CASE 55 - UGA 11212

Lisa S. Kelly
Melinda S. Camus

College of Veterinary Medicine
Department of Pathology
University of Georgia
• 6-yr-old, F/S Golden Retriever

• History- 1 week since last normal
  • Progressive lethargy
  • Progressive inappetence to anorexia
  • Polydipsia
  • One episode of vomiting

• Physical Exam:
  • Bright, alert, responsive
  • Temperature - 103.6 °F
  • Firm, mid-abdominal mass, ~ 7 cm
<table>
<thead>
<tr>
<th>Truncated CBC:</th>
<th>Result</th>
<th>Units</th>
<th>Ref. Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCT</td>
<td>36.6</td>
<td>%</td>
<td>36.6-59.6</td>
</tr>
<tr>
<td>WBC</td>
<td>12.8</td>
<td>x 10^3/µL</td>
<td>5.5-13.9</td>
</tr>
<tr>
<td>Segs (41%)</td>
<td>5.248</td>
<td>x 10^3/µL</td>
<td>2.9-12</td>
</tr>
<tr>
<td>Lymphs (9%)</td>
<td>1.152</td>
<td>x 10^3/µL</td>
<td>0.4-2.9</td>
</tr>
<tr>
<td>Monos (21%)</td>
<td>2.688 H</td>
<td>x 10^3/µL</td>
<td>0.1-1.4</td>
</tr>
<tr>
<td>Eos (1%)</td>
<td>0.128</td>
<td>x 10^3/µL</td>
<td>0-1.3</td>
</tr>
<tr>
<td>Baso (13%)</td>
<td>1.664 H</td>
<td>x 10^3/µL</td>
<td>0-0.14</td>
</tr>
<tr>
<td>Others (15%)</td>
<td>1.920 H</td>
<td>x 10^3/µL</td>
<td>0</td>
</tr>
<tr>
<td>Platelets</td>
<td>92* L</td>
<td>x 10^3/µL</td>
<td>235-694</td>
</tr>
<tr>
<td>MPV</td>
<td>22.7 H</td>
<td>fl</td>
<td>6.1-10.1</td>
</tr>
</tbody>
</table>

* Platelet clumps present
BASOPHILS

- Mature in bone marrow
- Involved in $T_{H2}$ response, hypersensitivity, coagulation
- Frequently less than 0.5% of canine WBC
- Cannot be counted on automated analyzers
- May be confused with other leukocytes
Differentials for basophilia:
- Mast cell neoplasia

Myeloproliferative diseases
- Basophilic leukemia
- Essential thrombocythemia
- Acute megakaryocytic leukemia

IgE-mediated disorders
- Chronic eosinophilic airway disease
- Parasitic pulmonary disease
“OTHERS”

- 15% of leukocytes are Mast Cells
- Mature in peripheral tissue
- Rare in peripheral blood = Mastocytia
- Involved in:
  - Hypersensitivity
  - Host defense
  - Tissue remodeling
  - Inflammation
  - Coagulation
- Contain:
  - Biogenic Amines
  - Enzymes
  - Proteoglycans
MASTOCYTEMIA

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MASTOCYTEMIA

• By itself, not indicative of mast cell neoplasia
• 95.5% of dogs did not have MCT (120 cases)
• Diseases other than MCT:
  • Inflammatory diseases
  • Necrosis
  • Trauma
  • Regenerative anemia
  • Other neoplasia
• May have concurrent evidence of inflammation on CBC
• Expect inflammatory mast cells to be “bland”
CBC Diagnosis & Interpretation

• Mastocytemia with pleomorphic mast cells
• Marked basophilia

Most consistent with mast cell neoplasia (systemic mastocytosis)

• Moderate monocytosis
  • Consistent with chronic inflammation

• Mild to moderate thrombocytopenia with ↑ MPV
  • Destruction or consumption
MID-ABDOMINAL MASS
MID-ABDOMINAL MASS

Lymph node with metastatic mast cell neoplasia
VISCERAL MCT

- No cutaneous mass - Primary visceral MCT
- More common in cats than dogs
- Often originates in spleen, liver, GI tract
- Commonly associated with mastocytemia
- In dogs - poor to grave prognosis
Acknowledgements

• Ms. Denise Pope, MT
• Dr. Selena Lane, DVM
• Dr. Amie Koenig, DVM, DACVIM, DACVECC
• Dr. Bridget Garner, DVM, PhD, DACVP

References


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