



# Diagnostic Exercise

## From The Davis-Thompson Foundation\*

Case # **223**; Month: **October**; Year: **2023**  
*Question Sheet*

**Contributors:** Jessica Lambert<sup>1</sup>, veterinary student; Stephanie Fuetsch<sup>1</sup>, DVM; Danielle Meritet<sup>1</sup>, DVM, MS, DACVP.<sup>1</sup>North Carolina State University College of Veterinary Medicine, NC. [jrlamber@ncsu.edu](mailto:jrlamber@ncsu.edu)

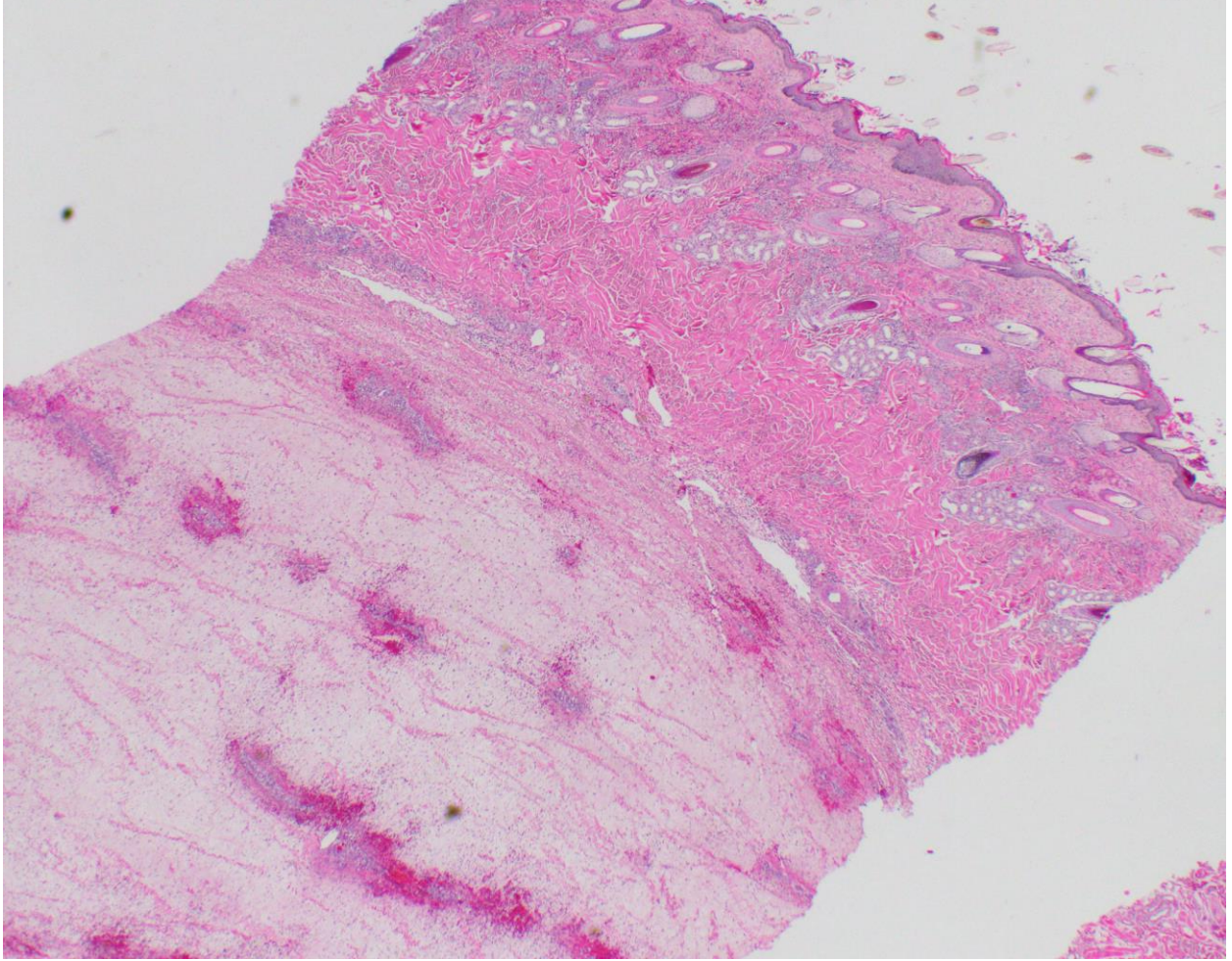
**Clinical History:** A 15-year-old paint horse gelding was evaluated by the equine medicine service for evaluation of pyrexia and ventral edema in all four limbs. Preliminary blood work revealed normal white blood cell count with mild lymphopenia, moderate hyperglycemia, moderate-to-marked hypomagnesemia, mild hyponatremia, mild hypochloremia, and mild-moderate hyperbilirubinemia. A *Streptococcus equi* SeM protein ELISA was requested. After hospitalization, the horse developed severe ecchymoses on the oral mucosa and hyperemia of the conjunctiva. Thromboelastography revealed a mildly prolonged R time. Imaging revealed moderate comet tails throughout the cranioventral lung fields with regions of consolidation. The horse continued to clinically decline over the next two days despite aggressive treatment, with significant progression of the mucosal ecchymoses and development of significant muzzle edema. The horse also had significant conjunctival edema with hemorrhagic lachrimation. Due to rapid systemic decompensation and poor prognosis, the horse was euthanized.

