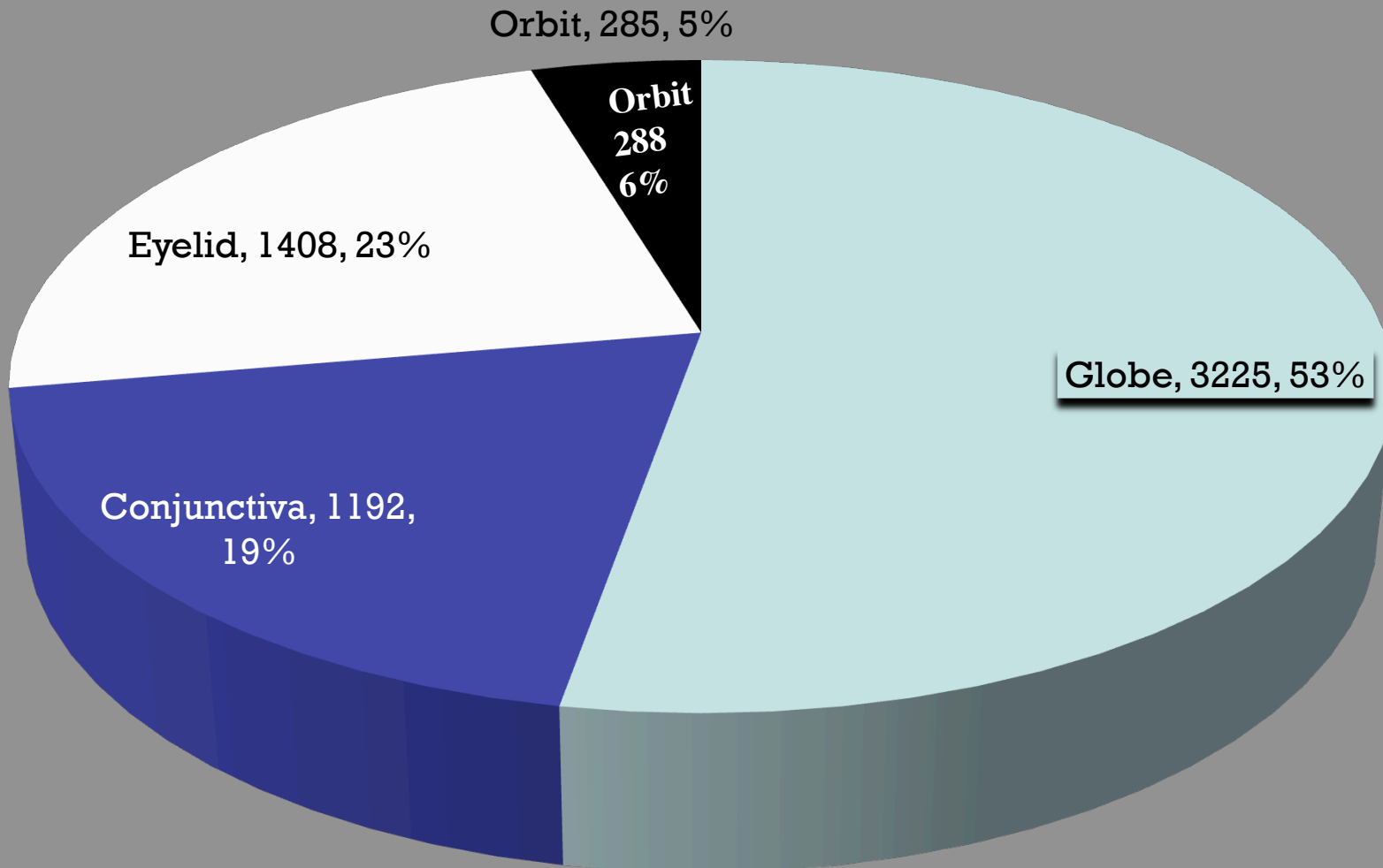


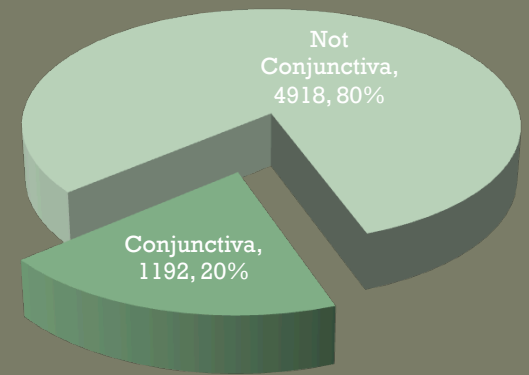
Primary Tumors of the Canine Conjunctiva, Eyelids and Orbit

Richard R Dubielzig

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



Canine Primary Conjunctival Tumors (n = 1192)



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

Peripheral Nerve Sheath Tumor

11

Viral Papilloma

39

Mast Cell Tumor

52

Squamous Cell Carcinoma

85

Squamous Papilloma

110

Tumor of the Third Eyelid Gland

152

Hemangiosarcoma

156

Hemangioma

163

Melanoma

204

Reactive Papilloma

220

0

50

100

150

200

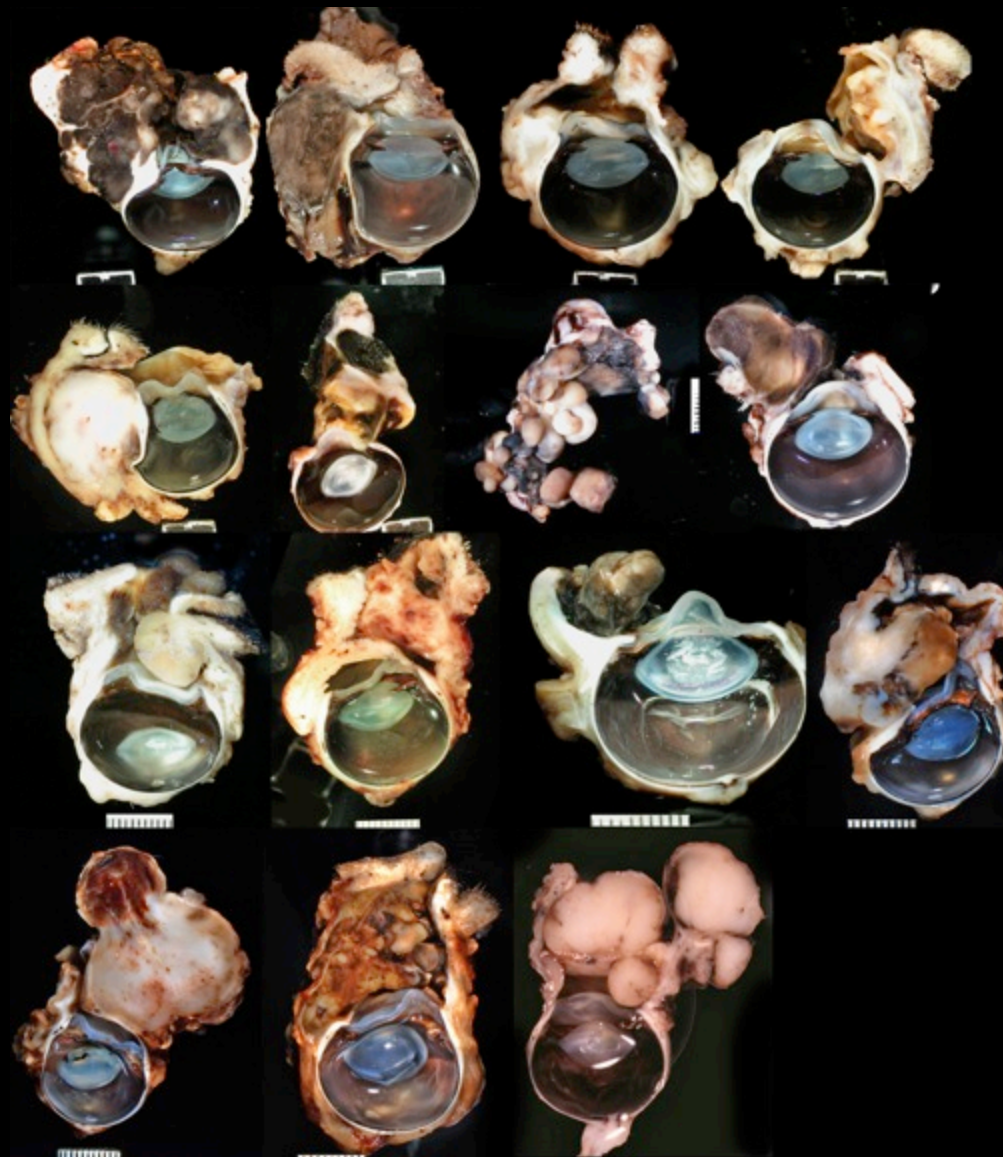
250

Conjunctival Melanoma

- 293 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



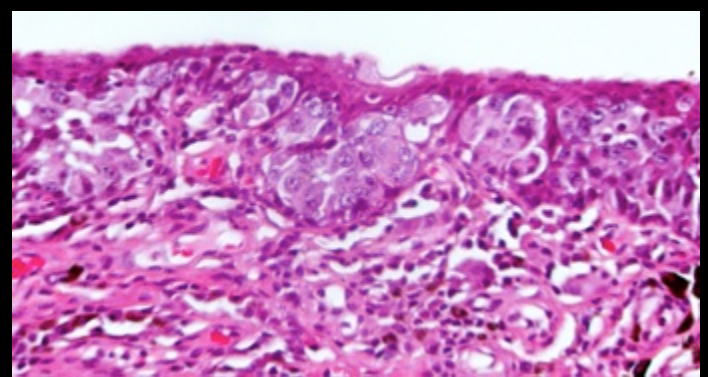
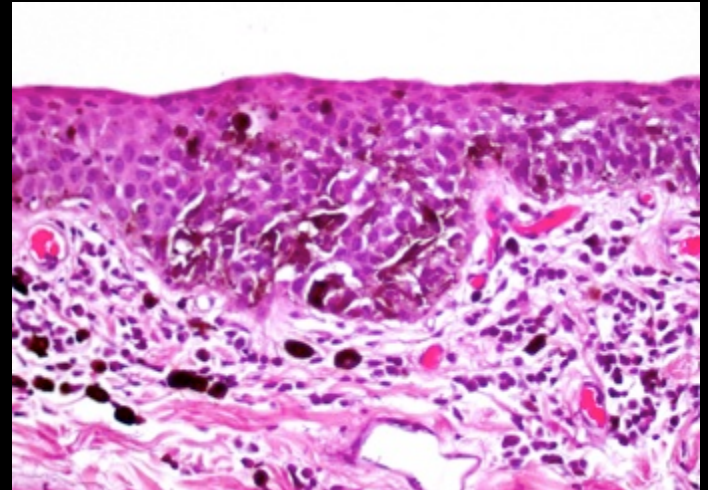
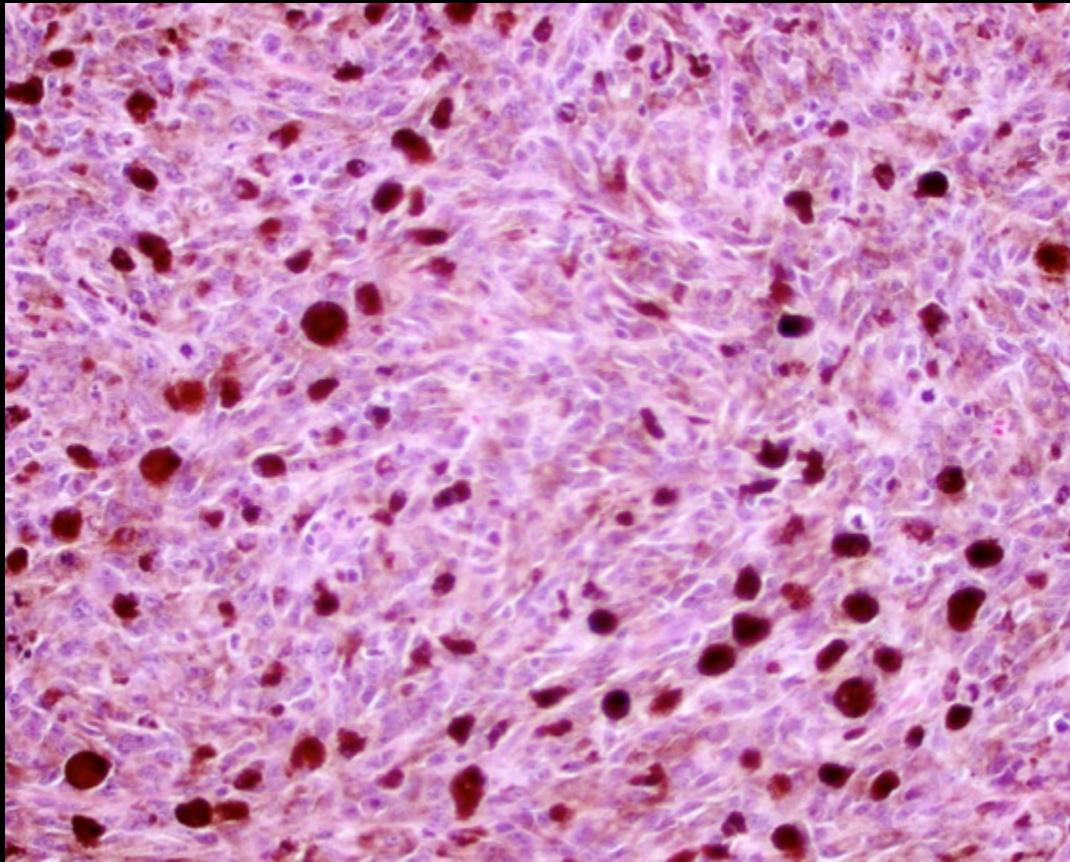
Conjunctival Melanoma

