

# Diagnostic Exercise

## From The Davis-Thompson Foundation\*

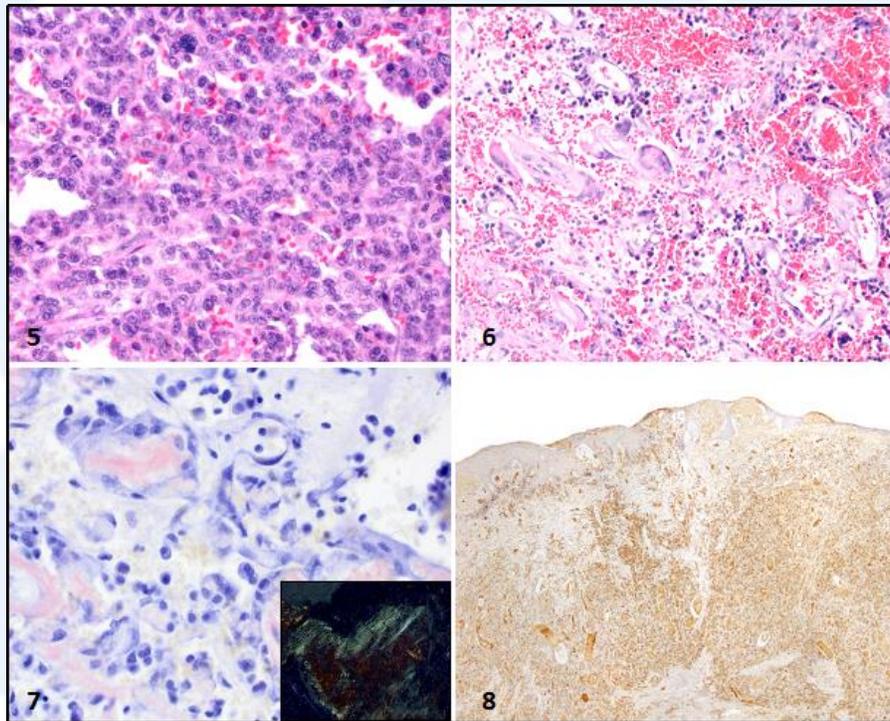
**Case #: 120 Month: May Year: 2019**

*Answer Sheet*

**Title:** Dog, esophageal plasmacytoma

**Contributor:** Alejandro Suarez-Bonnet, UK. The Royal Veterinary College.

**Microscopic findings:**



**Histological appearance:** The esophageal wall was focally expanded by a well-demarcated, unencapsulated, multilobulated, moderately cellular, highly vascularized and infiltrative round cell neoplasm (Figure 5, H&E, 40x). Neoplastic cells were variably arranged in densely packed sheets or cords supported by moderate amounts of fibrovascular connective tissue that occasionally exhibited areas of hyalinization. Cells had indistinct borders, moderate amount of eosinophilic cytoplasm, and one or multiple, irregularly round nucleus. Cell nuclei had coarsely stippled chromatin and one prominent nucleolus. Frequent multinucleated cells were observed. Anisokaryosis and anisocytosis were moderate and there were 6 mitoses in 10 high-power (40x) fields. Multifocally within the neoplasm were coalescing lakes of brightly eosinophilic,

homogeneous, extracellular, acellular material. Multifocally giant multinucleated cells were entrapping part of this material (Figure 6, H&E, 20x). Congo red stain revealed the material to be congophilic (Figure 7, Congo red, 40x) with apple-green birefringence under polarized light (Figure 7, Inset, Congo red and polarized light, 20x). Neoplastic cells were diffusely positive for CD79 $\alpha$  (Figure 8, Anti-CD79 $\alpha$  immunostaining, 10x) and  $\lambda$  light chain and negative for CD20, CD3 and  $\kappa$  chain.

**Morphological diagnosis:** Esophagus, plasmacytoma with amyloid production.

**Differential diagnoses:** *Spirocerca lupi*-associated sarcomas (osteosarcomas, fibrosarcomas and undifferentiated sarcomas), squamous cell carcinoma and adenocarcinoma.

**Discussion:** Plasmacytoma is a relatively common, extranodal, canine lymphoid neoplasm of differentiated B cells that produce a particular immunoglobulin light chain. They are solitary masses and can either arise within the bone marrow or be extramedullary. Extramedullary plasmacytoma (EP) is a neoplasm of adult dogs; terriers, cocker spaniels, and standard poodles have been reported to be predisposed. EP is a common tumor of the skin and the oral region that typically follows a benign course after excision; however, distant metastases from cutaneous and oral EPs have been reported.<sup>1,2</sup> Within the gastrointestinal tract, and excluding the oral cavity, EPs are occasionally found in the colon and rectum, followed in frequency by the stomach and intestine.<sup>1</sup> Colorectal EP is associated with hematochezia, intussusception, tenesmus and rectal prolapse. Both gastric and intestinal EPs are also considered curative if excision is complete.<sup>1,3</sup> In humans, only five esophageal EPs have been reported and only one case has been reported in the veterinary literature.<sup>4,5,6,7,8</sup> In contrast to the other esophageal plasmacytomas, our case exhibited amyloid production. The immunohistochemical profile of plasmacytomas includes positive reaction for anti-CD79 $\alpha$ , anti-MUM1, anti- $\lambda$  light chain and anti-CD138 antibodies and negative reaction for anti-CD3 antibody.<sup>1,2,6,7,8</sup> Esophageal plasmacytomas have been reported to be cured by complete excision; however, complications (e.g. esophageal stenosis) may occur. Local recurrence is possible with incomplete resection. Similar to what is reported for esophageal EPs in humans and the only reported canine esophageal EP, monoclonal gammopathy and/or Bence-Jones proteinuria was not detected in this case.

#### References:

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\*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](http://www.cldavis.org/diagnostic_exercises.html)).

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