Surgery of the Head and Neck in Small Animals

T. Németh, DVM, PhD

Main Surgical Diseases of the Oral Cavity

- Mandibular symphyseal separation
- Palatoschisis / Cleft palate
- Tumours of the oral cavity
- Surgery of the tongue
- Surgery of tonsils
- Salivary mucocele
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Mandibular Symphyseal Separation

- Incidence
  - cat, (dog)
  - „high rise syndrome”
  - car accident
- Diagnostics
  - history
  - salivation, eating inability
  - mandibular dislocation
  - X-ray

Mandibular Symphyseal Separation

- Therapy
  - stabilisation
  - short acting
  - narcosis
  - fixation (tension band wire)
  - antibiotics
  - artificial feeding (syringe, gastrostomy)
  - implant-removal after 4 weeks

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Palatoschisis / Cleft palate

- Incidence
  - congenital: brachycephalic dogs

Soft palate hypoplasia

Development of palates

Soft and hard palate hypoplasia
**Palatoschisis / Cleft palate**

- **Incidence**
  - acquired: cats ("high rise syndrome")

- **Diagnostics**
  - history (congenital or traumatic)
  - oronasal reflux
    - nasal discharge, regurgitation, sneezing, gagging
  - aspiration / pneumonia
  - oral inspection
  - endoscopy
  - radiology (aspiration)

- **Therapy**
  - surgery (?)
  - suturing (monofil absorbable or steel wire)
  - "advancement flap"
  - antibiotics (anaerobics!)
  - soft diet
  - stitch removal after 4 weeks
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Tumours of the oral cavity

- 7% of canine tumours
  1. Skin tumours,
  2. Mammary tumours,
  3. Oral tumours)
- gingiva > dental alveoli > labium > palate > tongue

Tumours of the oral cavity

Benign neoplasia

- Periferial Odontogenetic Fibroma
- Papilloma
- Adamantinoma

Fibroma („epulis“)

- benign fibromatosus proliferation along the gingiva
- individual susceptibility
- in case of growing, extension and oral discomfort ⇒ surgery (electrocautery)
- supplementary examination: cytology, histopath, X-ray (thorax)

Epulis - boxer
Tumours of the oral cavity

• Fibroma („epulis”)  
  – benign fibromatous proliferation along the gingiva  
  – individual susceptibility  
  – in case of growing, extension and oral discomfort ⇒ surgery (electrocautery)  
  – supplementary examination: cytology, histopath, X-ray (thorax)

Tumours of the oral cavity

• Papilloma  
  - viral background  
  - in young age (< 1 Year)  
  - immunosuppression (?)  
  - typical clinical manifestation

Tumours of the oral cavity

• Papilloma  
  - spontaneous healing  
  - elektrocautery  
  - immunostimulation  
    – general: e.g. Baypamun  
    – specific: autovaccination

Tumours of the oral cavity

Malignant neoplasia

• Gingival Squamous Cell Carcinoma  
• Fibrosarcoma  
• Malignant Melanoma

Staging” - TNM system

T umour-size  
N ode (lymphonode)  
M etastases

Owen, WHO, 1980
Tumours of the oral cavity
„Staging” - TNM system

I. < 2 cm, bone involvement ∅, metastatic disease ∅
II. 2-4 cm, bone involvement ∅, metastatic disease ∅
III. > 4 cm, bone involvement ∅, metastatic disease ∅
   or
   any tumour with bone involvement
   or
   any tumour with ipsilateral node involvement
IV. Any tumour with bilateral node involvement
   or
   with distant metastatic disease

Predictable survival rate at 1 Year

I. 100 %
II. 75 %
III. 35 %
IV. 0 %

Tumours of the oral cavity
Malignant neoplasia

- relatively frequent (dog, cat)
- in older age (6 years <)
- fibrosarcoma, melanoma malignum, squamous cell carcinoma
- X-ray (osteolysis?, lung-metastasis?)
- cytology, biopsy
- scintigraphy

- (electrocauterisation)
- mandibulectomy
- maxillectomy
- radiotherapy
- (euthanasia)

Fibrosarcoma I.

