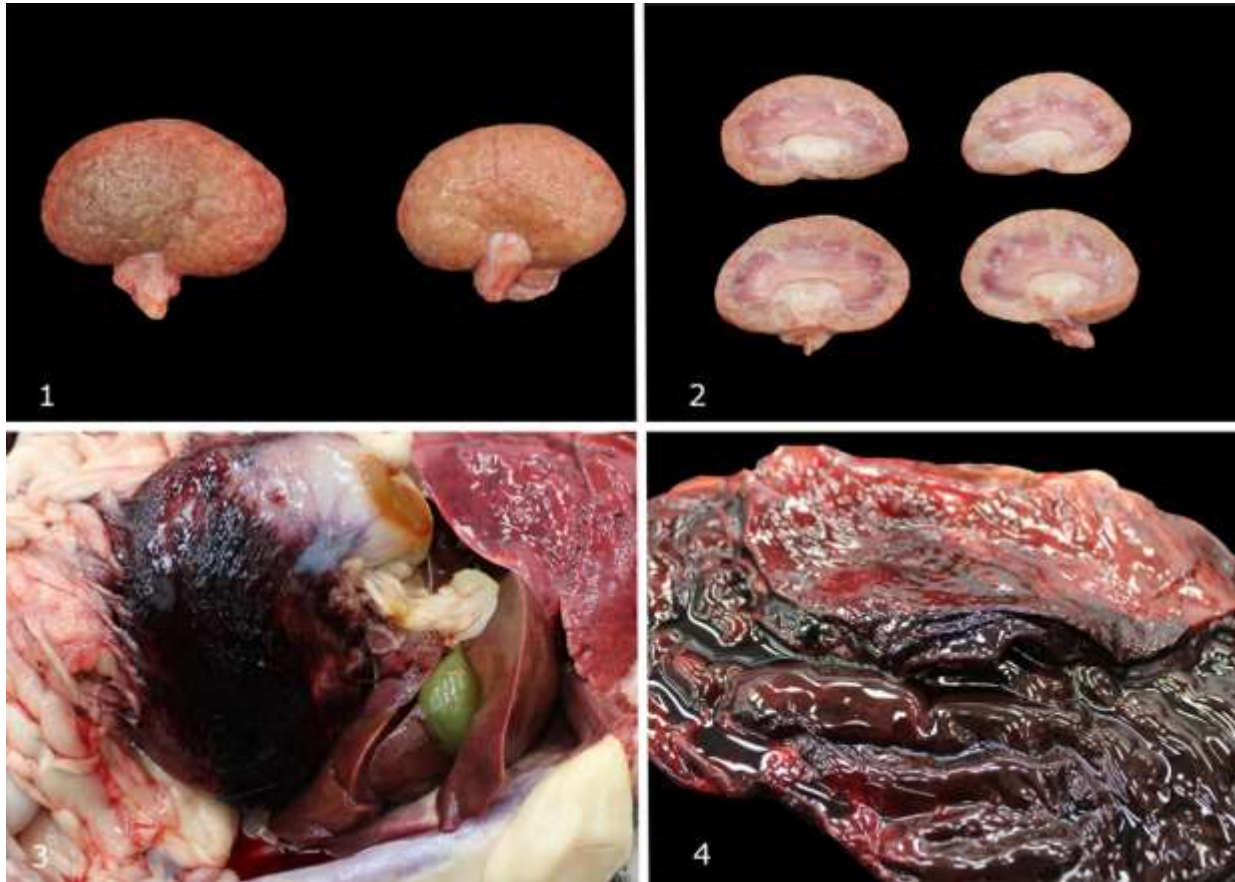


Figure 1 and 2: Left and right kidneys.

Figure 3: Serosal surface of the stomach in situ.

Figure 4: Stomach (opened), wall and mucosa.

