



DIAGNOSTIC EXERCISE

From The Davis-Thompson Foundation*

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Question Sheet

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Clinical History: A 16-year-old paint mare presented to the Texas A&M equine emergency medicine service for chronic weight loss despite an adequate appetite, inappropriate mentation, and hair loss. Clinical symptoms started three months prior with a history of gradual weight loss that did not respond to prophylactic oral deworming, diet change, or dental float. The horse then began displaying signs of pruritus with self-inflicted patchy alopecia primarily localized to the pigmented skin followed by rapid epaxial and gluteal muscle atrophy and fluctuant swelling around the head and neck (Fig. 1). Palpable, firm skin nodules appeared in the cervicothoracic, pectoral, axillary, and inguinal regions (Fig. 2). The mare also began exhibiting signs of colic, decreased borborygmi and dry fecal matter. Despite an initial two-day improvement with gastric decompression, anti-inflammatory medications, and supportive care, the horse became acutely neurologic with abnormal mentation and right front limb lameness/paresis. **See video:**

<https://youtu.be/NbiVcdOOkg0>

Neurologic signs significantly worsened over the next three days to pyrexia, weakened tail tone, abnormal right hind stride, generalized ataxia, head pressing, and violent outbursts. Hematology revealed a stress leukogram with a moderate mature neutrophilia (11,537 cells/ μ L), mild lymphopenia (695 cells/ μ L), and mild eosinophilia (1,390 cells/ μ L). Chemistry analysis revealed hyponatremia (128 mmol/L), hyperphosphatemia (5.6 mg/dl), hyperglobulinemia (4.4 g/dl), hyperbilirubinemia (4.9 mg/dl), elevated ALP (534 U/L), elevated AST (722 U/L), elevated lactic acid (32 mg/dl), and elevated creatinine kinase (1293 U/L). Ultrasound evaluation showed pleural effusion, a heterogeneous liver, and an enlarged lymph node within the cecal band. Physical exam further revealed multifocal ulcerations on the buccal mucosal surfaces and severe muscle wasting. Due to the diffuse and severe nature of the disease and poor prognosis, the horse was humanely euthanized.



Figure 1: Alopecia on poll

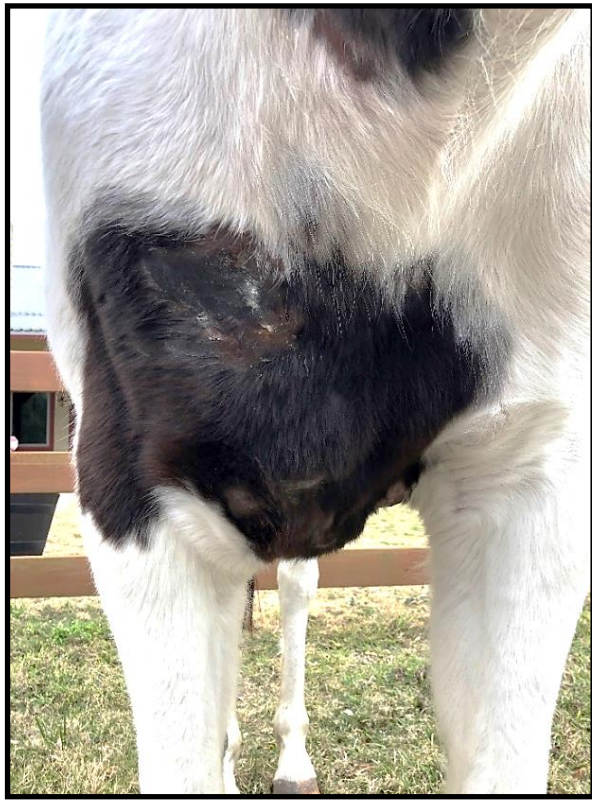


Figure 2: Abrasions and swelling on pectorals

Necropsy Findings: Multiple thickened areas of alopecia with superficial crusting were distributed across the abdomen, pectoral, and inguinal areas, with preference to pigmented skin. On cut section, these thickened areas were markedly firm, mottled pale tan to red, and extended into the underlying panniculus and skeletal muscle along with expansion by edema and hemorrhage (Fig. 3). The cervical, thoracic, paraspinal, shoulder, and pectoral skeletal muscles were pale and dry (Fig. 4). Additional hemorrhage and ulcerative lesions were within the oral and urinary bladder mucosa. Diffuse lymphadenomegaly was noted throughout the body, and the retroperitoneal and peritoneal space showed marked effusion. Many firm, pale tan, rounded nodules measuring up to 1 cm diameter were found infiltrating the wall of the jejunum, omentum, and on the greater curvature of the stomach. There were 1 mm, pale tan, firm, nodules disseminated throughout the parenchyma of all liver lobes. Histologic lesions were noted in the skin, skeletal muscle (Fig. 5), liver, meninges (Fig. 6), and bone marrow (Fig. 7).

