Proceeding of the European College of Veterinary Surgeons Annual Scientific Meeting ECVS

July 7-9, 2016
Lisbon, Portugal

Next Meeting:

July 13-15, 2017 – Edinburgh, UK
Canine Oral Malignant Melanoma

Kirpensteijn J*1, Boston S*2

1Hill’s Pet Nutrition, Topeka KS, USA, 2University of Florida, Gainesville FL, USA.

Epidemiology:
Canine Oral Malignant Melanoma (COMM) is a neoplasm of melanocytic cells. The most frequently affected site is the oral cavity and COMM is the most common oral neoplasm in dogs. The affected sites include the gingiva, buccal or labial mucosa, hard or soft palate, and tongue. COMM are often rapidly growing, locally invasive and potentially metastatic tumors. COMM have a high metastatic rate, which is reported at 70 to 90%. COMM are most often diagnosed in older dogs without gender predilection.

Classification:
The World Health Organization (WHO) has developed a scheme for classifying oral melanomas in humans, which was adapted for dogs. The classification of a tumor is based on: the anatomic site of the tumor, tumor size, and tumor stage. Increasing stage tends to correlate with a worsening prognosis (Table 1).

<table>
<thead>
<tr>
<th>Stage</th>
<th>Tumor Size</th>
<th>Lymph Node Involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>T1</td>
<td>N0</td>
</tr>
<tr>
<td>II</td>
<td>T2</td>
<td>N0</td>
</tr>
<tr>
<td>III</td>
<td>T3</td>
<td>N1 or N2</td>
</tr>
<tr>
<td>IV</td>
<td>Any T, any N</td>
<td>Any M</td>
</tr>
</tbody>
</table>

Materials and Methods:
VSSO Symposium 2016: During the VSSO symposium in Napa, California (2016), COMM was discussed. A pre-event electronic survey was sent to the VSSO listserv with questions pertaining to COMM and similar questions were reviewed during the meeting with live polling. During the VSSO discussion a maximum of 99 oncology interested veterinary surgeons, including diplomate specialists of the various colleges, were actively involved using live polling. All polling answers were recorded.

Clinical guidelines obtained from discussion:
Staging:
Of the various staging procedures, distant metastases was recognized as the most important factor to determine prognosis (70%) and only 13% the size of the tumor. If there are no distant metastases, the most important factors were deemed: lymph node involvement (43%), size of tumor (29%) and the resectability of the tumor (26%).

Lymph node staging:
In case of a COMM, 56% percent of the interviewed would aspirate both mandibular lymph nodes, 24% the ipsilateral lymph node and 15% bilateral mandibular and retropharyngeal lymph nodes.

When asked what lymph node they would routinely remove during surgery, 45% would use advanced diagnostic imaging to determine, 6% used sentinel lymph node determination, 26% removed standard the ipsilateral lymph node, 13% bilateral mandibular and 10% bilateral mandibular and retropharyngeal.

Diagnostic imaging:
If people had to choose between three-view thoracic radiographs and CT scan of the chest, 78% preferred CT. Fifty percent of the active participants additionally perform diagnostic imaging of the abdomen in oral MM patients, either by ultrasound (64%) or CT (36%). CT of the head and neck (and chest) is seen as the most ideal preoperative staging and preparation technique by 96% of the interviewed.

Therapy for oral MM:
The preferred approach for a large oral MM was wide or radical surgical excision (89%). Radiation as a sole therapy was chosen by 11% of the audience.

Most of the audience (68%) would recut cases that had marginally excised oral mucocutaneous MM after a...
full diagnostic work up. Fifteen percent would only use adjunctive therapy for these cases.

When asked what the role of radiation therapy was, 77% answered when surgery was not an option and 21% included it in every case after surgery. When asked what adjuvant therapy one preferred after surgical excision, 73% answered immunotherapy, 16% chemotherapy, 7% NSAIDS and 4% radiation therapy.

**MM Vaccine:**

When asked if the audience felt that the currently available melanoma vaccine was effective, 58% answered yes. When asked if they use the vaccine, 84% of the audience said yes. Additionally 55% used it for stage 4 patients. The question, how many vaccines should you give was answered by 38% as many as you can give, >4 doses by 36% and 4 doses by 21 percent. Should stage 1-2 patient receive adjuvant immunotherapy, 87 percent said yes.

**Chemotherapy:**

Chemotherapy was only used in 35% of cases, of which carboplatin was most popular. Seventy six percent give 4-6 doses of carboplatin if used.

**Other questions:**

If you find a oral mass during a dental procedure would you proceed with the dental procedure after biopsy of the mass, was answered in the positive by 50% of the audience.

Concerning tongue amputations: The amount of tongue you can amputate in dogs with still have the ability to eat was answered as follows (Table 2):

<table>
<thead>
<tr>
<th>Percentage of amputation</th>
<th>Dog</th>
<th>Cat</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>26.80%</td>
<td>2.00%</td>
</tr>
<tr>
<td>80</td>
<td>50.00%</td>
<td>10.00%</td>
</tr>
<tr>
<td>60</td>
<td>16.10%</td>
<td>8.00%</td>
</tr>
<tr>
<td>50</td>
<td>7.10%</td>
<td>80.00%</td>
</tr>
</tbody>
</table>

Table 2. What percentage of the tongue can you amputate while preserving the ability to eat and drink in dogs and cats?

**Discussion:**

A major disclaimer of this study was that the study population was extremely skewed towards a surgical oncology attendee at the VSSO symposium, so all data interpretation should be interpreted with caution. In general, the results were very similar to the pre-event enquiry done by 88 VSSO members (data not shown).

As general guidelines for COMM one could extrapolate:

- Distant metastases and lymph node involvement are the most important prognostic determinants
- Most people aspirate at least one lymph node before surgery routinely and also remove the ipsilateral lymph node during surgery
- CT of the chest is the preferred technique for thoracic and abdominal ultrasound for evaluation of the presence of metastases
- COMM should be excised with wide or radical margins and marginal cuts should receive additional surgery
- The role of chemotherapy or radiation therapy is unclear at the moment, radiation therapy is most commonly used for tumors that can not be excised completely. Of the chemotherapy options, 4 or more doses of single agent carboplatin is the most commonly used protocol
- The MM vaccine is used often by this audience, but not everyone is convinced of it’s efficacy. At least 4 doses are preferred.
- There are strict differences between dogs an cats of how much tongue you can remove without affecting the ability to eat or drink.

**References:**