typically multifocal distribution



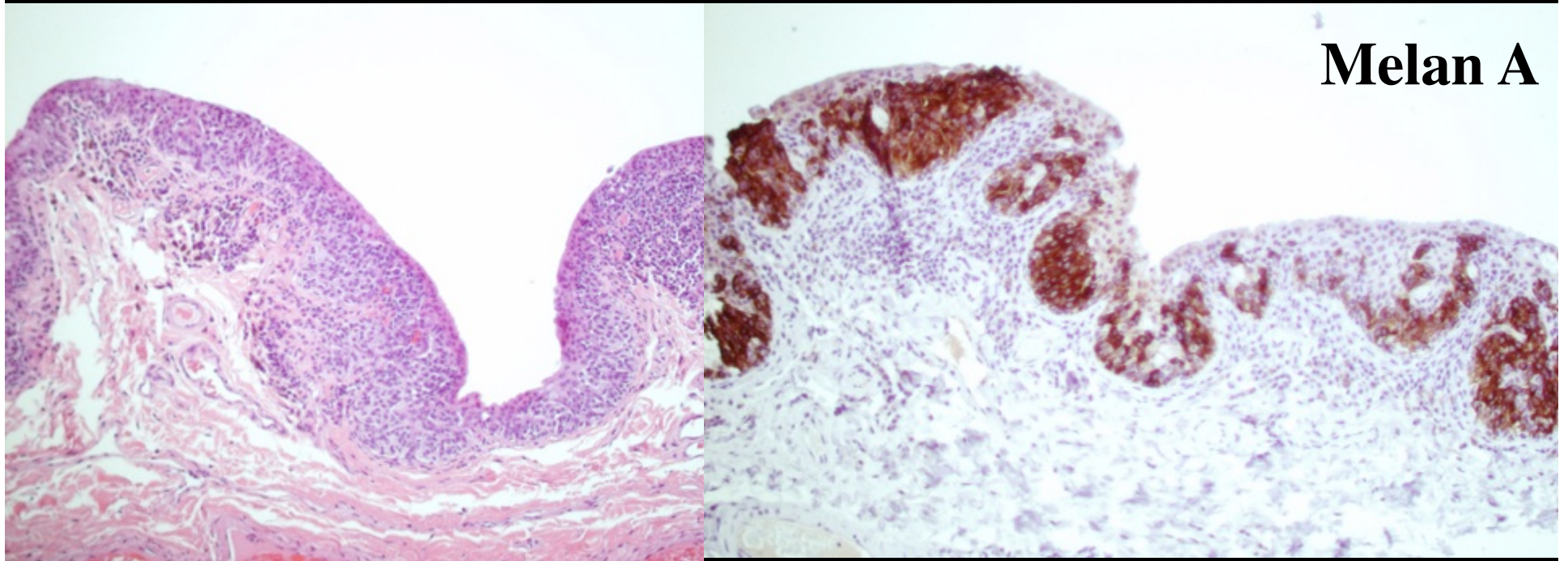
Conjunctival Melanoma

pagetoid spread within the epithelium



Conjunctival Melanoma

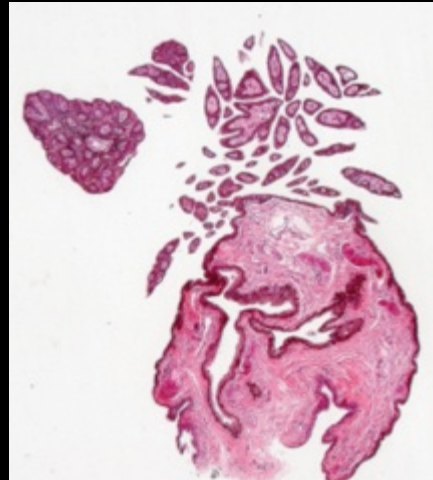
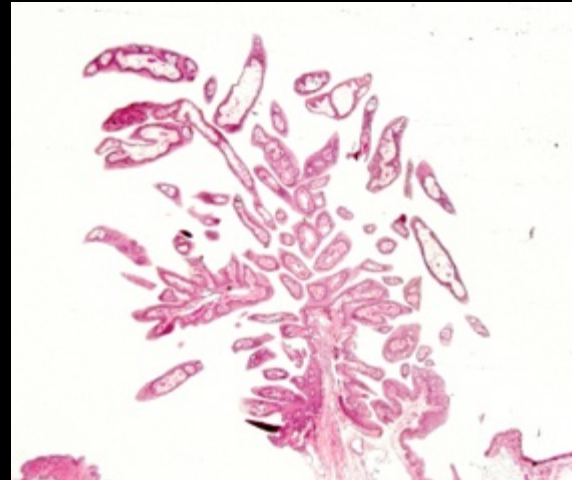
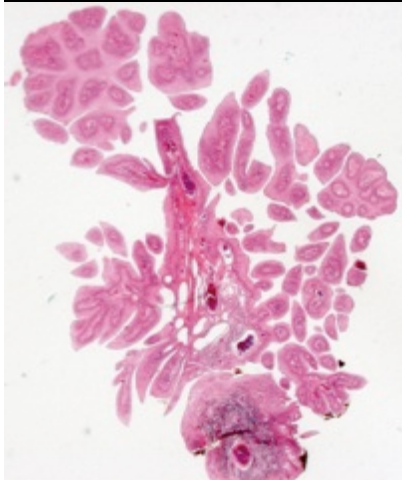
pagetoid spread within the epithelium



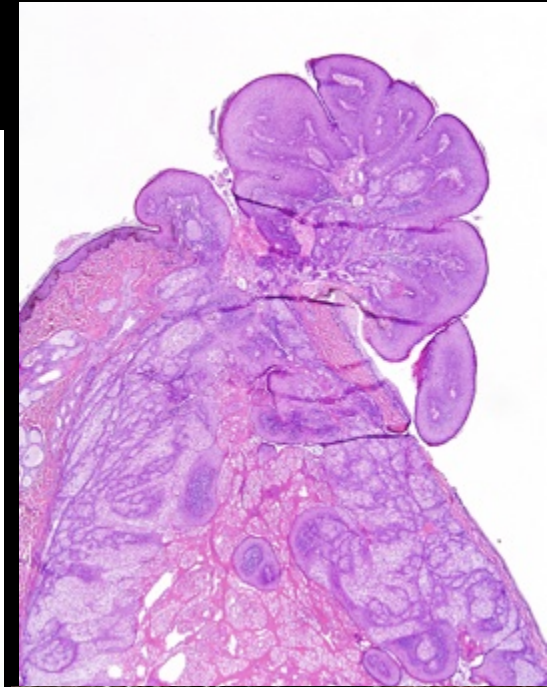
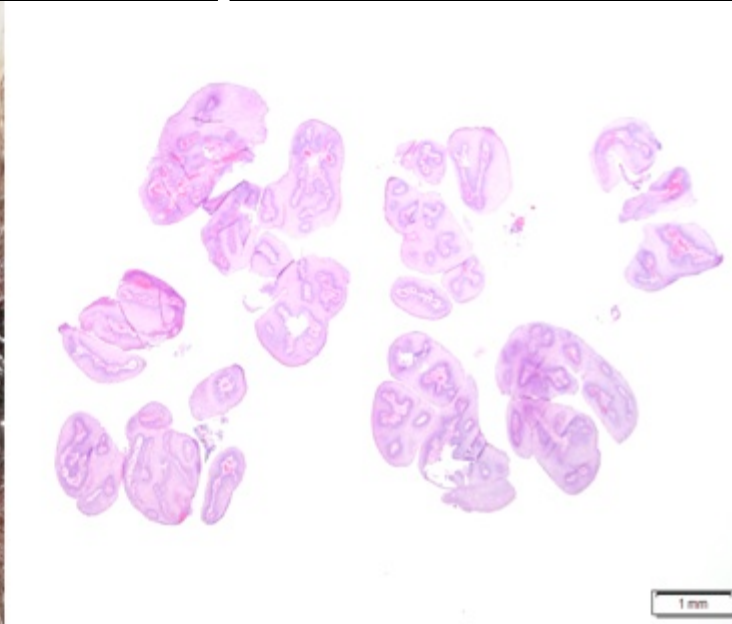
Intraepithelial “Pagetoid” spread

Canine Conjunctival Squamous Papilloma

- 183 cases in the COPLOW database
 - 25 Golden Retriever
 - 24 Mixed breed
 - 12 Shih Tzu
 - 11 Labrador Retriever
- Characterized by pointed fronds of epithelium
- No underlying inflammation or neoplasia
- These are seldom correctly diagnosed clinically



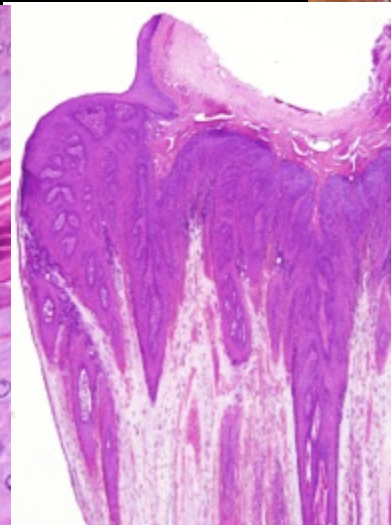
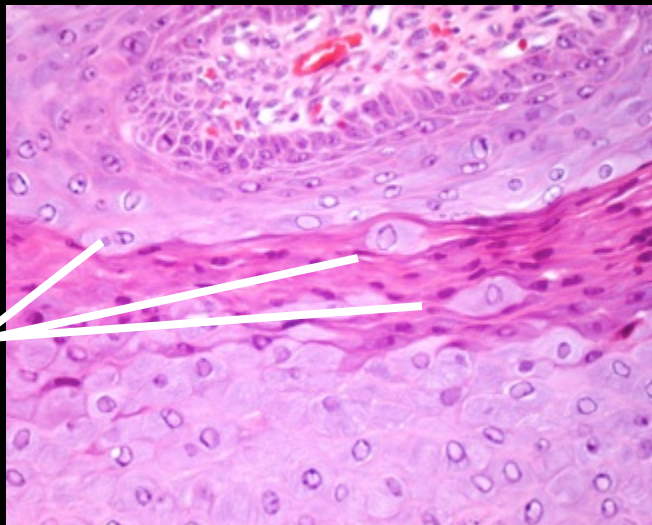
Canine Conjunctival Reactive Papilloma



