Lab 2: Lower alimentary tract – SI, LI, cecum, and peritoneum

“GIST” in the cecum of a dog

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• 3 year old cow
• Anorexia, lethargy for one week
• Abdominal distension
• Black, tarry stools
A ~ 5 cm segment of jejunum and the associated mesentery has telescoped into the distal segment of intestine. The segments are firmly attached to one another and the entrapped portion is necrotic with friable white material adhered to the surface.
Morphologic Diagnosis

Intestinal intussusception, segmental, subacute to chronic, severe, with necrosis

One portion of the intestine ( = the intussusceptum) invaginates into another (the intussusciptiens)
Potential Causes?

- Irritability and hypermotility:
  - Endoparasitism
  - Enteritis
  - Linear Foreign bodies

- Previous surgery
- Tumours
Potential Outcome?

- Intestinal obstruction
- Necrosis of the entrapped segment → endotoxemia / sepsis
Pathology of the Alimentary Tract – Case 1b

- Female lamb
- Caudal abdominal distension
Description?

A large segment of small intestine (and the associated peritoneum) has passed into the subcutis through a defect in the left caudal abdominal body wall.
Morphologic Diagnosis: Intestinal herniation through the abdominal wall (external abdominal hernia)

Possible sequelae: Ileus, Intestinal incarceration, infarction
Pathology of the Alimentary Tract – Case 2

- 3 gilts in the past 2 weeks have developed black, bloody diarrhea followed by death
Description
There is marked thickening of the wall of the small intestine imparting a cerebriform appearance on the serosal surface and a corrugated appearance of the mucosal surface.

Morphologic Diagnosis
Proliferative enteritis (ileitis), segmental, subacute, severe
Pathology of the Alimentary Tract – Case 2

Disease Name
- Proliferative enteropathy
- Intestinal adenomatosis complex of swine
- Proliferative ileitis

Cause?
Lawsonia intracellularis
Pathology of the Alimentary Tract – Case 2

Morphologic Forms?

- Proliferative enteritis
- Proliferative and fibrinonecrotizing enteritis
- Proliferative and hemorrhagic enteritis

Pathologic Basis of Veterinary Disease (2006), 4thed
Morphologic Diagnosis

Enteritis, granulomatous, segmental, chronic, severe

Disease Name and Etiology?

Johne’s Disease: *Mycobacterium avium* subsp *paratuberculosis*
• Three 6 week old pigs with scours and lack of weight gain
Thick coalescing plaques of grey-yellow friable material are attached to the mucosal surface of the colon and cecum.
Fibrinonecrotizing typhlocolitis, multifocally extensive, acute to subacute, severe
### Etiology?

#### Differential Diagnoses

<table>
<thead>
<tr>
<th>Condition</th>
<th>Cause</th>
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<tbody>
<tr>
<td>Salmonellosis</td>
<td><em>Salmonella spp</em></td>
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<tr>
<td>Swine dysentery</td>
<td><em>Brachyspira hyodysenteriae</em></td>
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<tr>
<td>Porcine Colonic Spirochetosis</td>
<td><em>Brachyspira pilosicoli</em></td>
</tr>
<tr>
<td>Porcine Proliferative enteropathy</td>
<td><em>Lawsonia intracellularis</em></td>
</tr>
</tbody>
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Lawsonia lesions are often restricted to the ileum!
Pathology of the Alimentary Tract – Case 4

- Adult cat
- Found in ditch
- Abdominal mass found via radiographs
- Ascites developed
- Abdominocecentesis and FNA performed: lymphocytes identified in abdominal fluid
Tan homogenous tissue infiltrates and expands the wall of the intestine at the ileocecal-colic junction. Similar tissue invades the mesentery and enlarges/replaces the adjacent lymph nodes.
Differential Diagnoses?

1. Lymphoma, ileocecal colic junction & LN
2. Adenocarcinoma, ileocecal colic junction & LN

Lymphocytes were identified in the abdominal fluid.....
Pathology of the Alimentary Tract – Case 4

Differential Diagnoses?

1. Lymphoma, ileocecal colic junction & LN
2. Adenocarcinoma, ileocecal colic junction & LN

3. Pyogranulomatous enterotyphlocolitis and lymphadenitis!!

Feline Infectious Peritonitis (FIP): Feline coronavirus
6 year old Jersey cow
- Abdominal distension
- The cow had abundant abdominal adipose stores

17 year old FS cat
- Abdominal pain, ↑amylase/lipase
- Abdominal US : suggestive of peritonitis or carcinomatosis
Abundant fat surrounds the small intestinal loops adhering the loops to one another. The fat is diffusely firm with white chalky foci.

Scattered multifocally throughout the mesenteric fat are small white chalky foci.
Pathology of the Alimentary Tract – Case 5

Morphologic Diagnosis
Mesenteric fat necrosis, diffuse and marked (cow) / multifocal and mild to moderate (cat)

Why are the lesions ‘chalky’ and white?
Saponification of fat – when fatty acids are released from necrotic fat they combine with calcium deposits to form soaps
In cattle with pathogenesis is obscure. Often occurs in Jersey cattle with abundant adipose stores. It may be related to diet and ↑saturated fatty acid production in the rumen. Fat forms which is solid at body temperature → this fat may be more prone to trauma / ischemic necrosis
In cats, fat necrosis more commonly results from enzymatic damage, usually resulting from acute pancreatitis → release of proteolytic and lipolytic enzymes.
• 7 year old female rabbit with a history GI stasis
Multifocal to coalescing, firm, tan, homogenous masses ranging in size from 0.5 cm to 10 x 15 cm are scattered throughout the abdominal cavity affecting most of the viscera. Smaller masses are also present in the thoracic body wall and diaphragm.
Pathology of the Alimentary Tract – Case 6a

Morphologic Diagnosis

Disseminated malignant neoplasia, multiorgan
**Carcinomatosis** = Seeding of the abdominal cavity with tumour masses

This could represent mesothelioma, but the differentials are numerous – in a rabbit consider uterine carcinoma as a primary site!
• Two chicks from a farm with increased chick mortality
Morphologic Diagnosis

Fibrinous peritonitis (coelomitis), diffuse, **acute**, severe

Possible causes

1. Bacterial septicemia
2. Penetrating injury through the body wall or ascending from umbilicus
3. Rupture of the GI tract

*E. coli* septicemia is a common cause in chicks