Case 46 - UGA 567146
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Signalment and History:

- 16 – year – old Percheron mare
- History:
  - Chronic weight loss despite a good appetite
  - Exercise intolerant and lying down for longer periods
  - Intermittent heart murmur noted
  - Referral to UGA for cardiac evaluation
- Physical examination:
  - Mild increased respiratory effort at rest
  - Left basilar systolic heart murmur appreciated
  - Radiographs revealed a mild caudodorsal bronchial pattern consistent with allergic/inflammatory airway disease
## CBC:

<table>
<thead>
<tr>
<th>Truncated CBC</th>
<th>Results</th>
<th>Units</th>
<th>Reference Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hematocrit</td>
<td>38.6</td>
<td>%</td>
<td>26.3 – 42</td>
</tr>
<tr>
<td>White blood cell count</td>
<td>11.0</td>
<td>x 10^3/µl</td>
<td>5.7 – 11.7</td>
</tr>
<tr>
<td>Segmented neutrophils</td>
<td>10.0 (H)</td>
<td>x 10^3/µl</td>
<td>2.9 – 8.5</td>
</tr>
<tr>
<td>Lymphocytes</td>
<td>0.66 (L)</td>
<td>x 10^3/µl</td>
<td>1.16 – 5.1</td>
</tr>
<tr>
<td>Platelets</td>
<td>69.0 (L)</td>
<td>x 10^3/µl</td>
<td>104 – 228</td>
</tr>
</tbody>
</table>

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Blood Smear Evaluation:

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Anaplasma phagocytophilum:

- Formerly known as *Ehrlichia equi*
- *A. phagocytophilum* is the etiologic agent of equine granulocytic anaplasmosis (EGA)
- Found in membrane-lined vacuoles within the cytoplasm of infected eukaryotic host cells
  - Primarily neutrophils and eosinophils
- EGA occurs during the late fall, winter, and spring
- Horses of any age are susceptible
  - Clinical manifestations are less severe in younger horses
Pathogenesis of *A. phagocytophilum*:

- In the eastern and midwestern United States, *Ixodes scapularis* is the vector of granulocytic anaplasmosis.
  - Small rodents (e.g. white-footed mice, chipmunks) as well as white-tailed deer are potentially reservoirs.
- Although the pathogenesis is poorly understood the pathogen demonstrates tropism to the cells of hematopoietic and phagocytic systems.

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Clinical Picture of *A. phagocytophilum*:

- The clinical course of the disease ranges from 3 - 16 days and often is self-limiting in untreated horses.
- The severity of clinical signs vary with the age of the horse and the duration of the illness:
  - Adult horses generally develop progressive signs of fever, depression, anorexia, petechiation, icterus, ataxia, and reluctance to move.
Laboratory Diagnostics:

- The laboratory abnormalities that may be seen include:
  - Leukopenia
  - Thrombocytopenia
  - Anemia

- Diagnosis of infection most commonly relies on identification of morulae in peripheral blood and/or positive serology
  - Recently, PCR has been developed and is considered highly sensitive and specific
  - PCR is particularly useful during early and late stages, when the number of organisms may be too small for diagnosis by microscopy

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Follow-up:

- Patient treated with oxytetracycline once daily for 7 days
- After treatment the patient was lying down less and starting playing with pasture mates again

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Acknowledgements:

- Bridget Garner, DVM, PhD, DACVP
- Holly Brown, DVM, PhD, DACVP

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References:

Thank you for your time!