- Most often associated with tumors or inflammation, hence reactive

Canine Viral Papillomas

- 81 cases in the COPLOW database
 - Mixed breed 15
 - Pugs, Labs, G Ret 5
- Young dogs predominate
 - 45/81 less than 3 years old
 - Can be as old as 14 years
- Can be conjunctival, corneal or eyelid



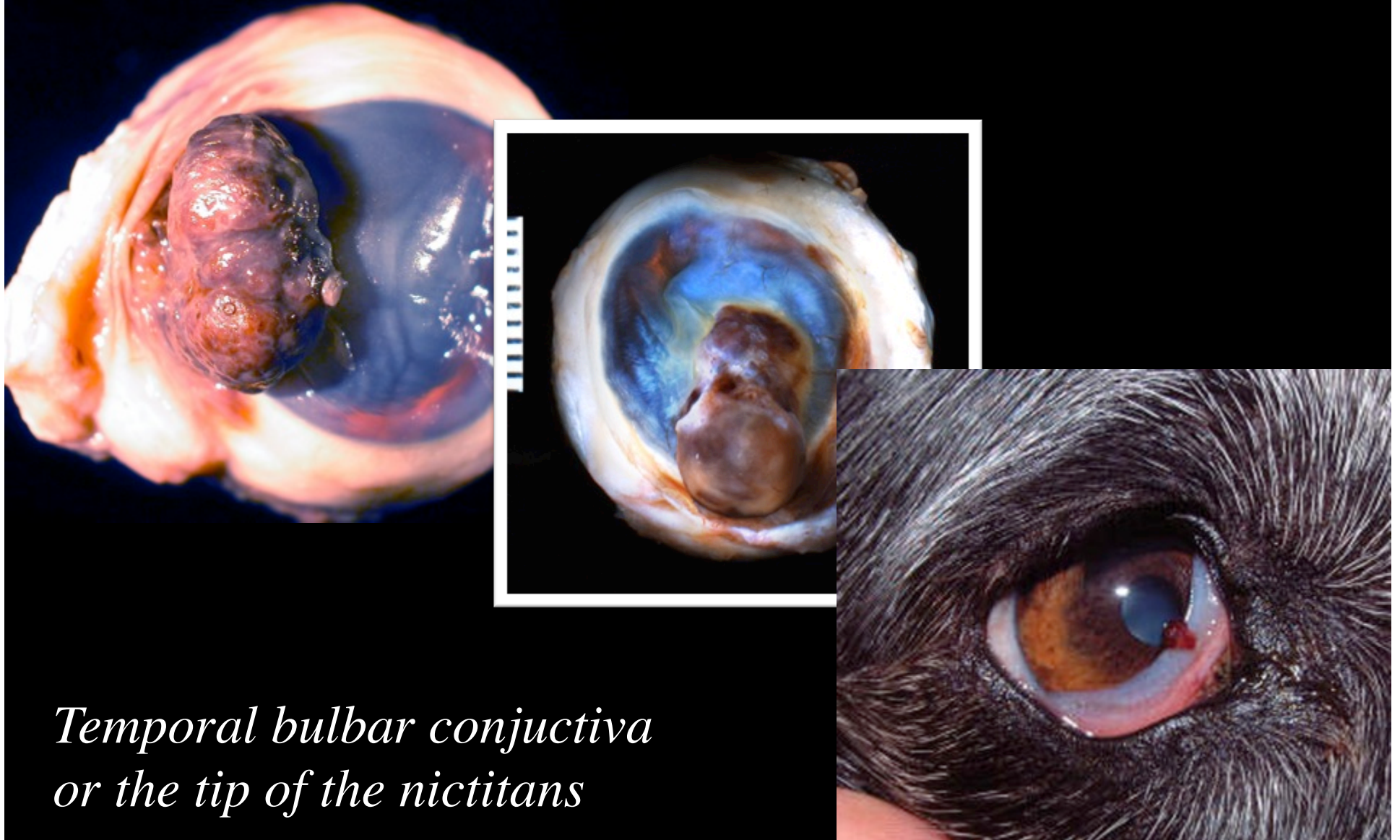
Koilocytes

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

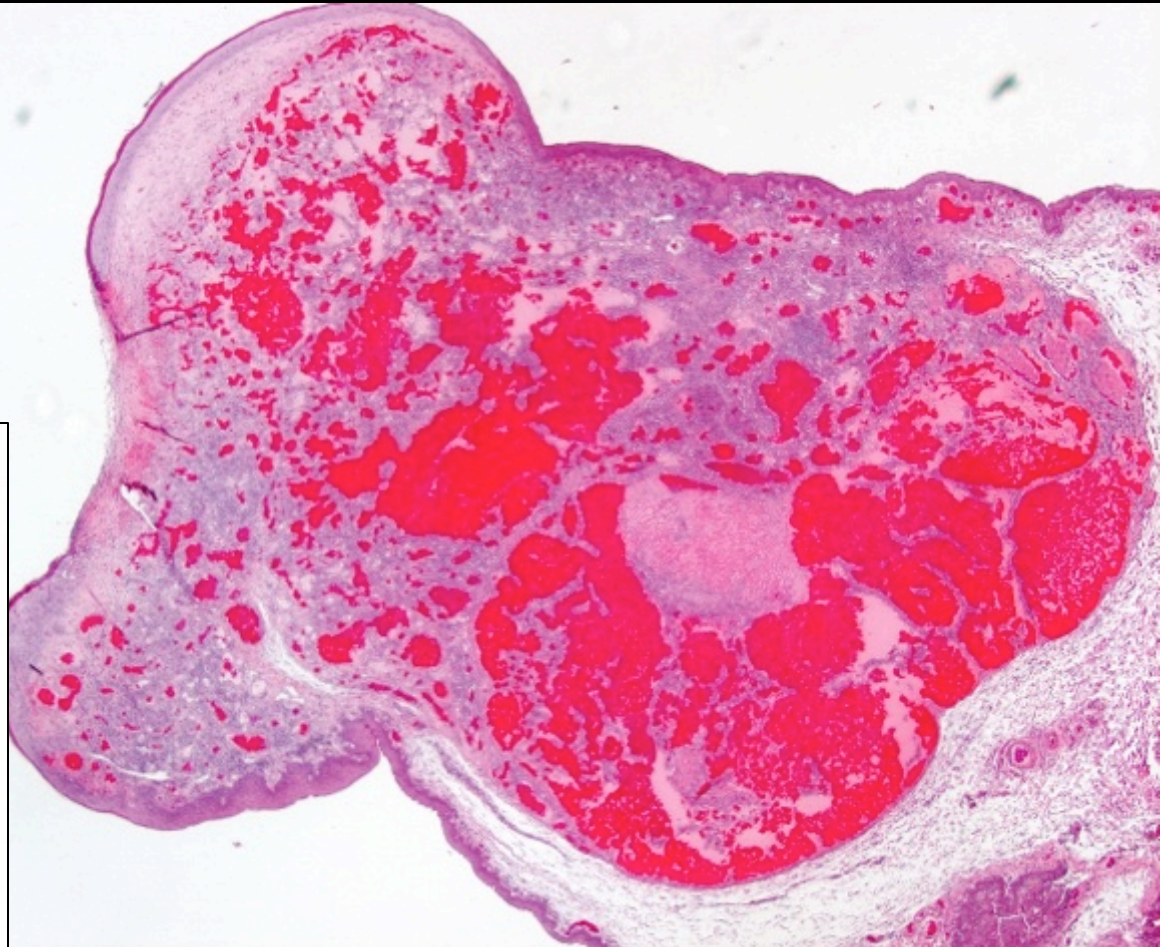
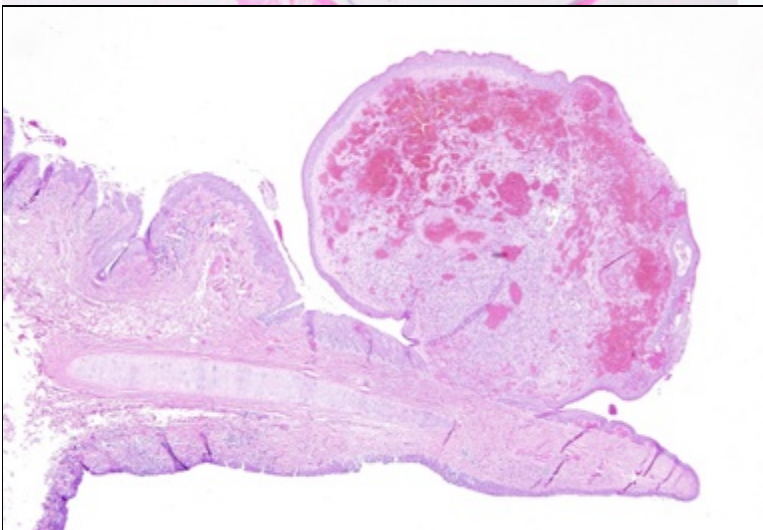
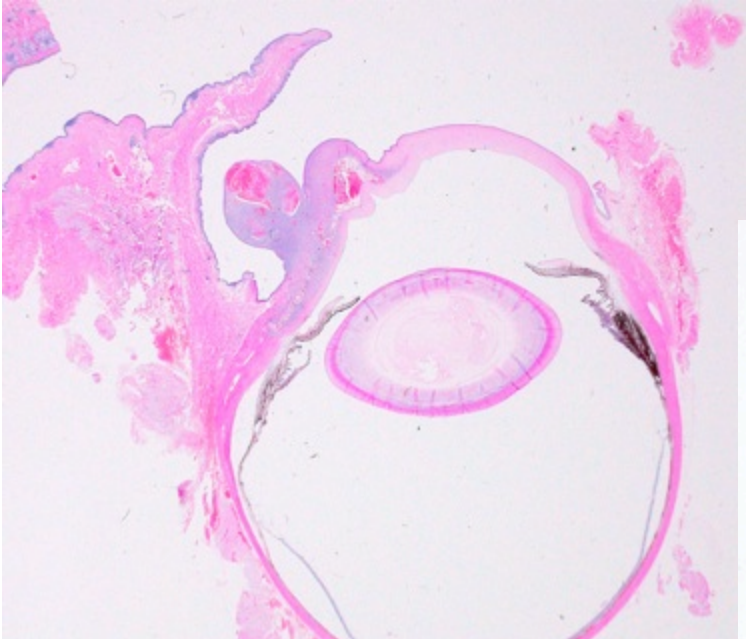