**Autopsy Findings:** Bilaterally the palpebral and nictitans conjunctiva were dark red and swollen. The skin of the lips and muzzle had petechiae and fewer ecchymoses, which extended across the mucocutaneous junction along the buccal mucosa and coalesced along the gingival maxillary and mandibular borders, as well as in the caudal buccal mucosa, forming diffusely red-purple zones (Fig. 1). In the maxillary buccal mucosa, there was a 0.2 cm in diameter ulcer surrounded by submucosal hemorrhage. The ventral surface of the tongue had few scattered petechiae and five pinpoint to 0.2 cm in diameter ulcers. The subcutis ventral to the mandible was wet and gelatinous with coalescing petechiae and ecchymoses. Throughout the body, the visceral and peripheral adipose had petechiae and ecchymoses.

**Gross and Microscopic Images:**

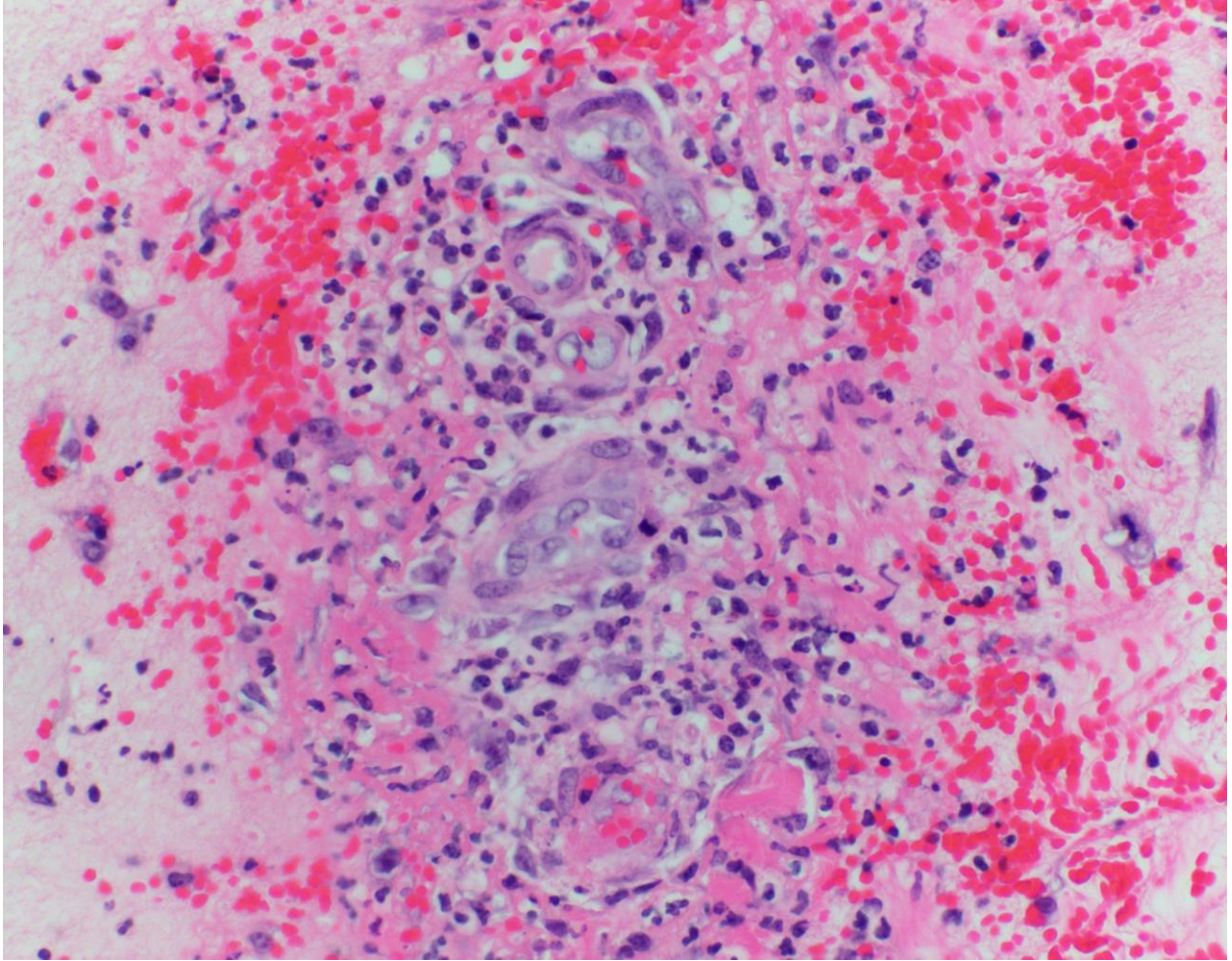


**Figure 1.**

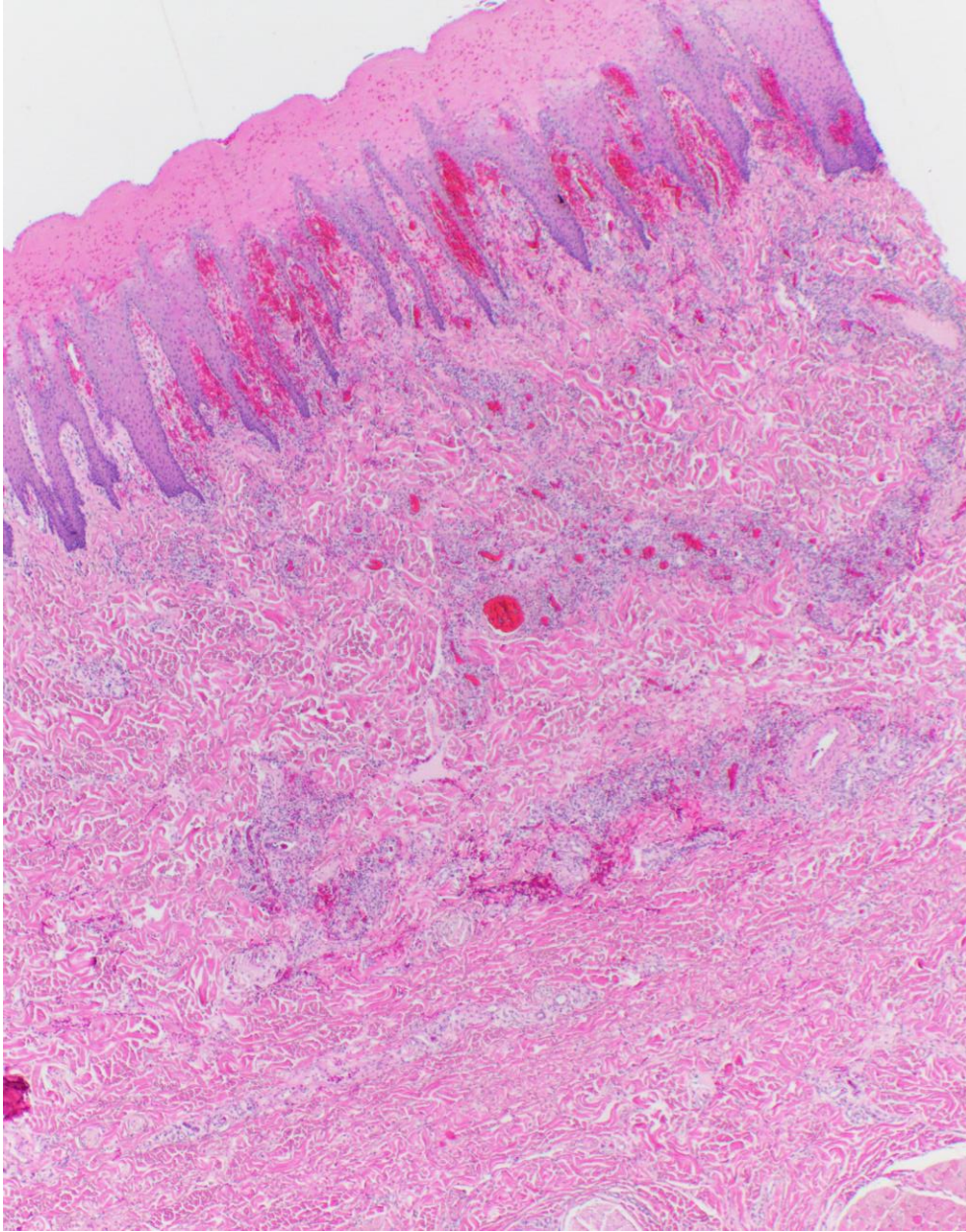