Histopathology:

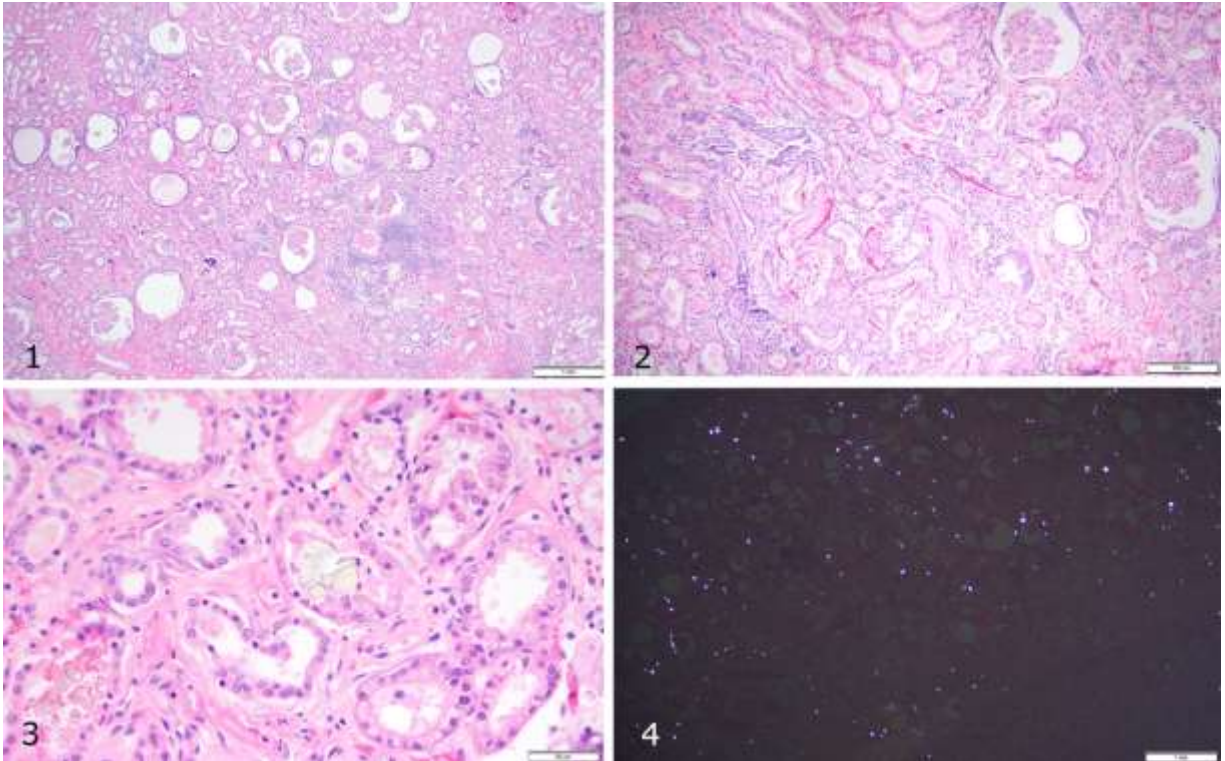


Figure 1: Renal cortex, 4x objective.

Figure 2: Renal cortex, 10x objective.

Figure 3: Renal cortex, 40x objective.

Figure 4: Renal cortex under plane polarized light, 2x objective.