Canine Conjunctival Hemangioma and Hemangiosarcoma



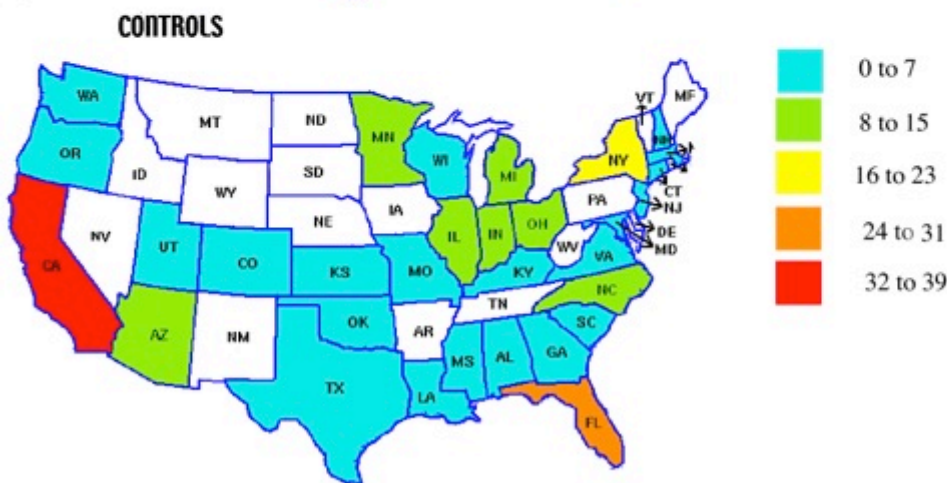
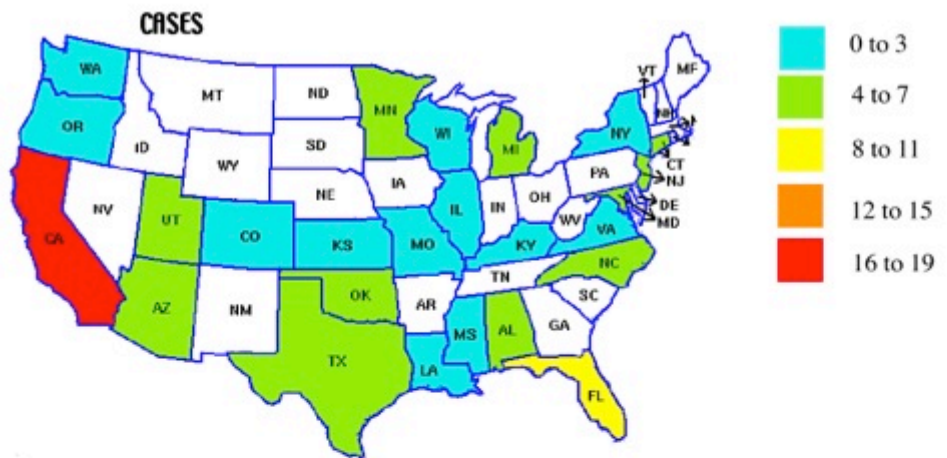
*Temporal bulbar conjunctiva
or the tip of the nictitans*

Canine Conjunctival Hemangioma and Hemangiosarcoma



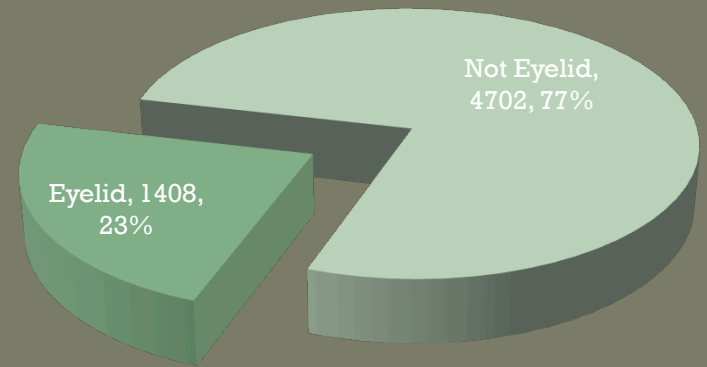
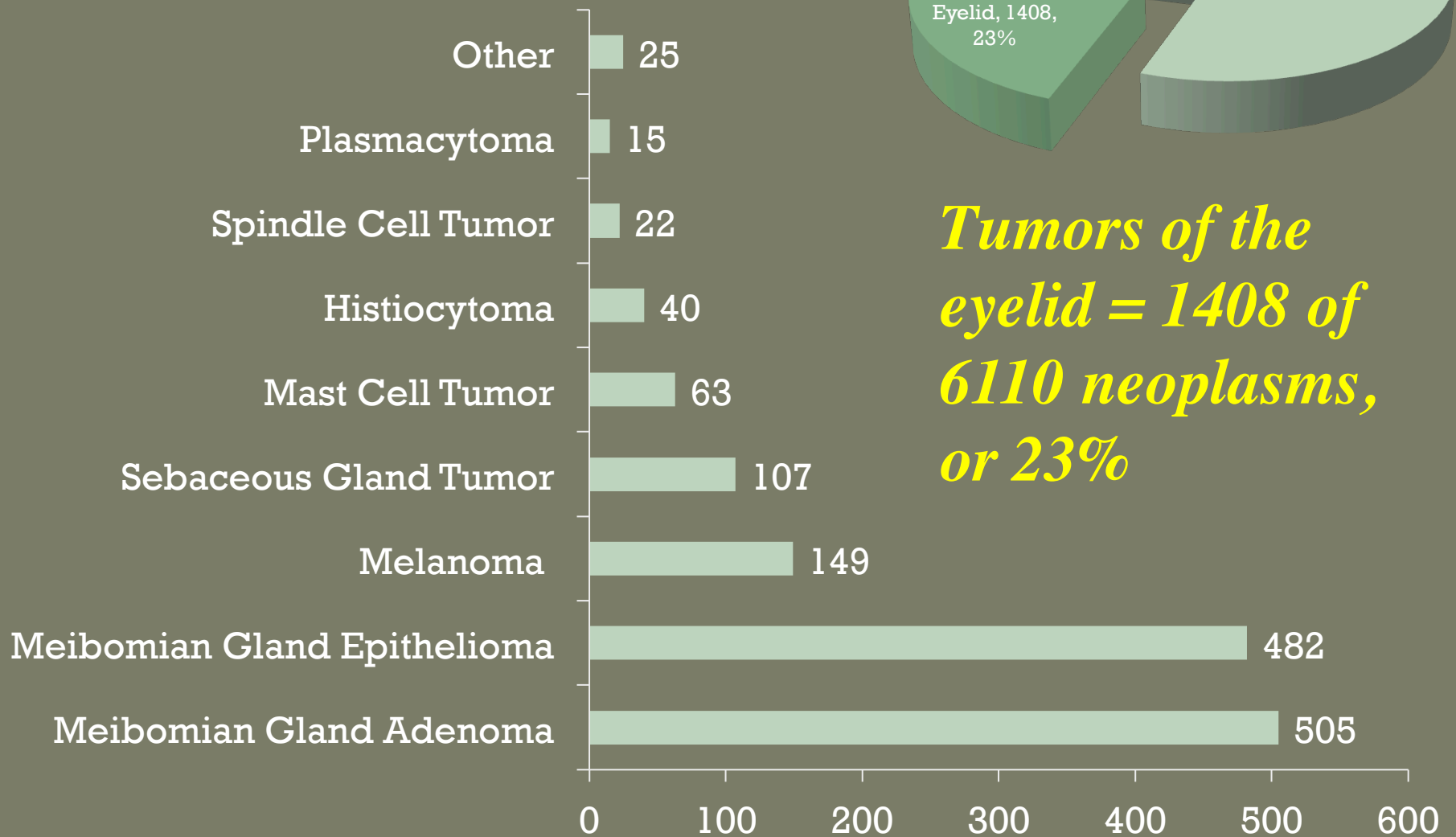
Canine Conjunctival Hemangioma and Hemangiosarcoma

exposure to UV light



- Exposure to UV light from the sun
- Non-pigmented Conjunctiva
- Out-of-doors dogs

Canine Primary Eyelid Tumors (n = 1408)



Tumors of the eyelid = 1408 of 6110 neoplasms, or 23%

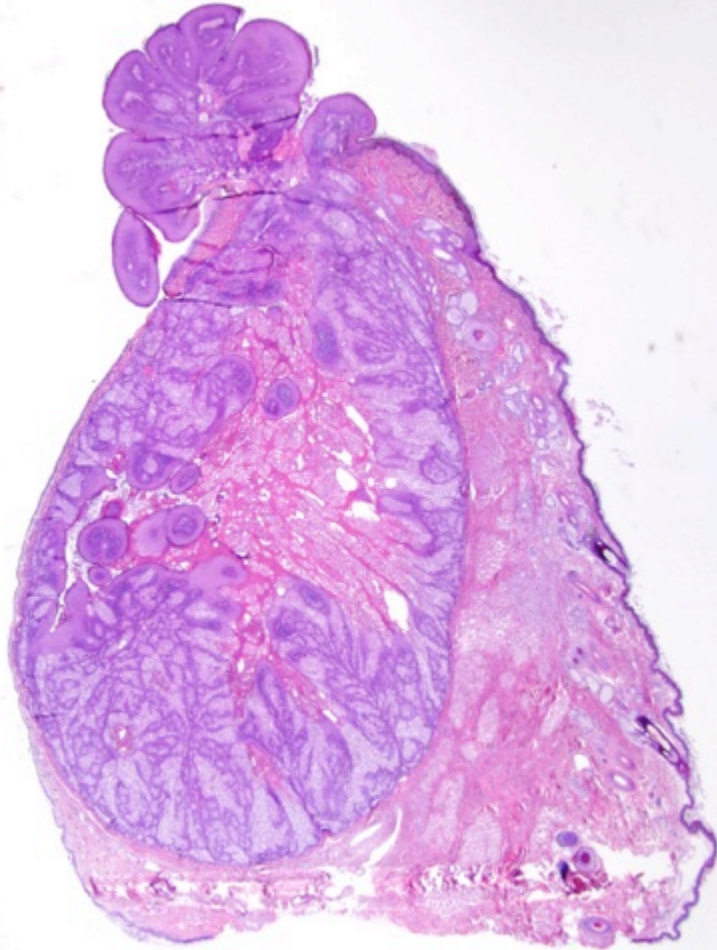
Tumors of the Meibomian Gland

(Numbers from 2012)

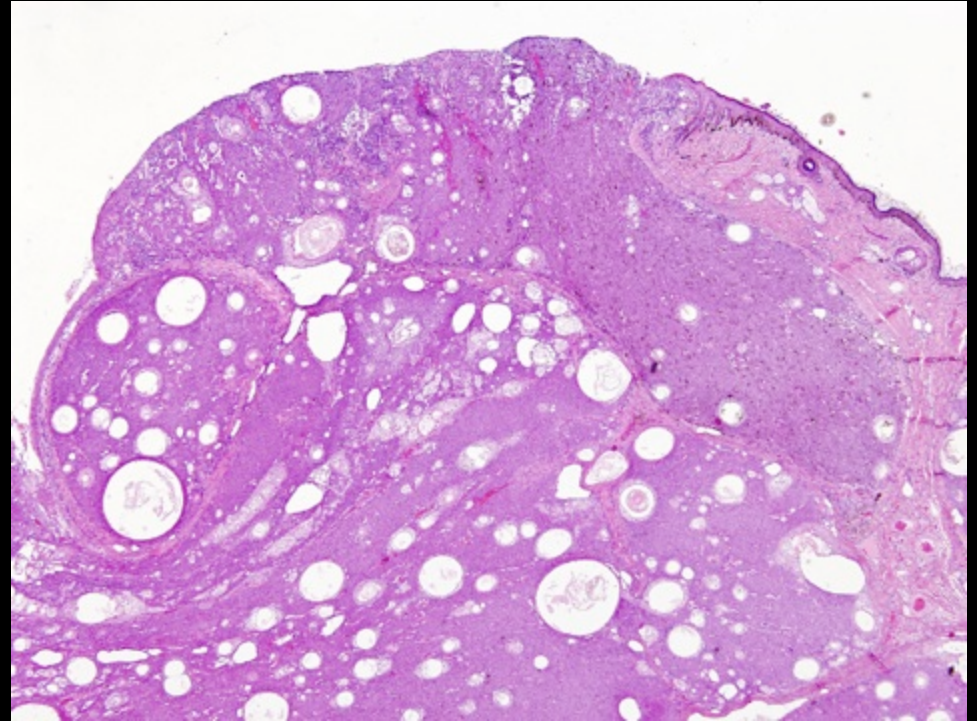
- 1207 cases in the COPLOW database
 - 233 Mixed breed
 - **222 Labrador Retriever**
 - 91 Golden Retriever
 - 66 Cocker Spaniel
 - 47 Shih Tzu