**Figure 2.**



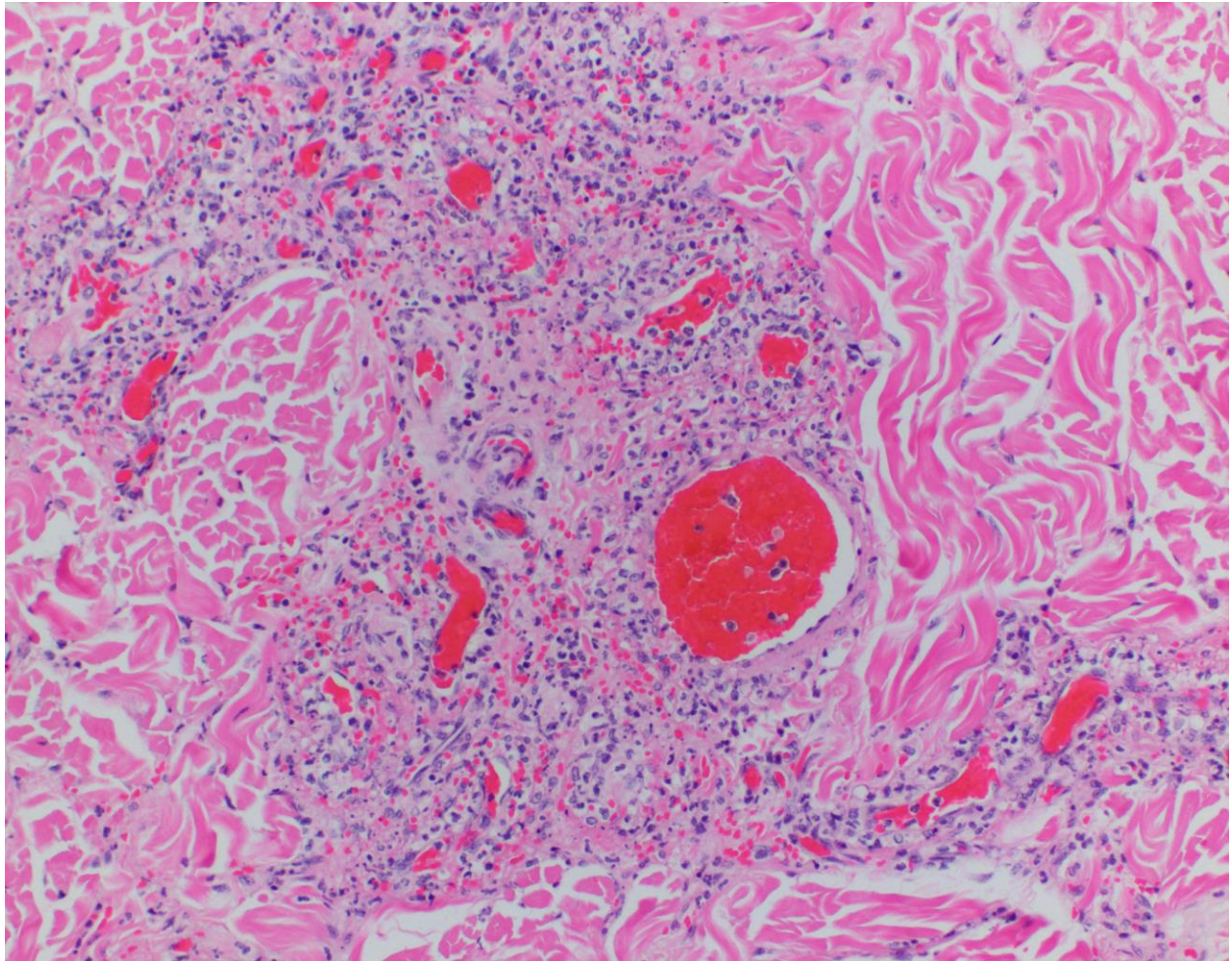


**Figure 3.**



**Figure 4.**





**Figure 5.**

**Follow Up Questions:**

1. *Microscopic description*
2. *Morphologic diagnosis*
3. *Name the disease*
4. *Associated etiologic agent and pathogenesis*

\*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/>)

**Editor in Chief:** Claudio Barros

**Associate Editor for this Diagnostic Exercise:** Daniel R. Rissi