Case #242209

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University of Georgia
Small Animal Rotating Intern

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History

- Case Number: 242209
- Signalment: 7 yo FS miniature schnauzer
- History: Presented to rDVM for vomiting, inappetance, lethargy, PU/PD of 3-4 day duration
- Referred to UGA for concern for hepatobiliary disease

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Physical Exam Findings

- T: 101.6  P: 180  R: 44, eupneic
- QAR
- Mucous membranes, pinna, and sclera icteric
- Painful abdomen
- Otherwise unremarkable

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## Complete Blood Count

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Patient Results</th>
<th>Reference Intervals</th>
</tr>
</thead>
<tbody>
<tr>
<td>WBC x10^3/uL</td>
<td>40.9 H</td>
<td>5.5-13.9</td>
</tr>
<tr>
<td>RBC x10^6/uL</td>
<td>6.54</td>
<td>4.98-7.92</td>
</tr>
<tr>
<td>Hgb g/dL</td>
<td>13.9</td>
<td>12.6-19.9</td>
</tr>
<tr>
<td>HCT %</td>
<td>40.1</td>
<td>36.6-59.6</td>
</tr>
<tr>
<td>Platelets x10^3/uL</td>
<td>40 L</td>
<td>235-694</td>
</tr>
<tr>
<td>MPV fl</td>
<td>10.1</td>
<td>6.1-10.1</td>
</tr>
<tr>
<td>Segs x10^3/uL</td>
<td>39.673 H</td>
<td>2.9-12</td>
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<tr>
<td>Lymphocytes x10^3/uL</td>
<td>0.818</td>
<td>0.4-2.9</td>
</tr>
<tr>
<td>Monocytes x10^3/uL</td>
<td>0.409</td>
<td>0.1-1.4</td>
</tr>
</tbody>
</table>

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Diagnosis: Stomatocytosis
Electron Microscopy

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Discussion

- Three inherited syndromes: miniature schnauzers, Alaskan malamutes, Drentse patrijshonds

- Autosomal recessive

- Schnauzers: No clinical disease, increased MCV, high PCV, decreased MCHC, slightly shortened RBC survival, 0.6-18.9% of RBCs identified as stomatocytes

- Membrane defects, increase in monovalent cations -> increase in water -> erythrocyte osmotic fragility and swelling -> shortened survival

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Discussion

- Malamutes: same pathogenesis as schnauzers and humans
  - Same indices as schnauzers plus reticulocytosis, erythroid hyperplasia, and increased iron turnover
- Drentse partijshonds: Multi-organ disease, hemolytic anemia, hypertrophic gastritis
  - Normal MCV, increased cell water with normal content, disorder of lipid metabolism?

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References


Acknowledgements

+ Dr. Melinda S. Camus, DVM, DACVP
+ Dr. Bridget Garner, DVM, PhD, DACVP
+ University of Georgia Department of Pathology
Questions?
<table>
<thead>
<tr>
<th></th>
<th>PCV</th>
<th>MCV</th>
<th>MCHC</th>
<th>Osmotic Fragility</th>
<th>Reticulocytois</th>
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<tbody>
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<tr>
<td>Malamute</td>
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<tr>
<td>Dren. P.</td>
<td>Normal</td>
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<td></td>
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<td>No</td>
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</tbody>
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