KSVDL 116885

• Signalment
  – 10 year old
  – Neutered male
  – White miniature Schnauzer

• History
  – 3 weeks of intermittent vomiting increasing in frequency
  – 5 days of dark, hemorrhagic, mucoid diarrhea
  – Unresponsive to medical management with amoxicillin & intestinal diet
KSVDL 116885

• Physical Exam
  – T = 103.5°F
  – P = 136 beats/min
  – R = 28 breaths/min
  – Abdominal pain
  – ~ 5-7% dehydrated

## KSVDL 116885: CBC Results

### EDTA Blood

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
<th>Reference Interval</th>
<th>Test</th>
<th>Result</th>
<th>Reference Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>[WBC]</td>
<td>34.1 K/µL</td>
<td>4.3-13.6</td>
<td>[RBC]</td>
<td>6.56 M/µL</td>
<td>5.8-8.2</td>
</tr>
<tr>
<td>[Seg Neu]</td>
<td>30.3 K/µL</td>
<td>2.5-9.3</td>
<td>Hgb</td>
<td>16.8 g/dL</td>
<td>14.1-20.5</td>
</tr>
<tr>
<td>[Bands]</td>
<td>0.3 K/µL</td>
<td>0.0-0.1</td>
<td>Hct(_{\text{calc}})</td>
<td>49%</td>
<td>41-59</td>
</tr>
<tr>
<td>[Lymph]</td>
<td>1.0 K/µL</td>
<td>0.8-4.3</td>
<td>Hct(_{\text{spun}})</td>
<td>48%</td>
<td>40-57</td>
</tr>
<tr>
<td>[Mono]</td>
<td>1.7 K/µL</td>
<td>0.1-0.9</td>
<td>MCV</td>
<td>74.4 fL</td>
<td>64.0-76.0</td>
</tr>
<tr>
<td>[Eos]</td>
<td>0.3 K/µL</td>
<td>0.0-1.5</td>
<td>MCHC</td>
<td>34.5 g/dL</td>
<td>33.0-36.0</td>
</tr>
<tr>
<td>[Baso]</td>
<td>0.3 K/µL</td>
<td>0.0-0.1</td>
<td>RDW</td>
<td>13.9%</td>
<td>11.4-13.7</td>
</tr>
<tr>
<td>[Mast Cell]*</td>
<td>3.4 K/µL</td>
<td>none</td>
<td>[Retic]</td>
<td>0.04 M/µL</td>
<td>0.01-0.12</td>
</tr>
<tr>
<td>nRBC</td>
<td>1/100 WBC</td>
<td></td>
<td>[Plt]</td>
<td>116 K/µL</td>
<td>130-370</td>
</tr>
</tbody>
</table>

*Mast cells not included in reported [WBC]

Comments: Plastelet clumps present
KSVDL 116885: Blood smear; Modified Wright stain; 20x objective

Permission granted only for viewing on SEVPAC website
KSVDL 116885: Scattergram

Advia 2120®; Peroxidase Channel

LUC gate events = $3.2 \times 10^3 / \mu L$

$[\text{Mast cell}] = 3.4 \times 10^3 / \mu L$
Interpretation: Mastocytemia

- **Differentials**: ¹
  - Inflammatory conditions
  - Regenerative anemias
  - Mast cell tumors
  - Trauma
  - Severe necrosis
  - Other neoplasias

High concentrations not always due to presence of a mast cell tumor.¹
Sagittal view; Muscularis layer mass
KSVDL 116885: Colonic Mass Cytology
Modified Wright stain; 40x objective
KSVDL 116885: Colonic Mass Cytology
Diff-Quik® stain; 40x objective
KSVDL 116885: Blood Smear

Diff-Quik® stain; 50x oil objective
Poor DiffQuik® Staining of Mast Cell Granules

Time in Diff-Quik® Fixative Solution
• No significant difference in staining quality

Other Theories
• Cellular differentiation
• Granule number
• Granule size
• Tissue handling

KSVDL 116885: Colonic MCT; Diff-Quik® stain; 50x oil objective
KSVDL 116885: Add’l Diagnostics

- **C-kit PCR**
  - Performed on peripheral blood
  - Negative
• **Recommended Diagnostics:**
  – FNA of mesenteric lymph nodes and liver
  – Histologic evaluation of colonic MCT
  – C-kit on colonic MCT
  – All declined

• **Symptomatic Treatment:**
  – Maropitant, famotidine, diphenhydramine, SQ fluids

• Died at home 4 weeks later
  – Necropsy declined
Canine Gastrointestinal Mast Cell Tumors

• Signalment
  – Middle-aged small breed dogs
  – Maltese over-represented

• Presentation
  – Anorexia
  – Diarrhea/melena
  – Vomiting
Canine Gastrointestinal Mast Cell Tumors

- **Location**
  - Usually upper GI tract
  - <10% large intestine

- **Mastocytemia**
  - Reported in 5/10 GI MCT

- **Histologic differentials**
  - GIST and Lymphoma

- **Poor prognosis**
References
