2135/5722 Canine Melanocytic Tumors

- Outside the Globe: 264
  - Conjunctival: 159
  - Eye Lid: 72
  - Skin: 33
- Affecting the Globe: 1871
  - Anterior Uveal Melanocytoma: 1245
  - Anterior Uveal Malignant Melanoma: 312
  - Limbal Melanocytoma: 213
  - Choroidal: 86 Melanocytoma and 11 malignant Melanoma
  - Metastatic Melanoma: 15
Anterior Uveal Melanocytoma
1245 Cases

Many cases are arising from within ocular melanosis or heavily pigmented globes
Canine Anterior Uveal Melanocytoma

Anterior Uveal Melanocytoma
Limbal (Epibulbar) Melanocytoma
213 Cases
German Shepherds are over-represented
Typical Limbal Melanocytoma

Atypical
Anterior Uveal Malignant Melanoma
312 Cases

Many Cases are Arising from Melanocytoma or Melanosis
Malignant Uveal Melanoma
Malignant Uveal Melanoma
Survival curve for the three groups, stratified

- **Melanocytoma**
- **Control**
- **Melanoma**

Time, in years, since ocular surgery or vaccination
Choroidal Melanocytic Tumors
86 Benign & 11 Malignant
Conjunctival Melanoma

- 159 cases
- Most are malignant by morphologic criteria
- Most recur elsewhere on the conjunctiva when removed
- They seldom metastasize
- Those on the palpebral conjunctiva are more likely to metastasize
Conjunctival Melanoma
Conjunctival Melanoma
Conjunctival Melanoma
Conjunctival Melanoma
Feline Melanocytic Ocular Tumors: 2766

- Melanoma: 1510
  - Diffuse Iris Melanoma...1340 (263 Early)
  - “Atypical” …27
  - Limbal...46
  - Conjunctival...27
  - 70 mostly DIM improperly labeled
Metastatic Potential of Feline Diffuse Iris Melanoma
Bar width proportional to number in category
Early Stages of Feline Diffuse Iris Melanoma

Early Melanoma
Melanosis
Melanosis
Early FDIM
Tumor confined to the iris
Feline Atypical Melanoma
Feline Atypical Melanoma
Canine Iridociliary Epithelial Tumors
717 Cases
116 are Adenocarcinoma
10 Cases of Malignant Adenocarcinoma with features of Pleomorphic Adenocarcinoma
Asteroid Hyalosis

PIFM
Immunohistochemistry of Canine Iridociliary Epithelial Tumors

- Vimentin+
- Cytokeratin- (Malignant tumors tend to become +)
- S100+
Malignant Variant of Iridociliary Epithelial Tumor (Pleomorphic Adenocarcinoma)
Malignant Variant of Iridociliary Epithelial Tumor (Pleomorphic Adenocarcinoma)
Malignant Variant of Iridociliary Epithelial Tumor (Pleomorphic Adenocarcinoma)

Cytokeratin

Vimentin
Feline Iridociliary Epithelial Tumors

- 102/2766 neoplastic cases
- Tend to be non-pigmented
- Solid
- Cavitated
- About half have metaplastic bone
- Vimentin+, Cytokeratin-
Tumors of Primitive Neurectoderm

• Medulloepithelioma
  – Canine...19 cases
  – Equine...3 cases

• Retinoblastoma
  – Human
  – Canine
Equine Medulloepithelioma
Canine Retinoblastoma??

Human

Canine

Canine
Canine Optic Nerve Glioma
8 cases
Feline Post-traumatic Sarcoma
234/2766

- Spindle cell variant
  - 149 cases
  - Lens epithelial origin
- Round cell variant
  - 54 cases
  - Variant of lymphoma
- Osteosarcoma/Chondrosarcoma
  - 26 OSA/5 Chondrosarcoma cases
  - Unknown cell of origin
Reasons to believe PTS is related to trauma

• Lens capsule rupture
• History of trauma or abnormal eye
• Time between trauma and tumor
  – Between 2 months and 15 years
Early Spindle Cell Variant PTS
Tumor Distribution Spindle Cell Variant
Cellular Features of Spindle Cell PTS

Collagen 4

Vimentin

αA Crystallin
Follow-up Spindle Cell Variant

- Cases which have extended beyond the sclera have a bad prognosis
  - Local recurrence
  - Extension towards the brain
- Cases removed within the sclera have a good prognosis
- 8% of traumatized globes removed prophylactically have early PTS
Round Cell Variant PTS
Round Cell Variant PTS
Feline PTS Osteosarcoma
Spindle Cell Tumors of Blue Eyed Dogs
Spindle Cell Tumor of Blue Eyed Dogs…11 Cases

- Median age=8.3 years (Range=4.5-12 years)
- Gender equal
- Laterality equal
- Siberian Huskies, Australian Shepherd, Border Collie and other breeds with blue or partly blue eye
Spindle Cell Tumor of Blue Eyed Dogs
Distribution of GFAP+ Cells in the Uvea of Blue Eyed Dogs
Distribution of GFAP+ Cells in the Uvea of Pigmented Dog Eyes
Canine Corneal Squamous Cell Carcinoma

- 20 cases in COPLOW
- All have Chronic Superficial Keratitis
- Most treated with Cyclosporin or Tacrolimus
Canine Corneal Squamous Cell Carcinoma
Equine Stromal-Invasive SCC
Spindle Cell Tumors of the Feline Eyelid

23/2078 Cases
Spindle Cell Tumor of the Feline Eyelid
Canine Orbital Meningioma
60/4100 Cases
Canine Orbital Lobular Adenoma

- 32 Cases
- Swollen lids, protruding nictitans, conjunctival mass, exophthalmia
- Recurrence in 10 of 13...395 days
- Multiple recurrences are common
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 Ocular Metastatic Tumors

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<th>Anterior</th>
<th>Posterior</th>
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Typical Appearance of Canine Metastatic Tumor
Histiocytic Sarcoma: Retriever & Rottweilers
### Feline Ocular Metastatic Tumors

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Feline Metastatic Epithelial Tumor: Lining Pattern
Feline Metastatic Epithelial Tumors: Angioinvasive Pattern