Outcome After Radical Mandibulectomy for the Treatment of Oral Neoplasia in Seven Cats
Boston, SE, Wavreille V, Bacon NJ, Szentimrey D, van Nimwegan SA, Kirby, B, van Stee LL

Introduction

Oral neoplasia and specifically, squamous cell carcinoma (SCC) is a devastating disease in cats. It is a locally aggressive disease. The current literature suggests that cats do not do well after extensive mandibulectomy and also that a feeding tube should be placed after mandibulectomy in cats to provide postoperative support to these patients. The authors have had clinical experiences that are contrary to the current literature, with cats seeming to adjust to radical mandibulectomy and experiencing a good quality of life post operatively.

Our objective was to report the outcome after radical mandibulectomy in cats. We hypothesized that most cats that have a radical mandibulectomy will eat post operatively and have a good quality of life, with some long-term survivors.

Materials and Methods

This was a multi-institutional retrospective case series. Cats were included if they had confirmed mandibular neoplasia and were treated with a radical mandibulectomy. Radical mandibulectomy was defined as the removal of >50% of the entire mandible. Case information including signalment, preoperative work up and treatments, surgical procedure performed, histopathology results, perioperative complications, outcome and survival were recorded. Cats were considered to be eating on their own if they did not require a supplementary feeding tube long-term.

Results

- Seven cats were included
- All cats had extensive mandibular tumours
- All cats had 75-90% of the entire mandible removed
- All cats had feeding tubes placed immediately after surgery
- 5 cats were eating within 3 days to one month of surgery
- 2 cats required long-term feeding
- 2 cats developed local recurrence and tumour-related deaths
  - ST: 136 and 291 days
  - 4 cats had no recurrence
  - ST: 118 (still alive), 465, 608 and 1023 days
  - 3 dead died of other causes
  - 1 died of aspiration 156 days post operatively
  - MST 291 days

Discussion

- Good long-term outcomes are possible after radical mandibulectomy
- The two cats that experienced local recurrence had worse outcomes for survival and requirements for nutritional support.
- 4/5 cats that did not experience local recurrence all ate on their own and had good long term outcomes.
- In most cases, radical mandibulectomy in cats is by nature a marginal excision.
- The procedure provides palliation and, in our experience, most cats will eat on their own in most cases.
- A feeding tube and aggressive pain management are recommended post operatively to support the patient and avoid perioperative complications.

Study Limitations: This is a small number of cats, which is inherent in the fact that this procedure is rarely performed due to our current understanding in the literature.

Scientific or Clinical Relevance: Radical mandibulectomy should be considered for the treatment of oral neoplasia, most commonly SCC in cats. Although previous reports suggest that the morbidity of this procedure is too high, successful outcomes are possible with aggressive supportive care

<table>
<thead>
<tr>
<th>Case #</th>
<th>Age (yrs)</th>
<th>Breed</th>
<th>Sex</th>
<th>Histopath</th>
<th>% of Mandible Removed</th>
<th>Eating Post Operatively</th>
<th>Survival Time (days)</th>
<th>Cause of Death</th>
<th>Recurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>17</td>
<td>DLH</td>
<td>MC</td>
<td>SCC</td>
<td>75%</td>
<td>Y - 14 days</td>
<td>465</td>
<td>Lymphoma</td>
<td>N</td>
</tr>
<tr>
<td>2</td>
<td>11</td>
<td>DSH</td>
<td>FS</td>
<td>SCC</td>
<td>90%</td>
<td>Y</td>
<td>608</td>
<td>Renal Failure</td>
<td>N</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td>DSH</td>
<td>MC</td>
<td>SCC</td>
<td>90%</td>
<td>Y - 1 month</td>
<td>136</td>
<td>Recurrence</td>
<td>Y</td>
</tr>
<tr>
<td>4</td>
<td>13</td>
<td>DSH</td>
<td>FS</td>
<td>SCC</td>
<td>75%</td>
<td>Y - 3 days</td>
<td>1023</td>
<td>Euthanized</td>
<td>N</td>
</tr>
<tr>
<td>5</td>
<td>10</td>
<td>DSH</td>
<td>MC</td>
<td>SCC</td>
<td>75%</td>
<td>N</td>
<td>291</td>
<td>Recurrence</td>
<td>Y</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
<td>DSH</td>
<td>MC</td>
<td>GCT</td>
<td>75%</td>
<td>11 days</td>
<td>118</td>
<td>Still alive</td>
<td>N</td>
</tr>
<tr>
<td>7</td>
<td>16</td>
<td>DSH</td>
<td>FS</td>
<td>SCC</td>
<td>100%</td>
<td>N</td>
<td>156</td>
<td>Aspiration</td>
<td>N</td>
</tr>
</tbody>
</table>

Axial (a) and sagittal CT images of case #1. Not the extensive ostolysis and separable lesion of the right mandible (arrow)