Tumours of the oral cavity
Fibrosarcoma I.

- (electrocauterisation)
- mandibulectomy
- maxillectomy
- radiotherapy
- (euthanasia)
Tumours of the oral cavity

Bilateral Rostral Body Mandibulectomy

Fibrosarcoma II.

Hemimandibulectomy
Tumours of the oral cavity
Fibrosarcoma II.

• Hemimandibulectomy

Tumours of the oral cavity
Fibrosarcoma II.

• Hemimandibulectomy + Cheiloplasty

Tumours of the oral cavity
Fibrosarcoma II.

• Hemimandibulectomy + Cheiloplasty

Tumours of the oral cavity
Fibrosarcoma II.

• Hemimandibulectomy (3 months later)

Tumours of the oral cavity
Fibrosarcoma III.

• Dobermann, 7 Y, male ("Zeus")

Tumours of the oral cavity
Fibrosarcoma III.

• Hemimaxillectomy
**Tumours of the oral cavity**

- Fibrosarcoma III.
- Hemimaxillectomy

**Postoperative management**

- Mashy diet
- Antibiotics
- Analgesics (NSAID)
- Check-up
  - physical
  - scintigraphy
  - X-ray

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**Surgical Diseases of the Tongue**

- Injuries of the tongue
  - biten, stab, lacerated wounds
  - checking the frenulum and the tone of the tongue
  - general wound management
  - suture: monofilament, absorbable (PDS, Monacryl, Maxon)
  - antibiotics (metronidazol)

**Injuries of the Tongue**

- Biten wound
- Contusion wound
Injuries of the Tongue
Lacerated wound

Surgical Diseases of the Tongue
• Neoplasia of the tongue
  – rare
  – papilloma, squamos cell carcinoma
  – partial resection (apex linguæ)
  – PDS, Monacryl, Maxon
  – antibiotics (metronidazol)

Neoplasia of the Tongue
Squamous Cell Carcinoma

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Neoplasia of the Tongue
Squamous Cell Carcinoma
Neoplasia of the tongue
Melanoma malignum

Neoplasia of the tongue
Carcinoma – partial amputation
Neoplasia of the tongue
Carcinoma – partial amputation

Main Surgical Diseases of the Oral Cavity
- Mandibular symphysiolysis
- Palatoschisis / Cleft palate
- Gingival tumors
- Surgical diseases of the tongue
- Surgery of tonsils
- Salivary mucocele

Tonsilectomy
- Indication
  - Chronic tonsilitis (poodle, spaniel)
  - Tonsil-tumour
    - carcinoma planocell.: retropharyngeal and lung-metastasis
    - lymphosarcoma: usually bilateral as the part of the generalised form
Chronic tonsillitis

Tonsil carcinoma

Tonsilectomy

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Tonsilectomy

• Surgery
  – Precise indication
  – General anesthesia
  – Intratracheal intubation!!!
  – Epinephrine-infiltration topically
  – Simple excision (± electrocautery)
  – Extubation with insufflated cuff
  – antibiotics, mushy diet

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Cysta salivalis

- Surgical anatomy
  - gl. parotis, mandibularis, sublingualis, zygomatic.

Salivary Mucocele

- Anatomy
  - parotid, mandibular, sublingual, zygomatic, (molar, cat!) gl.
  - maxillary a., v., linguofacial a., v.

Salivary Mucocele

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  - parotid, mandibular, sublingual, zygomatic, (molar, cat!) gl.
  - maxillary a., v.
  - linguofacial a., v.

