Primary Tumors of the Canine Conjunctiva, Eyelids and Orbit

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Anatomic Distribution of Canine Primary Ocular Neoplasia (n = 6110)

- Conjunctiva: 1192 (19%)
- Eyelid: 1408 (23%)
- Orbit: 288 (6%)
- Globe: 3225 (53%)
Canine Primary Conjunctival Tumors (n = 1192)

- Peripheral Nerve Sheath Tumor: 11 cases
- Viral Papilloma: 39 cases
- Mast Cell Tumor: 52 cases
- Squamous Cell Carcinoma: 85 cases
- Squamous Papilloma: 110 cases
- Tumor of the Third Eyelid Gland: 152 cases
- Hemangiosarcoma: 156 cases
- Hemangioma: 163 cases
- Melanoma: 204 cases
- Reactive Papilloma: 220 cases

Tumors of the conjunctiva = 1192 of 6110 total neoplasms, ~ 20%
Conjunctival Melanoma

- 204 cases
- Most are malignant by morphologic criteria
- Most recur elsewhere on the conjunctiva when removed
- They are less likely to metastasize than recur
- Those on the palpebral conjunctiva are more likely to metastasize
Conjunctival Melanoma
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Intraepithelial “Pagetoid” spread
Canine Conjunctival Squamous Papilloma

- 148 cases in the COPLOW database
  - 20 Golden Retriever
  - 19 Mixed breed
  - 11 Shih Tzu
  - 9 Labrador Retriever

- Characterized by pointed fronds of epithelium
- No underlying inflammation or neoplasia
- These are seldom correctly diagnosed clinically
Canine Conjunctival Reactive Papilloma

- 358 cases in the COPLOW database
  - 43 Labrador Retriever
  - 43 Golden Retriever
  - 28 Cocker Spaniel
  - 20 Shih Tzu
- Most often associated with tumors or inflammation, hence reactive
Canine Viral Papillomas

• 65 cases in the COPLOW database
  • Mixed breed 12
  • Pugs 4
• Young dogs predominate
  • 40/65 less than 3 years old
  • Can be as old as 14 years
• Can be conjunctival, corneal or eyelid

Koilocytes
Canine Conjunctival Hemangioma and Hemangiosarcoma

- 195 cases in the COPLOW database
  - 24 Mixed breed
  - 22 Boxer
  - 18 Australian Shepherd
  - 15 Basset Hound
  - 14 Border Collies
- Located either in the temporal bulbar or at the tip of the nictitans
- Benign and malignant determined by standard criteria
- Non-pigmented conjunctiva
- Suspect UV-light exposure is a risk factor
Canine Conjunctival Hemangioma and Hemangiosarcoma
Canine Conjunctival Hemangioma and Hemangiosarcoma
Canine Conjunctival Hemangioma and Hemangiosarcoma

**exposure to UV light**

- Exposure to UV light from the sun
- Non-pigmented Conjunctiva
- Out-of-doors dogs
Tumors of the eyelid = 1408 of 6110 neoplasms, or 23%
Tumors of the Meibomian Gland

- 1207 cases in the COPLOW database
  - 233 Mixed breed
  - 222 Labrador Retriever
  - 91 Golden Retriever
  - 66 Cocker Spaniel
  - 47 Shih Tzu
Tumors of the Meibomian Gland

Adenoma: 648 cases

Epithelioma: 576 cases
Tumors of the Meibomian Gland
Lipogranuloma
Eyelid Melanocytic Tumors

• 39 Cases in the COPLOW database
  • 7 Mixed breed
  • 6 Vizsla
  • 4 Golden Retriever
  • 3 Yorkshire Terrier
  • 3 Doberman (White)
Eyelid Granular Cell Tumors: 14 cases
Medial Canthus
Mast Cell Tumors

- 142 Mast Cell Tumors in the COPLOW database
  - 61 cases are conjunctival
    - 15 Mixed breed
    - 13 Labrador Retriever
    - 6 Golden Retriever
    - 3 Basset Hound
    - 3 German Shepherd
- Conjunctival tumors have a better prognosis than expected
- Grading systems are unproven in the conjunctiva
Conjunctival Lymphoma

- 30 cases in the COPLOW database
  - 5 Mixed breed
  - 6 Golden Retriever
  - 5 Labrador Retriever
  - 3 Boxer
- 9 cases of epitheliotrophic T-cell lymphoma
- 18 left eye and 7 right eye

CD3
Eyelid Histiocytoma

• 59 cases in the COPLOW database
  • 42/58 less than 6 years-old
• Breeds
  • 8 Mixed breed
  • 8 Labrador Retriever
  • 6 Boxer
  • 4 Bichon Frise
  • 0 Golden Retriever???
Eyelid/Conjunctival Plasmacytoma

- 20 cases of plasmacytoma in the COPLOW database
  - 4 Mixed breed
  - 2 each Golden, Cocker, Shih Tzu, & Yorkie
- 6 eyelid skin, 5 lid margin and 9 conjunctival
Tumors of the orbit = 285 of 6110 neoplasms, ~ 5%
Canine Orbital Meningioma

• 123 cases in the COPLOW database
  • 27 Mixed breed
  • 10 Labrador Retriever
  • 9 Boxer
  • 7 Chihuahua
  • 6 Poodle
  • 4 Scottish Terrier

• The tumor surrounds the nerve in a conical manner
• Slow growing, eventually grows into cavlarium
• Metaplastic bone, cartilage or myxoid tissue
• 66 left eye vs 44 right eye
• 62 males vs 56 females
Canine Orbital Meningioma

Cytokeratin

Vimentin
Canine Orbital Meningioma
Canine Orbital Lobular Adenoma

- 47 cases in the COPLOW database
  12 Labrador Retriever
- 5 dogs with bilateral disease
- Most cases recur in one to two years because it is difficult to remove

Canine Orbital Lobular Adenoma
Clinical Presentation

- Swollen eye lids...........................5 cases
- Protrusion of the nictitans..........3 cases
- Retrobulbar masses....................2 cases
- Exophthalmia..............................5 cases
- Resistance to retropulsion..........2 cases
- Strabismus.................................1 case
10/13 cases with follow-up had at least one recurrence

- Case 1: 240 days
- Case 3: 635d & 1300d (bilateral)
- Case 5: 90d
- Case 6: 365d & 515d & 995d (bilateral)
- Case 7: 600d
- Case 8: Multiple (unknown periods)
- Case 10: 660d
- Case 13: 370d
- Case 14: 315d
- Case 15: 210d & 565d
- Cases 2, 4, & 9 euthanized prior to recurrence
- Cases 11 & 12 lost to follow-up
Canine Orbital Hibernoma: 9 cases
Tumor of Brown Fat
Canine Orbital Hibernoma

H&E

Vimentin

EM

Myo D Nuclear stain