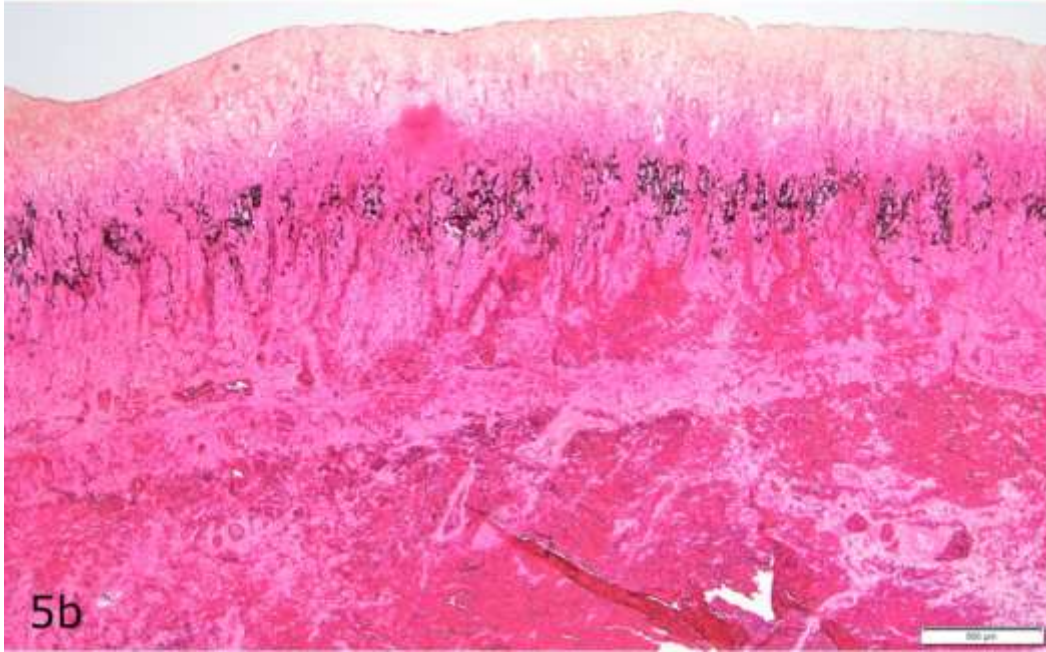
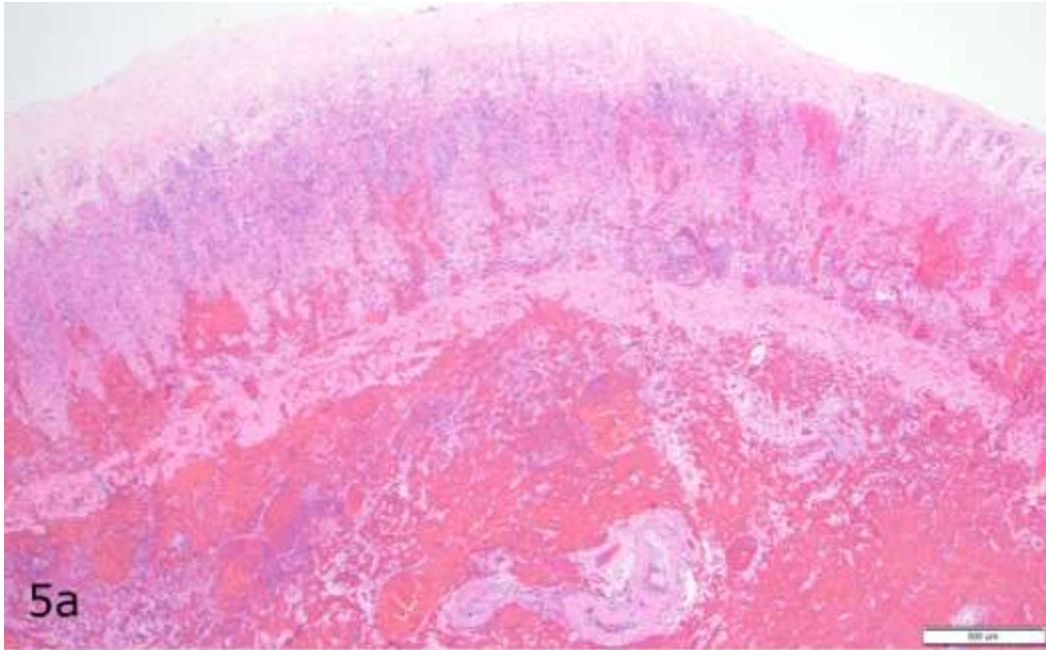


Figure 5: Stomach, 4x objective.

