Papular Stomatitides

Contagious ecthyma (orf) of sheep & goats
Bovine Papular Stomatitis

- Caused by parapoxviruses
- Epithelial degeneration, hyperplasia & inflammation → papule formation → ulceration & slow healing
- Disease of mainly young animals
Contagious ecthyma (scabby mouth)
Ballooning degeneration & intracytoplasmic inclusion bodies in papular stomatitis, cow

Coin-shaped papules & ulcers in papular stomatitis, cow
Necrotizing (deep) Stomatitides

- Often secondary to erosions/ulcers & trauma
- Opportunistic bacteria penetrate mucosa through to deeper tissues
- Results in chronic inflammation and fibrosis of affected tissues
Some Necrotizing (deep) Stomatitides

- Oral necrobacillosis (calves & pigs)
  - *Fusobacterium necrophorum*
- Actinobacillosis (wooden tongue)
  - *Actinobacillus lignieresii* (Gram negative)
  - Affects cattle, sheep & pigs
  - Club colonies are characteristic
- Actinomycosis (lumpy jaw of cattle)
  - *Actinomyces bovis* (Gram positive)
  - Club colonies
- Ulcerative gingivitis & Noma (primates)
  - *Fusobacterium* & spirochetes
Nectotizing stomatitis, tongue, calf diptheria

Nectotizing stomatitis (hard palate), ulcers are covered by a diphteric membrane, calf diptheria

_Fusobacterium necrophorum_ colonies, Periodic acid-Schiff reaction.
Bacterial colonies & radiating clubs (Splendore-Hoepli reaction) & suppurative inflammation

Wooden tongue, above & lumpy jaw, below, bovine
Eosinophilic Stomatitides

- Syn: Lick granuloma, rodent ulcer
- Disease of cats, rarely young dogs (Siberian husky)
- Granulomas on upper lip, gingiva, etc
- Numerous eosinophils + areas of collagenolysis + chronic inflammatory cells are characteristic
Eosinophilic granuloma, cat. Swollen upper lip (top left) is extensively ulcerated (top right). Numerous eosinophils (bottom right & E) are mixed with macrophages (M), giant cells (G) and fragmented collagen (arrows).
Lymphoplasmacytic/Chronic Stomatitis

- Common complex condition of cats
- Idiopathic, probably immune-mediated
- High prevalence in FIV-infected cats & those co-infected with FCV & FLV
- Forms include
  - Gingivitis-stomatitis-pharyngitis complex
  - Lymphoplasmacytic stomatitis
- Chronic ulcerative dermatitis in older dogs is related to dental plaques.
Lymphoplasmacytic stomatitis, gingiva, cat. Inflammatory cells are mostly lymphocytes & plasma cells.
Oral tumors

- Common in dogs & cats
- Benign & malignant forms
- Clinical signs
  - Discrete mass or masses, often ulcerated
  - Dysphagia, ptyalism, halitosis, facial swelling, etc
- Histopath for confirmatory diagnosis
Oral growths - benign

- Gingival hyperplasia
  - Simple overgrowth of gum tissue. Very common
  - Epulis
Oral growths - benign

- Papilloma (papillomatosis, warts)
  - Papoviral infection of young dogs, calves, and foals
    - Multiple papilliform or cauliflower-like nodules or masses.
    - Spontaneous recovery & solid immunity
**Verruca vulgaris.**  
*A*, Multiple papules with rough pebble-like surfaces.  
*B*, papillomatous epidermal hyperplasia and  
*C*, cytopathic alterations that include nuclear pallor and prominent keratohyaline granules.
Oral Neoplasms - malignant

Guarded to poor prognosis

- Squamous cell carcinoma
  - Most common oral tumor in cats
  - Locally invasive nodular mass, often ulcerated
  - Poorer prognosis in cats, or if tonsillar in dogs

