PATHOLOGY OF THE ALIMENTARY SYSTEM

LAB 1

Enrique Aburto  Nov 2008
Get into my belly!
Case 1

**Signalment:** Male, 10 month-old, Golden retriever

**History:** Presented for dyspnea, anorexia, emaciation, and depression. **Laboratory results** revealed: Increased levels of BUN and creatinine, as well as regenerative anemia.

**Gross findings:**
Diffuse enlargement and deformation (and softening) of the maxillary bone. The involved teeth are loosen and separated. Parathyroid glands are enlarged (diffuse hyperplasia).
Morphologic diagnosis:
Kidney: Dysplasia with diffuse, severe fibrosis.
Maxillary bone: Diffuse, severe, fibrous osteodystrophy

Describe the pathogenesis of renal secondary hyperparathyroidism

Renal failure – hyperphosphatemia and inadequate production of 1,25-dihydroxycolecalciferol (calcitriol) - hypocalcemia – prolonged overproduction of PTH and parathyroid gland hyperplasia – bone reabsorption and mobilization of calcium stores – softening of bones and replacement with fibrous connective tissue.
Calcitriol normally suppresses PTH secretion (loss of negative feedback)
Case 2

Signalment: Female, 13 year-old, Weimaraner

History: Presented for anorexia, depression, vomition, melena and emaciation.

Laboratory results revealed: Increased levels of BUN and creatinine, as well as regenerative anemia.

Morphologic diagnosis:
Focal, ulcerative stomatitis (oral ulcer)
Morphologic diagnosis:
Focal, bilateral, ulcerative glossitis (uremic glossitis)

Morphologic diagnosis:
Diffuse, severe, hemorrhagic gastritis (uremic gastritis)
Uremic gastritis.

Diffuse mineralization of the gastric mucosa

Describe the pathogenesis of uremic stomatitis and gastritis

Pathogenesis

• High blood & salivary urea → bacterial infection → high ammonia → caustic injury
• Increased urea → vascular damage → thrombosis → ischemia → infarction (ulceration)
Case 3

Signalment: Male, 11 month-old, German shepherd dog

History: Presented for chronic regurgitation of solid meals, emaciation despite of voracious appetite, and chronic respiratory problems (coughing).

Gross findings - The entire esophagus is flaccid and markedly dilated (2-3 times normal diameter).
Morphologic diagnosis:
Diffuse, severe megaesophagus

Possible causes?

**Congenital** – Persistent right 4\textsuperscript{th} aortic arch, idiopathic.

**Acquired** – Mysthenia gravis, polymyositis, trypanosomiasis, hypothyroidism, lead poisoning, obstruction (external compression, strictures, obturation), idiopathic.
Case 4
Signalment: Male, 7 year-old, Collie
History: Presented for chronic abdominal pain, vomition containing blood (hematemesis).

Morphologic diagnosis: Gastric adenocarcinoma, ulcerated
Comment: These tumors are uncommon even in dogs. They infiltrate the stomach wall, invade lymphatics, local lymph nodes, the peritoneal surface (peritoneal carcinomatosis), and distant organs.
Gastric carcinoma. **Intestinal** type
demonstrating gland formation by malignant cells, which are invading the muscular wall of the stomach. Human

**Gastric carcinoma. Diffuse** type
demonstrating signet-ring carcinoma cells. Human.

**In animals:**
Tubular or acinar signet-ring cell adenocarcinoma
Mucinous adenocarcinoma
Undifferentiated (anaplastic) carcinoma
Case 5

Signalment: 3 year-old, Holstein cow

History: Lump on the left side of the mandible

Description: The mid portion of the mandible is markedly expanded. A red, firm, raised multinodular mass is present on the external side of the gingival surface. The internal surface of the gum shows a 5 mm in diameter fistulous tract.
Microscopic findings:
The lamina propria and underlying mandibular bone are expanded and partially effaced by large, multifocal to coalescing aggregates of epithelioid macrophages interspersed with large numbers of neutrophils and occasional multinucleate giant cells. These aggregates usually surround small amounts of deeply eosinophilic radiated (spiculate) material containing small bacterial colonies (Splendore-Hoepli reaction).

Morphologic diagnosis:
Severe, chronic, multifocal to coalescing, pyogranulomatous stomatitis and osteomyelitis, with intrulesional bacterial colonies and small deposits of eosinophilic, radiated material (Splendore-Hoepli reaction).

Etiology: Actinomyces bovis (Lumpy jaw)
Case 6

Signalment: 11 year-old, female, Schnauzer

History: Presented for anorexia, ptyalism, halitosis and emaciation.

Description: The left side of the upper gum shows a nodular, ulcerated mass measuring 3 cm in largest dimension. The mass is surrounding the second premolar tooth.
**Microscopic findings:** A biopsy of the lesion reveal a small nest of polygonal cells located at the junction of the mucosa and lamina propria. Neoplastic cell contain moderate amounts of eosinophilic cytoplasm with small amounts of brown granular pigment (melanin).

**Morphologic diagnosis:** Oral melanoma.

**Comment:** The most common malignant oral tumor in dogs. Small breeds and oral pigmentation may be increased risk factors. These tumors can be amelanotic (non-pigmented), readily metastasize to regional lymph nodes and lungs. Recurrence is common. Poor prognosis.
Case 7

Signalment: 8 year-old, male, horse

History: Presented for severe acute colic.

Description: The stomach is markedly dilated (left) Its wall exhibits an extensive (approximately 15 cm) laceration. The lacerated borders are diffusely hemorrhagic and congested.

Morphologic diagnosis: Gastric dilation and rupture.

Comment: Antemortem rupture should be distinguished from postmortem rupture by the presence of hemorrhage and evidence of inflammation in the former