A- H&E

B- Von Kossa

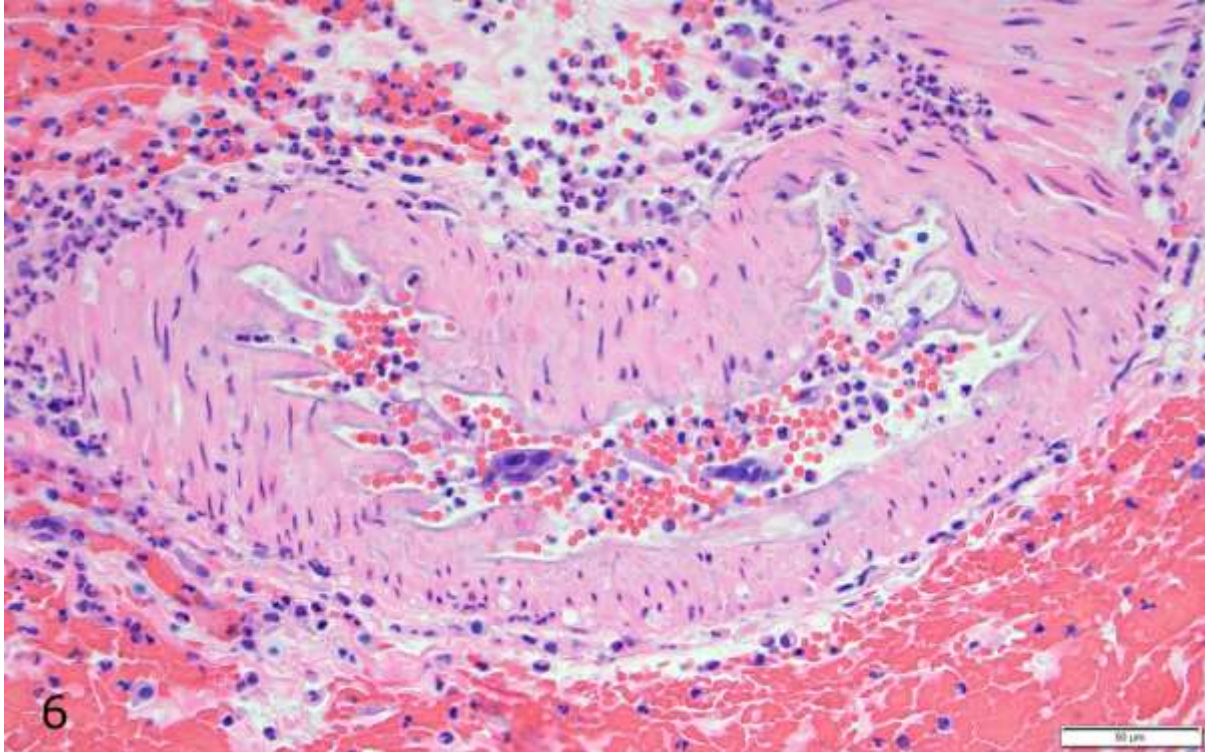


Figure 6: Higher magnification of a submucosal arteriole in Figure 5, 40x objective.

Follow-up questions:

- *Morphologic Diagnoses:*
- *Pathogenesis of the lesions of the stomach:*
- *What are two possible causes of oxalate crystals within the renal tubules?*

*The Diagnostic Exercises are an initiative of the Latin Comparative Pathology Group (LCPG), the Latin American subdivision of The Davis-Thompson Foundation (DTF). These exercises are contributed by members and non-members from any country of residence. Consider submitting an exercise! A final document containing this material with answers and a brief discussion will be posted on the DTF website.

(<https://davisthompsonfoundation.org/diagnostic-exercise/>)

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