- Malignant melanoma
  - Common malignant oral tumor in dogs
  - Small breeds and oral pigmentation are risk factors
  - Poor prognosis

- Fibrosarcoma
  - Less common than SCC & melanoma
  - Slightly better prognosis

- Others
Squamous cell carcinoma (SCC), tonsil, dog

SCC, tongue, dog

Amelanotic melanoma in mandibular symphysis
Proliferating trabeculae of squamous epithelium, SCC

Intradermal nests of neoplastic melanin-laden cells, melanoma, dog
Examples of oral fibrosarcomas in dogs
Diseases of teeth & dental tissues

Only brief discussion here

- Structure & function (p. 9)
- Dental anomalies
- Attrition & abnormal wear
- Periodontal disease
- Dental neoplasia
Simple (brachydont) tooth

Humans, carnivores, swine, and ruminant incisors

Fig. 1-15 Simple tooth diagram. Enamel (E), gingival crevice (gc), periodontal ligament (POL), cementum (c), dental pulp (P), and alveolar bone.

Thomson’s Special Veterinary Pathology, 2nd ed., pp 12.
Complex (hypsodont) tooth

Herbivores, tusks of boars

Fig. 1-16  A, Complex tooth (neonatal equine second premolar). Infundibulum (f), enamel (e), dentin (d), and cementum (c). B, Radiograph of same tooth. Horse.

Thomson’s Special Veterinary Pathology, 2nd ed., pp 13.
Dental Anomalies

- Anomalies of positioning (malocclusion)
- Anomalies of tooth development
  - Primary dysplasia e.g. dentigerous cysts
  - Secondary dysplasia (segmental enamel hypoplasia due to ameloblast degeneration)
  - Canine distemper in puppies
  - BVD intra-uterine infection
  - Cachexia
- Abnormal coloration (drugs, pigments, fluorosis)
Prognathia, horse

Dentigerous cyst in mandible, sheep

Enamel hypoplasia of permanent incisors, dog

Enamel hypoplasia, brown pits and exposure of the dentin
Brown discoloration of teeth due to porphyrins (pink teeth) left, cow, yellow discoloration due
tetracyclines right, dog. Fluorosis leads to discoloration & abnormal wear (below, cow).
- Dental attrition and abnormal wear
- Dental trauma
- Feline external resorptive neck lesions
  - Due to odontoclastic resorption

Dental fracture due to trauma, dog
Dental attrition due to age
("wave or step mouth")
- **Infundibular impaction**
  (necrosis or caries)

  - Results from incomplete cementum formation prior to tooth eruption.
  
  - Bacterial action on impacted food leads to **acid demineralization of tooth** and enzymatic digestion of dental organic matrix *
    followed by inflammation.
  
  * caries

  - Serious disease of ruminants and horses

  - Incidence increases with age
Periodontal disease

- Associated with bacterial films on tooth surface damaging gingiva & periodontal ligament
- Dental plaque (bacterial film + food + organic matrix)
- Calculus (tartar)
- Gingivitis
• Inflammation starts from gingival crevice

• Gingival recession & destruction of periodontal ligament

• Sequelae include
  • Loss of teeth
  • Alveolar osteomyelitis
  • Tooth abscess
  • Pulpitis
  • Bacteremia

• Common disease in all animals and in humans: bad breath & loose teeth
Dental neoplasia

- Epulis (tumor of periodontal ligament)
- Ameloblastoma (from enamel organ, mainly in adults)
- Odontoma (from enamel organ, mainly in young animals)
- Inductive fibroameloblastoma (young cats)
Epulis of Periodontal ligament origin

Most common tumor of mouth in dogs

- Nodular mass in gingiva
- Composed of
  - Periodontal ligament stroma
  - Epithelial fronds
  - Osteoid, cementum or dentin
- Fibromatous & ossifying epulis: benign
- Acanthomatous epulis: recurs, malignant?
  Syn: Acanthomatous ameloblastoma