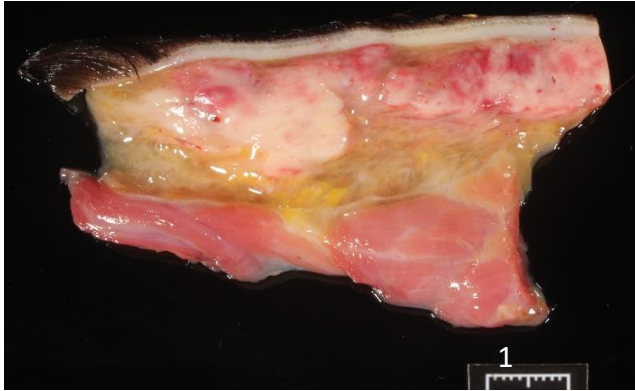


Figure 3. Skin and panniculus



Figure 4. Skeletal muscle

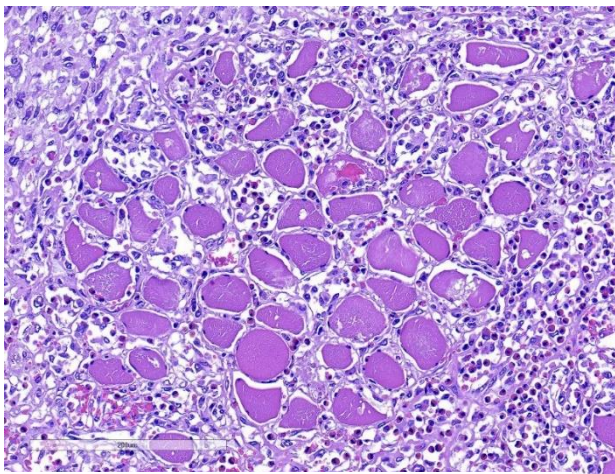


Figure 5. Skeletal muscle, H&E

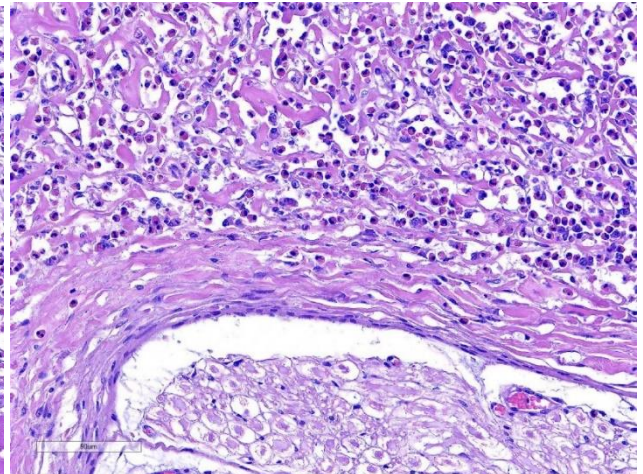


Figure 6. Spinal cord meninges, H&E

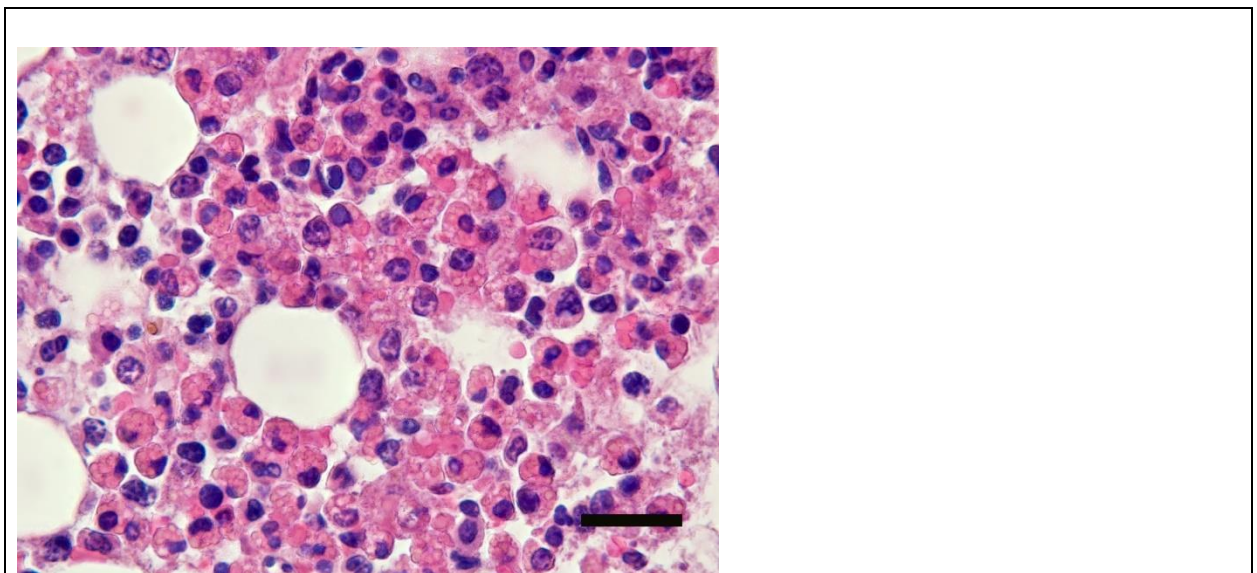


Figure 7. Bone marrow, H&E

Follow-Up Questions:

- *Microscopic description*
- *Morphologic diagnosis*
- *Differentials*
- *Name of the condition*
- *Diagnosis*

*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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