Tumors of the Meibomian Gland



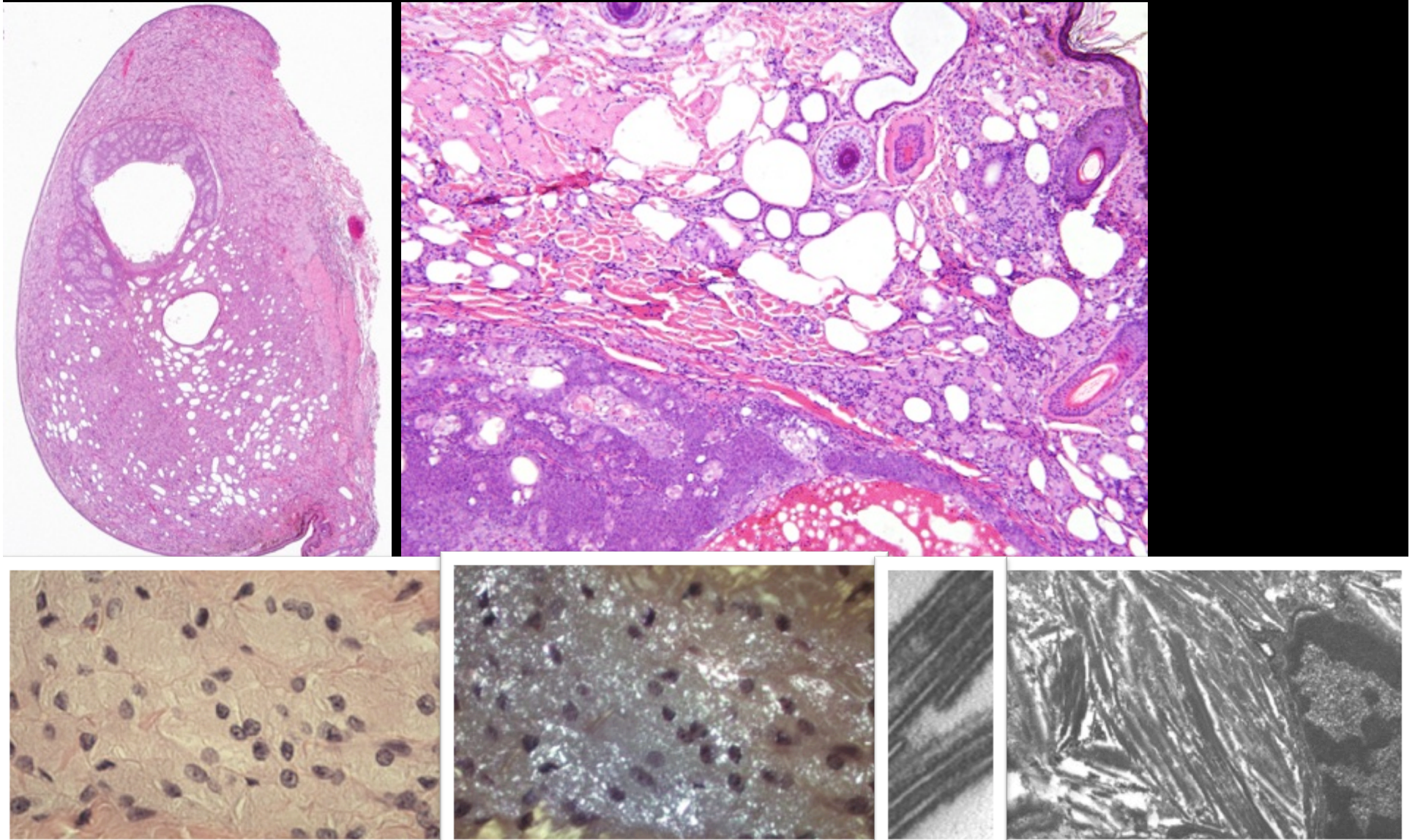
Adenoma: 648 cases



Epithelioma: 576 cases

Tumors of the Meibomian Gland

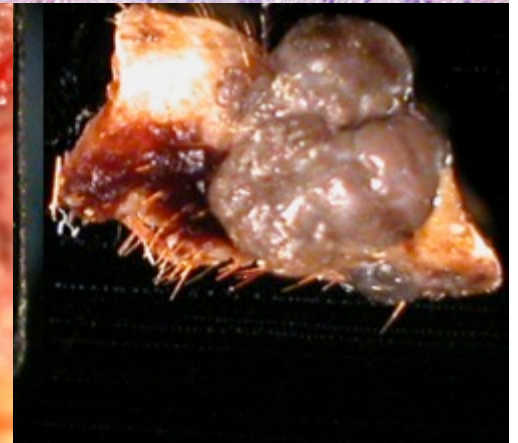
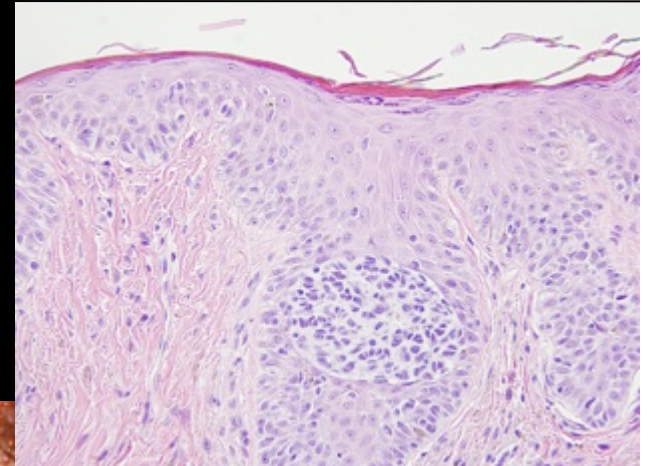
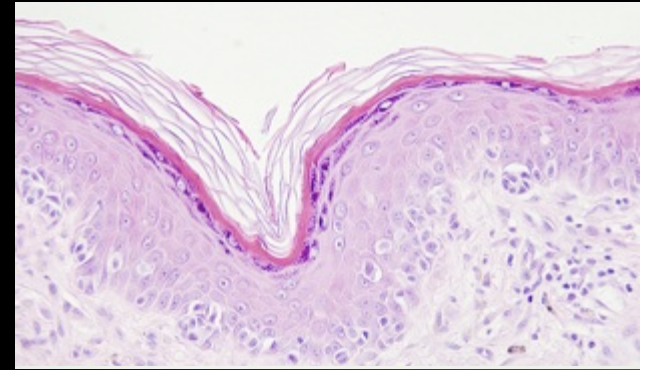
Lipogranuloma



Eyelid Melanocytic Tumors

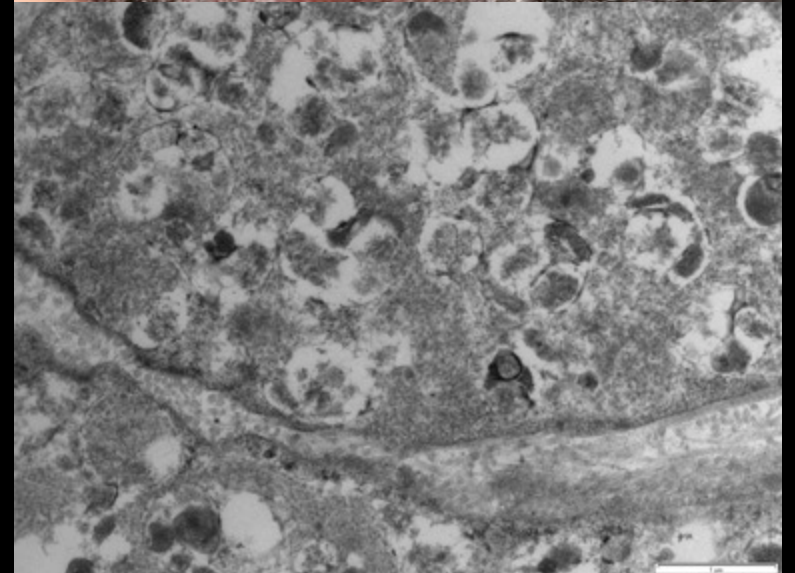
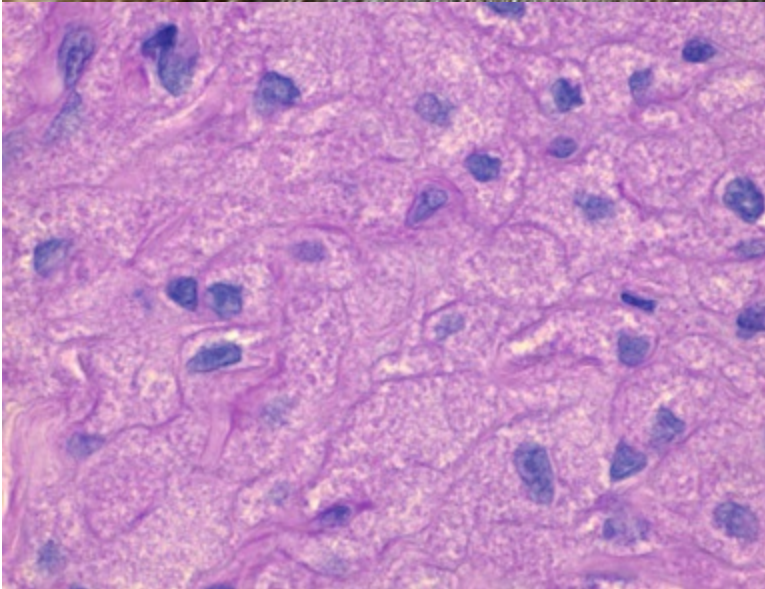
usually melanocytoma

- 39 Cases in the COPLOW database
 - 7 Mixed breed
 - 6 Vizsla
 - 4 Golden Retriever
 - 3 Yorkshire Terrier
 - 3 Doberman (White)