Salivary Mucocele

- Incidence
  - mainly in young dogs (German shepherd, poodle)
  - as a consequence of salivary gland injury or inflammation
  - forms: cervical, pharyngeal, ranula

Salivary Mucocele

- Diagnostics
  - typical localisation
  - fluctuant lump, not painful
  - puncture: consistent, viscous bloody brownish fluid
  - possibility of abscessation
Salivary Mucocele

- **Diagnostics**
  - typical localisation
  - fluctuant lump, not painful
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- **Therapy**
  - antibiotics (metronidazol)
  - resection (gland, duct, mucocele)
  - drainage
  - marsupialisation (ranula)
  - (atropine)

Salivary Mucocele

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Pharyngeal cyst

Ranula
Salivary mucocele
(Resection)

Salivary mucocele
(Resection)

Salivary Mucocele

• Therapy
  – antibiotics (metronidazol)
  – resection (gland, duct, mucocele)
  – drainage
  – marsupialisation (ranula)
  – (atropine)

Surgery of the Ear in Small Animals

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Surgical Diseases of the Pinna

- Aural haematoma
- Injuries of the ear
- Neoplasia of the pinna

Aural Haematoma

- Incidence
  - relatively frequent (dog, cat)
  - primary or secondary
- History
  - trauma of the pinna
  - contemporary external otitis

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Aural Haematoma

- Diagnostics
  - typical enlargement on the internal surface of the pinna (fluctuent)
  - puncture
  - „maturation process”

Aural Haematoma

- Therapy
  - “waiting time”!
  - antibiotics
  - surgery: drainage (different techniques)

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Aural Haematoma

- Therapy
  - “waiting time”!
  - antibiotics
  - surgery: drainage (different techniques)
**Injuries of the Pinna**

- **Incidence**
  - frequent, sharp traumas (biten, lacerated wounds)
- **Diagnostics**
  - depend on the types of wound
  - continuous bleeding
  - usually the edge is affected
  - penetrating wounds
  - septic consequences, necrosis of cartilage

**Neoplasia of the Pinna**

- **Incidence**
  - dog (cat)
  - papilloma, mastocytoma, carcinoma
- **Diagnostics**
  - depend on the type of neoplasia
  - usually close to the edge of the pinna
  - rapid ulceration
- **Therapy**
  - excision
  - partial or total resection of the pinna

**Surgical Aspects of External Otitis**

- **Incidence**
  - frequent (mostly in dogs)
  - seasonal feature, breed-disposition
  - recurrence

**Etiology**

- **Predisposing causes**
- **Primary causes**
- **Perpetuating causes**

**Predisposing causes**

- **anatomic**
  - congenital
  - acquired
- **functional**
  - increased aural discharge
Primary causes

• parasites
  - Otodectes
  - Demodex
  - Sarcoptes

• foreign bodies
  - grass awn
  - sand
  - dust
  - hair

• dermatoses
  - atopy
  - seborrhoea
  - autoimmune

Perpetuating causes

• bacteria
  - Staph., Pseudom., Proteus, Bacteroides

• fungi
  - Malassezia, Candida, Aspergillus

Anatomy, Pathogenesis

Diagnostics

• History
• Physical examination
• Supplementary examination
  - instrumental
  - laboratory
  - X-ray
  - CT
  - hematology
  - allergology

Otoscopy
Therapy

- Precise causative diagnosis
- Conservative way
  - topical and systemic treatment
  - ear canal irrigation (warm saline, chlorhexidine, povidone iodine)
- Surgery (ultimartation)
  - Lateral Wall Resection (Zepp)
  - Total Ear Canal Ablation + Lateral Bulla Osteotomy (TECA + LBO)

Lateral Wall Resection (Zepp)
Surgical Aspects of Otitis

Media and Interna

- Incidence
  - rare
  - primary or secondary
  - mostly unilateral

- Diagnostics
  - head tilt, restlessness
  - vestibular ataxia, desorientation, nystagmus
  - consistent external otitis
  - otoscopy (tympanic membrane), Rtg, CT
**X-ray**

- Anesthesia !!!
- Precise projection
- Bulla tympani

**CT**

- Anesthesia !!!
- Bulla tympani !!!

**X-ray**

negative  positive

**CT**

negative

**CT**

Otitis media
Surgical Aspects of Otitis Media and Interna

- **Therapy**
  - **Conservative**
    - *topical*: treatment of external otitis, middle ear lavage
    - *systemic*: antibiotics, corticosteroids, B1, B12 vitamin
  - **Surgery**
    - Ventral Bulla Osteotomy (cat)
    - TECA + LBO (dog)
Thank You Very Much for Your Attention!