Lab 1: Upper alimentary tract – mouth to stomach

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• Newborn, male piglet
• Failure to nurse
• Died
Pathology of the Alimentary Tract – Case 1

Description?
A long wide cleft is present in the hard and soft palate allowing communication between the oral and nasal passages

Morphologic Diagnosis
Cleft Palate = Palatoschisis

**Palatoschisis** = Failure of fusion of the lateral palatine processes of the maxillary bone
Sequela?
- Reflux of milk through the nares
- Starvation
- Aspiration of food (aspiration pneumonia)

Cause?
- Congenital
  - Genetic
  - Teratogen – toxic plants
Pathology of the Alimentary Tract – Case 1

- Muskrat
- Found dead on top of muskrat house
- Penetrating wound in the body wall
Pathology of the Alimentary Tract – Case 1

Description?
There is malalignment of the upper and lower dental arcades

Morphologic Diagnosis
Malocclusion
Pathology of the Alimentary Tract – Case 2

- Tongue from a cow
- History: Tongue swollen and protruding from mouth
- Anorexia
- Drooling
- Low-grade fever
There is generalized enlargement of the tongue with numerous small (4 – 10 mm) raised, tan, round to irregular, ulcerated foci on the lateral and dorsal surfaces. On cut section these round foci extend deep into the muscle forming coalescing nodules surrounded by fibrous connective tissue.
Pathology of the Alimentary Tract – Case 2

Morphologic Diagnosis
Glossitis, granulomatous, multifocal to coalescing, chronic, severe

Disease Name and Etiology?
Wooden Tongue, caused by Actinobacillus ligniersii
Tongue from a 12 yr old, FS, DSH cat

- Anorexic for several days
- History of polyuria/polydipsia
- Uremic breath
- Elevated BUN
Morphologic Diagnosis

Glossitis, ulcerative, bilateral, severe

Etiologic Diagnosis?

Uremic Glossitis

Other potential causes: Calicivirus, Herpesvirus

• Ulceration present along the lateral margins of the tongue bilaterally
Tissues from a 6-8 month old calf

History: Noted to be ‘sick’

Losing weight for last month

Diarrhea
Description?
Multifocal to coalescing, well-delineated, round to irregular, erosions measuring 1 – 3 cm in diameter are present within the mucosa of the oropharanx and esophagus. Similar lesions are present on the muzzle.

Morphologic Diagnosis?
Stomatitis/pharyngitis/esophagitis/dermatitis (muzzle), erosive, multifocal to coalescing, subacute, severe
<table>
<thead>
<tr>
<th>Disease Name</th>
<th>Etiology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bovine Viral Diarrhea</td>
<td>Pestivirus</td>
</tr>
<tr>
<td>Malignant Catarrhal Fever</td>
<td>Ovine herpesvirus-2</td>
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<td></td>
<td>Alcephaline herpesvirus-1</td>
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<tr>
<td>Bovine papular stomatitis</td>
<td>Parapoxvirus</td>
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<tr>
<td>Rinderpest</td>
<td>Morbillivirus</td>
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<tr>
<td>Bluetongue</td>
<td>Orbivirus</td>
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</tbody>
</table>
# Pathology of the Alimentary Tract – Case 3

## Vesicular Diseases!

<table>
<thead>
<tr>
<th>Disease Name</th>
<th>Etiology</th>
<th>Species affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foot and Mouth Disease</td>
<td>Picornavirus (Aphthovirus)</td>
<td>Ruminants, Swine (all clove-hooved animals)</td>
</tr>
<tr>
<td>Vesicular Stomatitis</td>
<td>Rhabdovirus</td>
<td>Horse, Ruminants, Swine</td>
</tr>
<tr>
<td>Swine Vesicular Disease</td>
<td>Picornavirus (Enterovirus)</td>
<td>Swine</td>
</tr>
<tr>
<td>Vesicular Exanthema</td>
<td>Calicivirus</td>
<td>Swine, Sea Lions</td>
</tr>
</tbody>
</table>
Pathology of the Alimentary Tract – Case 4

- Tissue from a calf
- History of diarrhea and weight loss
There is diffuse thickening of the abomasal wall with the mucosa having a corrugated appearance.
Pathology of the Alimentary Tract – Case 4

Morphologic Diagnosis?
Abomasitis, proliferative, extensive, chronic, severe

“Morrocan Leather”
Pathology of the Alimentary Tract – Case 4

Etiology?

*Ostertagia ostertagi* – in cattle

*Ostertagia cicumcinta* - sheep and goats
Pathology of the Alimentary Tract – Case 5

- Tissue from a pig
- Pig found dead; carcass very pale
Within the stomach, the pars esophagea is deeply ulcerated leaving a roughened yellow mucosa with a peripheral margin of fibrosis.
Gastric ulceration, locally extensive (pars esophagea), chronic, severe

Possible outcome: Severe gastric hemorrhage or gastric perforation
• Common locations of ulcers:
  • Pig: Pars esophagea
  • Horse: In the squamous portion – often near margo plicatus

• General contributing factors to gastric ulceration:
  • Imbalance between gastric acidity and mucosal protection
  • Diet is important in pigs – fine particulate feed predisposes to ulceration
Tissues from a cow and a llama
Arising from the rumen mucosa near the junction with the esophagus is a firm, tan, pedunculated, polpoid mass measuring approximately 10 x 15 cm.
Pathology of the Alimentary Tract – Case 6

- **Benign or Malignant?**
  - Single
  - Well delineated - Pedunculated
  - Non-invasive
  - No necrosis or hemorrhage

**Benign!**

**Morphologic Diagnosis?** Fibropapilloma, rumen

**Possible sequelae?** Obstruction of esophagus → prevention of eructation → free gas bloat
Rumen

• Stomach (C1) from a llama
• History of chronic weight loss (BCS 1/10)
• Gastric ulceration (per owner) that was failing to respond to treatment with omeprazole
• Abdominal masses identified via U/S
The gastric mucosa is infiltrated and thickened by poorly delineated coalescent nodules of solid homogenous tan-yellow tissue which, in areas, are friable and brown (necrotic). The mucosa surrounding the glandular saccules is extensively ulcerated.
Pathology of the Alimentary Tract – Case 6

**Benign or Malignant?**
- Large-extensive mass
- Poorly delineated
- Invasive (with extension through the wall)
- Necrosis prominent

**Differential Diagnoses?**
- Gastric adenocarcinoma, C1
- Squamous cell carcinoma, C1
- Lymphoma, C1

**Possible sequelae?**
- Gastric rupture and septic peritonitis
Questions??