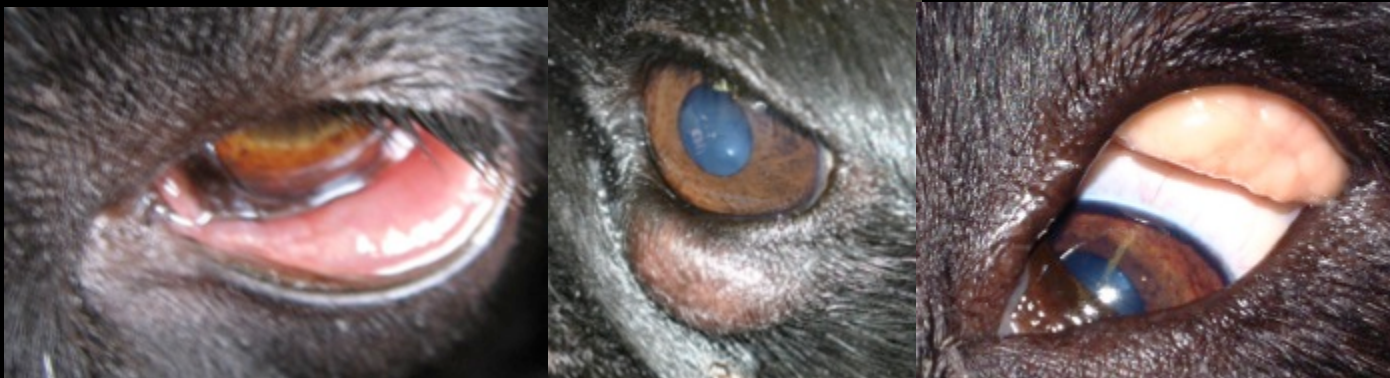
Eyelid Granular Cell Tumors: 16 cases

Medial Canthus



Mast Cell Tumors

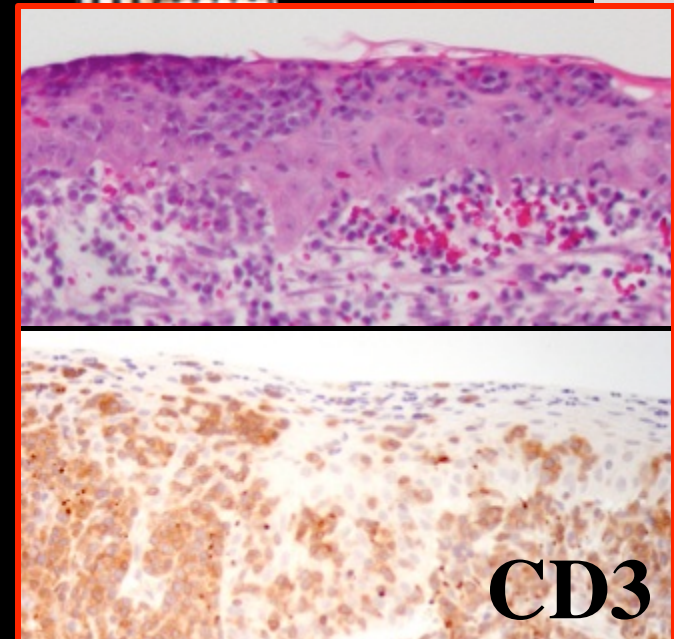
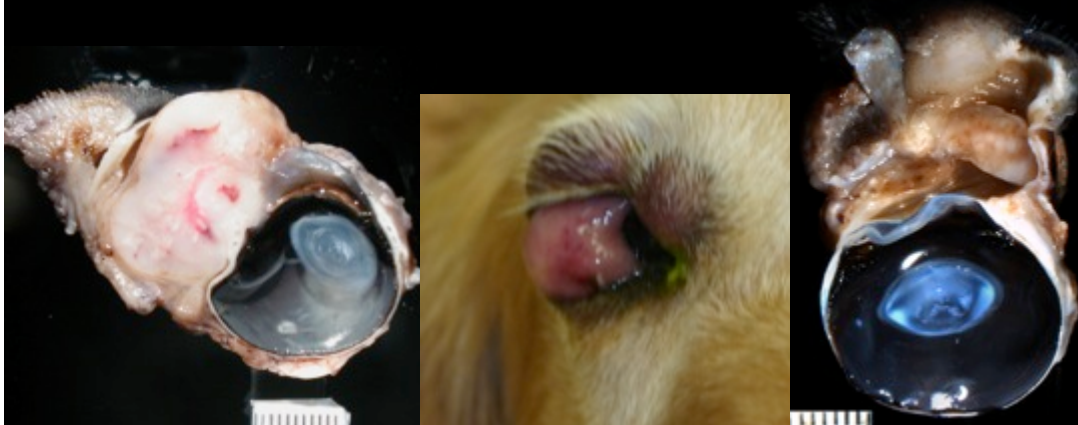
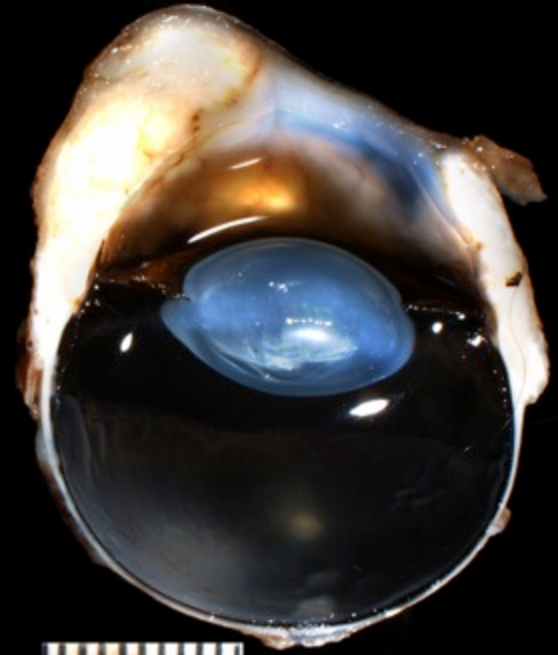
- 175 Mast Cell Tumors in the COPLOW database
 - 80 cases are conjunctival
 - 16 Mixed breed
 - 18 Labrador Retriever
 - 10 Golden Retriever
- Conjunctival tumors have a better prognosis than expected
- Grading systems are unproven in the conjunctiva



Conjunctival Lymphoma

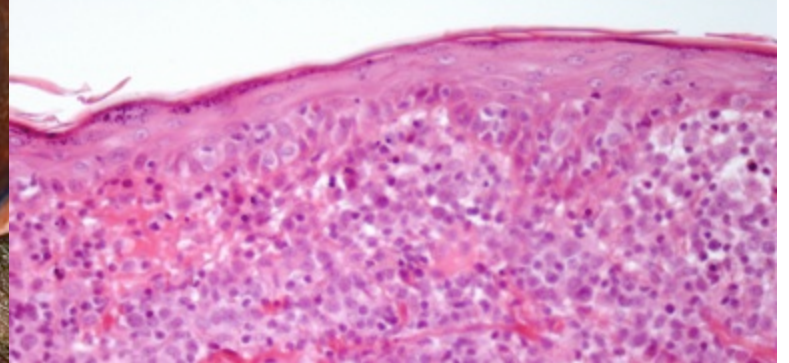
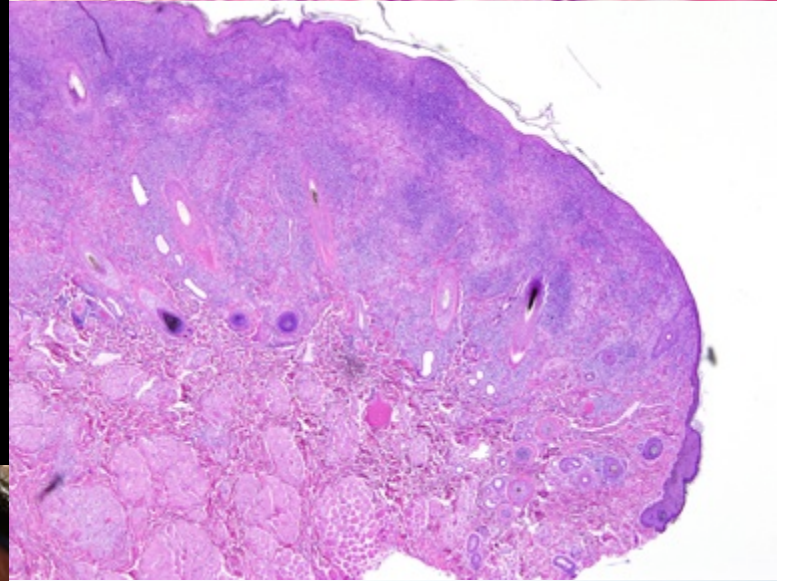
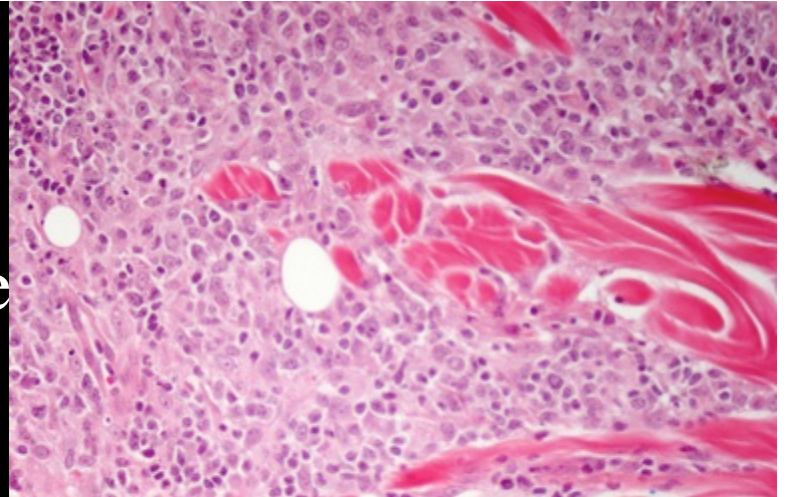
(Numbers from 2012)

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



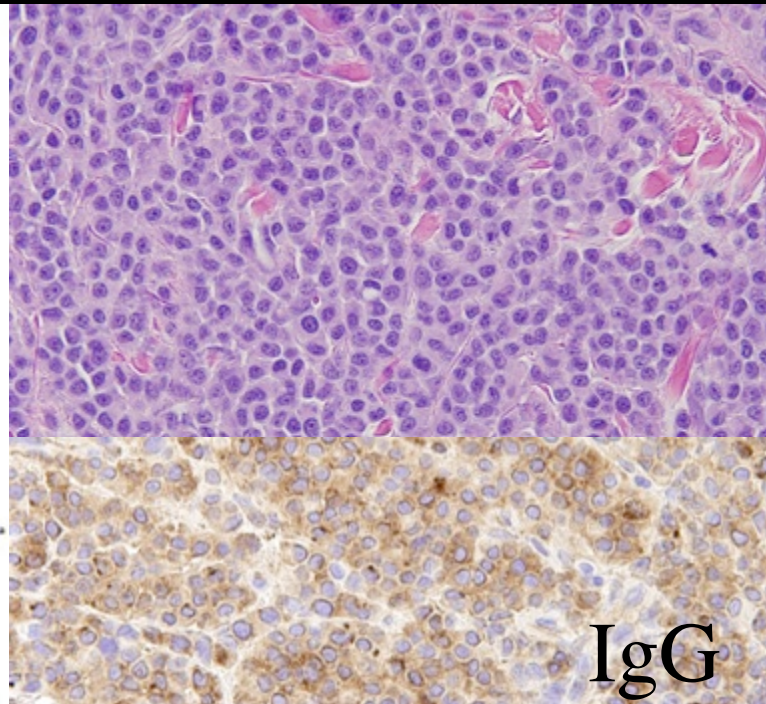
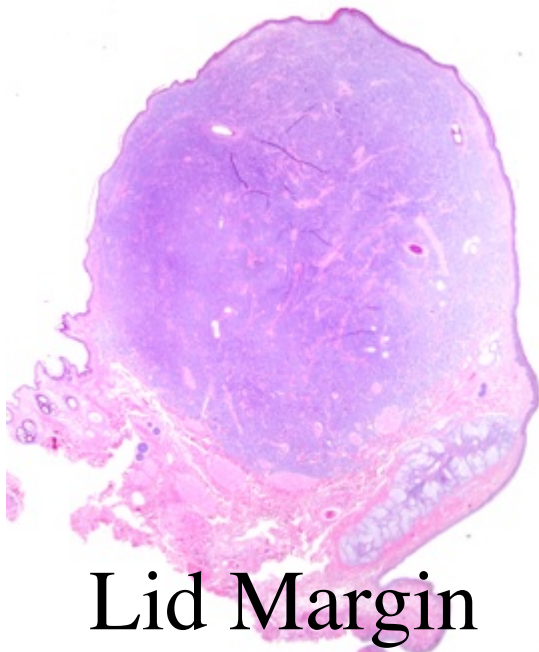
Eyelid Histiocytoma

- 71 cases in the COPLOW database
 - 47/71 less than 6 years-old
- Breeds
 - 11 Mixed breed
 - 10 Labrador Retriever
 - 6 Boxer
 - 4 Bichon Frise
 - 1 Golden Retriever???

