Diagnostic Exercise
From The Davis-Thompson Foundation*

Case #: 136 Month: January Year: 2020

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Clinical History: An 11-year-old, male neutered Greyhound was admitted impounded by an animal shelter on suspicion of neglect due to severely low body condition score (2/9). The dog had severe necrotising gingivitis on clinical exam, as well as generalised erythema of the lateral and ventral abdominal skin, and a healed fracture in the distal third of the tail. The dog was observed to eat kibble at the shelter as part of the refeeding plan. Three days after hospitalization, the dog collapsed, became hypertensive and hypoglycemic (suspected sepsis) and was euthanised.

Laboratory Findings: Bloodwork showed severe panleukopenia (WBC 1.8x10^9/L, RR 5.5-16.9).

Necropsy Findings: The dog had a body condition score of 2/9 with small amount of abdominal and retroperitoneal fat. The mouth had severe generalised periodontal disease with marked gingival recession and furcation of the teeth, and there was bilateral adrenal nodular hyperplasia, a thyroid nodule, splenic siderosis and a chronic intestinal stricture at the caecocolic outflow but no bowel obstruction. Upon brain trimming, a 7 mm diameter, red-brown, round, friable lesion was identified (Figure 1).

Gross and/or Microscopic Images:

Figure 1. Forebrain and midbrain sections after fixation in 10% neutral buffered formalin.
Figure 2: Brain, right side at the level of the optic chiasm, with a basophilic, densely cellular, unencapsulated nodular mass visible at the ventral aspect. H&E, 1x digital magnification.

Figure 3: Lesional cells are forming sheets and are palisading around scant fibrovascular stroma. H&E, 4x digital magnification.
Figure 4: Towards the edge of the process are brightly eosinophilic cells. H&E, 10x digital magnification.

Figure 5: Polygonal lesional cells are predominantly arranged in sheets, interspersed with occasional haemosiderin-laden macrophages (top left). H&E, 15x digital magnification.

Follow-up Questions: Gross morphologic diagnosis? Gross differential diagnosis(es)? Histological morphologic diagnosis? Could this lesion cause weight loss?
The Diagnostic Exercises are an initiative of the Latin Comparative Pathology Group (LCPG), the Latin American subdivision of The Davis-Thompson Foundation. 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 CL Davis website (http://www.cldavis.org/diagnostic_exercises.html).

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