Clinical Nephrolithiasis in a Male Spotted Seal (Phoca largha)

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The Past: Clinical Course
- Spring 2020: Started UAs, abundant RBCs noted
- Summer 2020: ↑ WBCs, cocci, crystals, and frequency of urination, max weight ~7 kg higher
- Aug 2020: Treated for UTI Clavamox (25 mg/kg BID), probiotic
- Sep 2020: ↓ food intake, ↑ pain, added Meloxicam (0.1-0.2 mg/kg SID PO or SQ), Convenia (8mg/kg SQ), Maropitant (1-2 mg/kg SID PO or SQ), LRS w/Vit B SQ
- Oct 2020: Ongoing inappetance, painful behaviors, CT scan confirms multiple kidney stones, continued supportive care, increased hydration
- Nov 2020: Started Allopurinol
- Dec 2020: Painful episode, supportive care, resolved
- Spring 2021: Seeing decrease in amount of RBCs

The Present: Ongoing Treatment
- Allopurinol (4-11 mg/kg total per day) PO
- Increased hydration, increasing water intake
- Weight management

The Future: Monitoring and Investigative Plans
- Periodic UAs, US, & CT scans
- Investigating diet modification
- Figuring out stone type
- Not attempting to modify urinary pH, stone type unconfirmed, cannot easily tract precise pH, could cause different stones if go too far
- Any suggestions?

Table 1: UA Results from samples largely taken off the deck, consistently negative for nitrites, ketones, glucose, casts. Bacteria were always cocci and the numbers were qualitatively assessed on a scale of 1-4. Crystals typically struvite and the numbers were qualitatively assessed on a scale of 1-4

<table>
<thead>
<tr>
<th>Parameter</th>
<th>AVG</th>
<th>SD</th>
<th>MIN</th>
<th>MAX</th>
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</thead>
<tbody>
<tr>
<td>UROBILI</td>
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<td>0.7</td>
<td>0</td>
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<tr>
<td>BILI</td>
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<td>0.2</td>
<td>0</td>
<td>0.5</td>
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<tr>
<td>PROTEIN</td>
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<td>42.1</td>
<td>0</td>
<td>100</td>
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<tr>
<td>pH</td>
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<td>0.6</td>
<td>5</td>
<td>7</td>
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<tr>
<td>SP GRAVITY</td>
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<td>0.01</td>
<td>1.017</td>
<td>1.043</td>
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<tr>
<td>RBC / hpf</td>
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<td>0</td>
<td>TNTC</td>
<td></td>
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<tr>
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<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>BACTERIA/hpf</td>
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<td>1.5</td>
<td>0</td>
<td>4+</td>
</tr>
<tr>
<td>CRYSTALS/lpf</td>
<td>1.04</td>
<td>1.6</td>
<td>0</td>
<td>4+</td>
</tr>
</tbody>
</table>

Figure 1: Ultrasound of Left Kidney

Figure 2: CT Scan at the level of the kidneys

Figure 3: Range of color of urine

Acknowledgements: The seal, PL1002 ‘Tunu,’ in this case report is held under NOAA NMFS Permit 18902. The report is based on findings and samples obtained under ASLC’s Program of Veterinary Care. Maximizing his health and welfare is possible through the dedication of his animal care team including husbandry, veterinary, and research staff at ASLC.