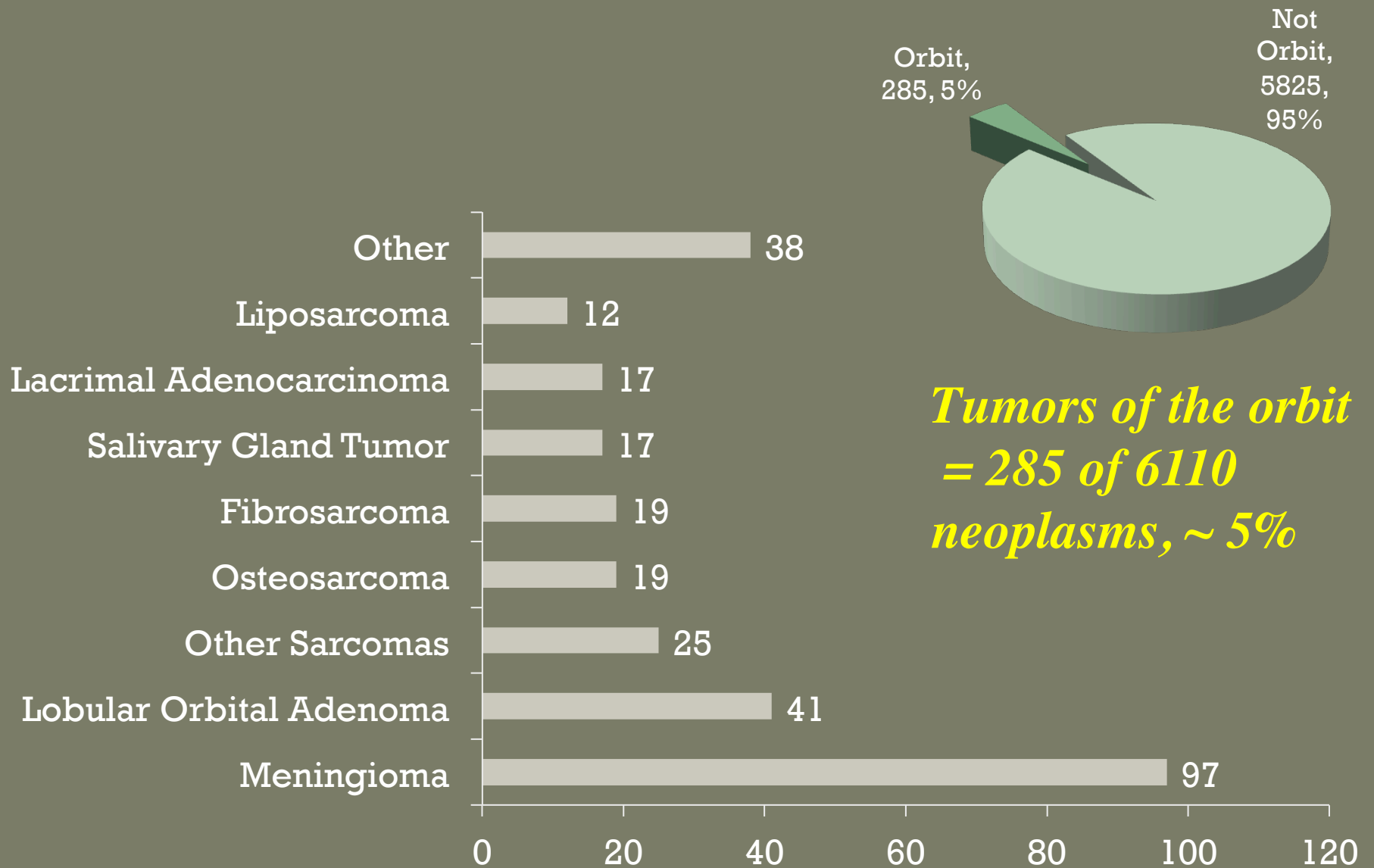


Eyelid/Conjunctival Plasmacytoma

- 39 cases of plasmacytoma in the COPLOW database
- 8 eyelid skin, 5 lid margin and 12 conjunctival



Canine Tumors of the Orbit (n = 285)

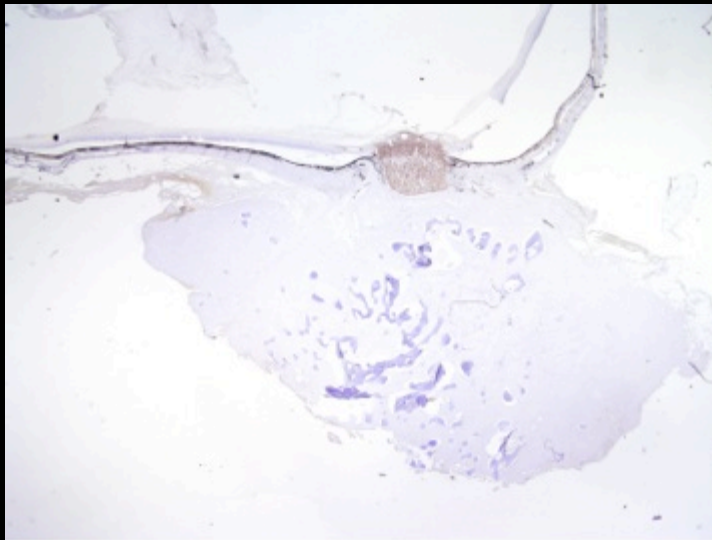


Canine Orbital Meningioma

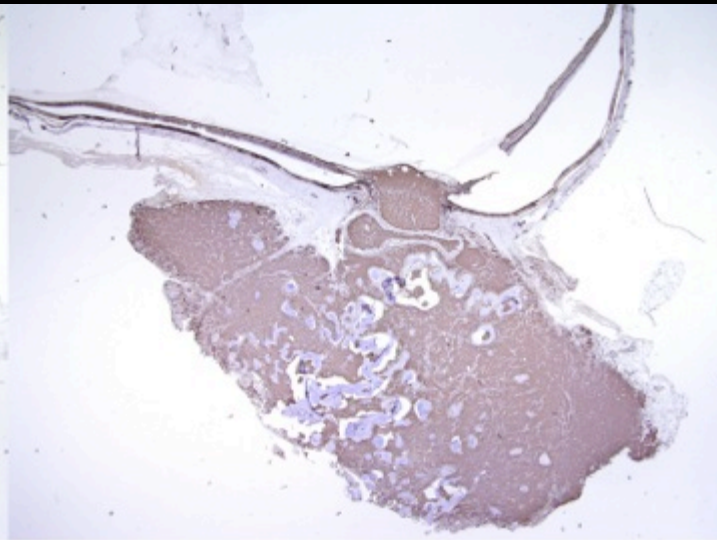
- 153 cases in the COPLOW database
 - 35 Mixed breed
 - 14 Labrador Retriever
 - 9 Boxer
 - 7 Chihuahua
 - 9 Poodle
 - 5 Scottish Terrier
- The tumor surrounds the nerve in a conical manner
- Slow growing, eventually grows into cavlarium
- Metaplastic bone, cartilage or myxoid tissue
- 66 left eye vs 44 right eye
- 62 males vs 56 females



Canine Orbital Meningioma

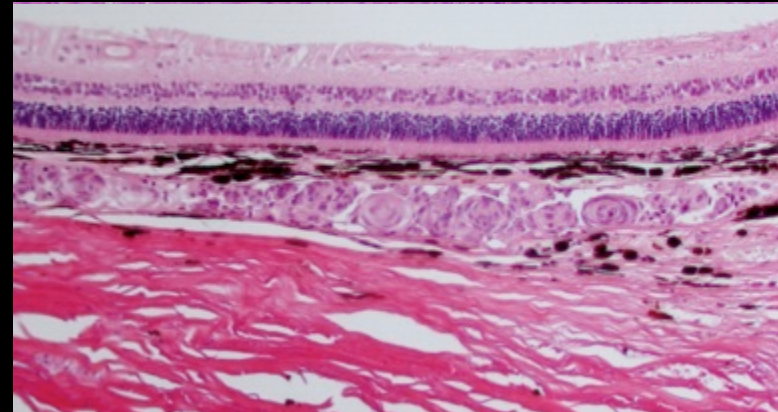
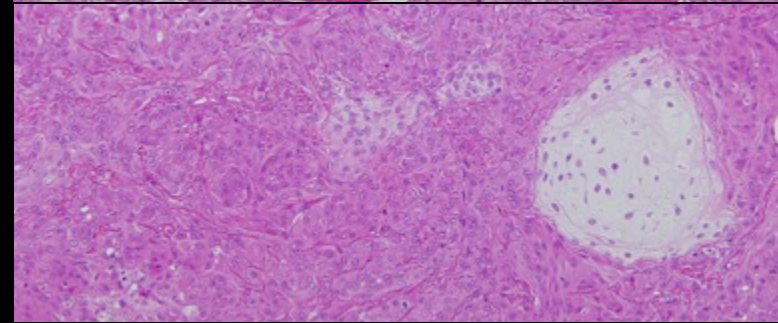
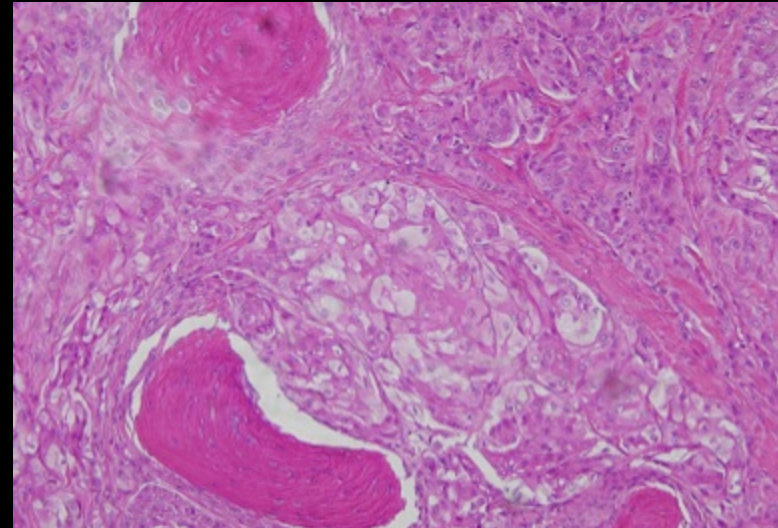
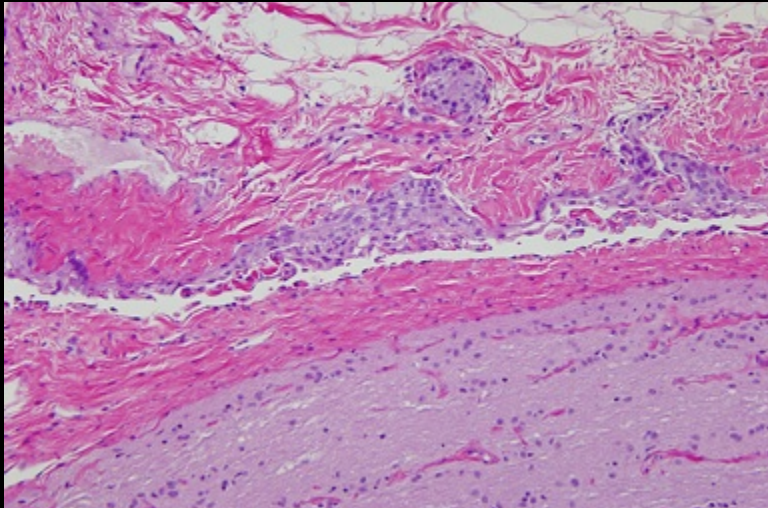
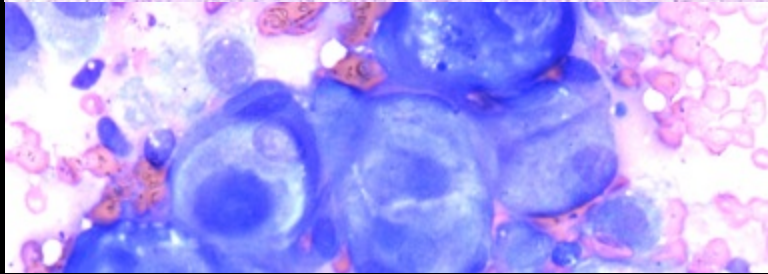
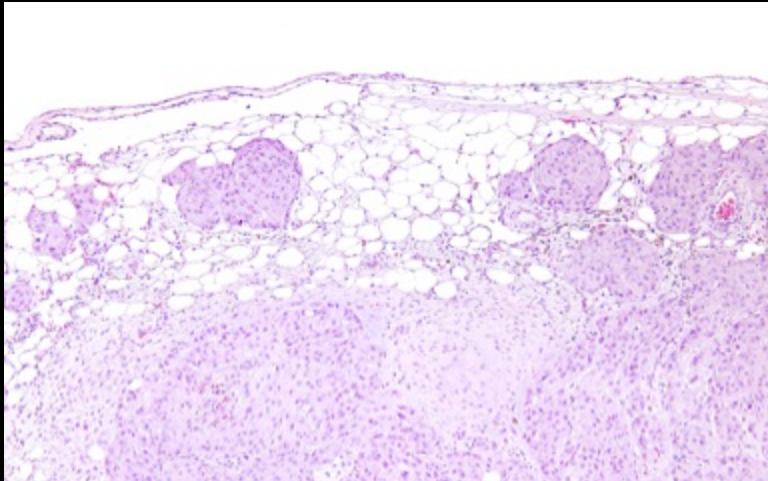


Cytokeratin



Vimentin

Canine Orbital Meningioma



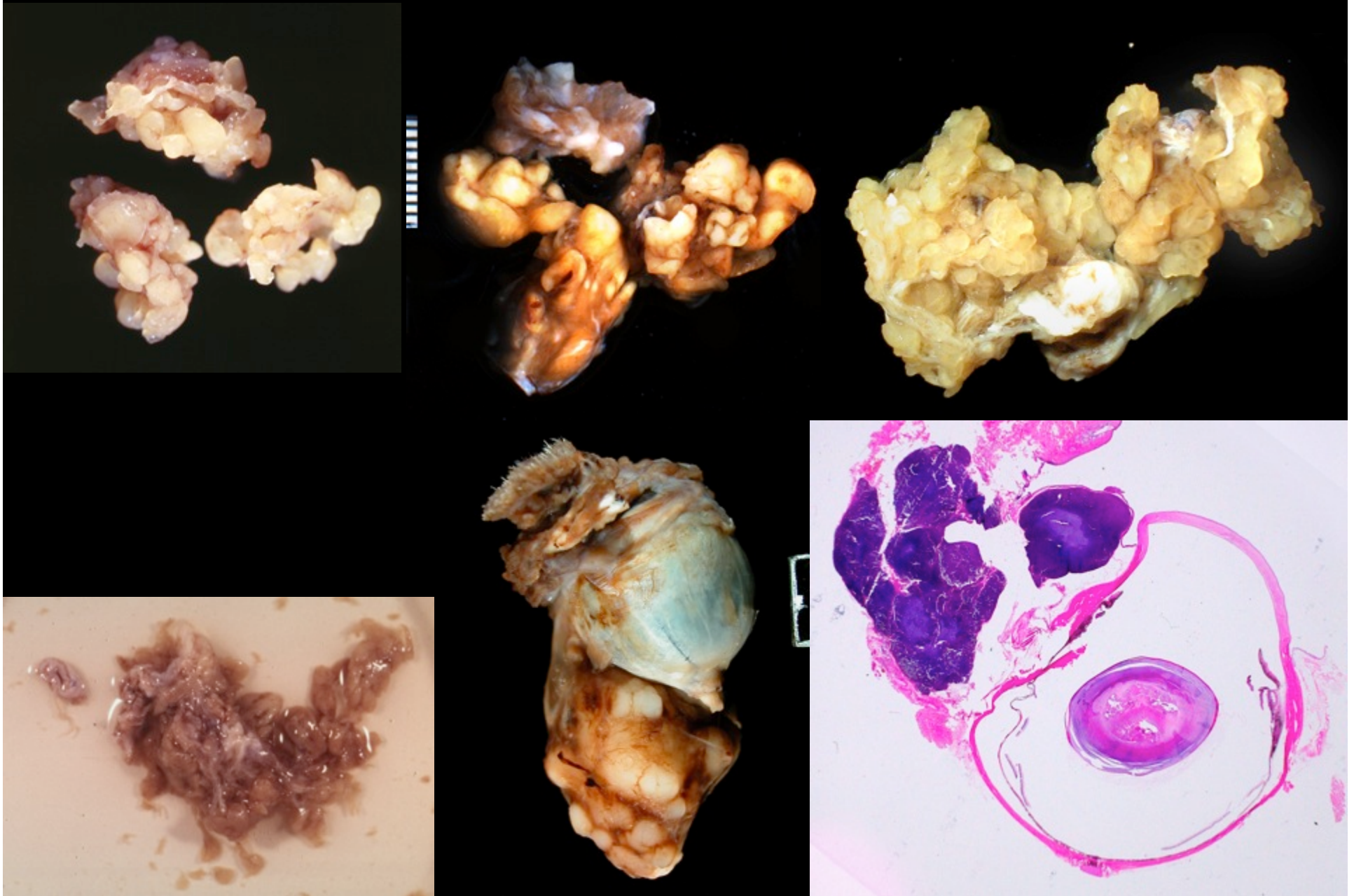
Canine Orbital Lobular Adenoma

- 56 cases in the COPLOW database
 - 15 Labrador Retriever
- Many dogs with bilateral disease
- Most cases recur in one to two years because it is difficult to remove

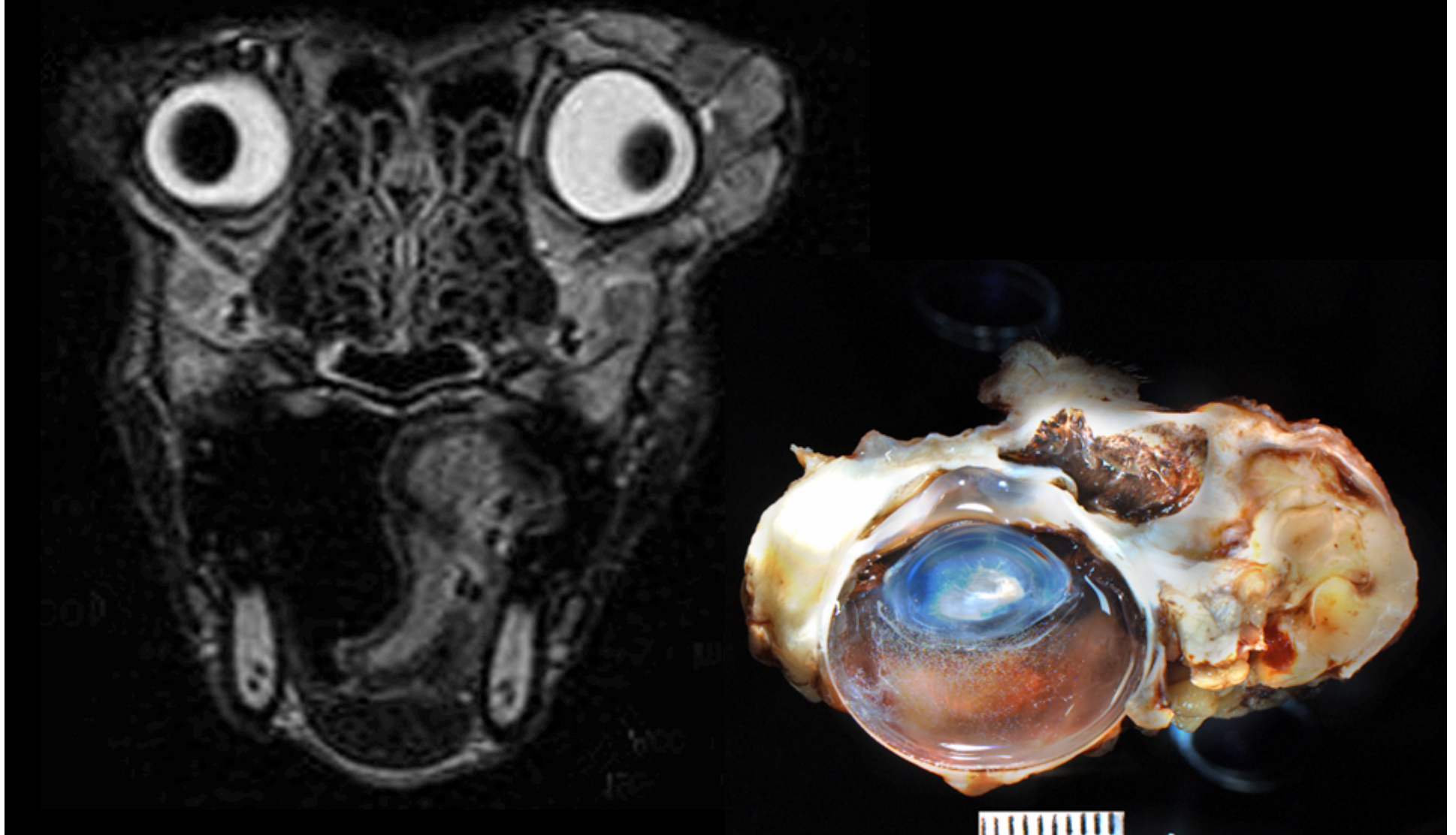


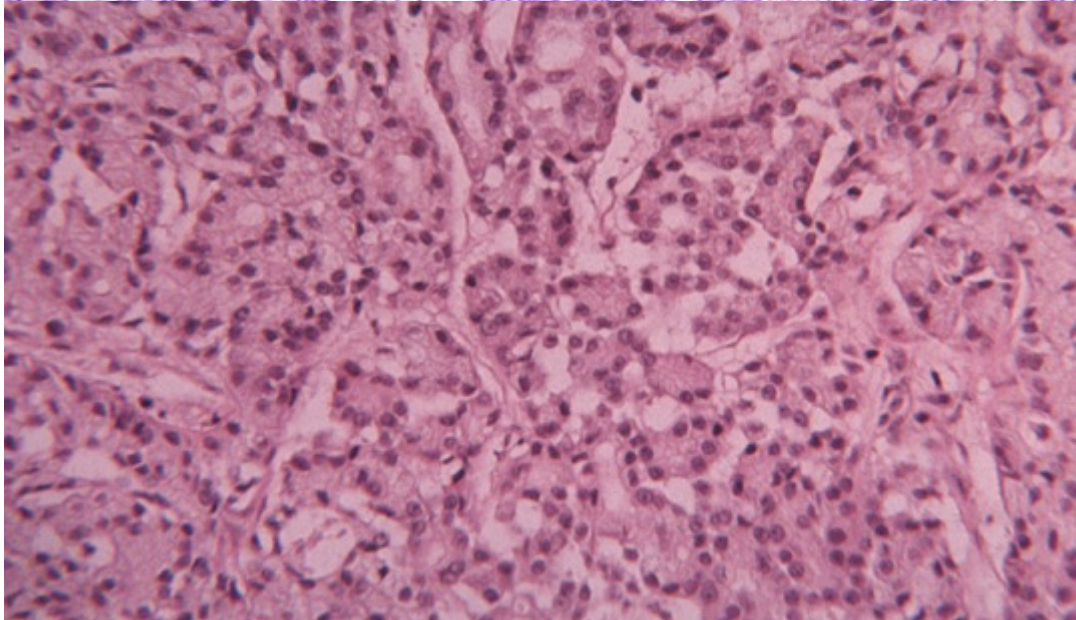
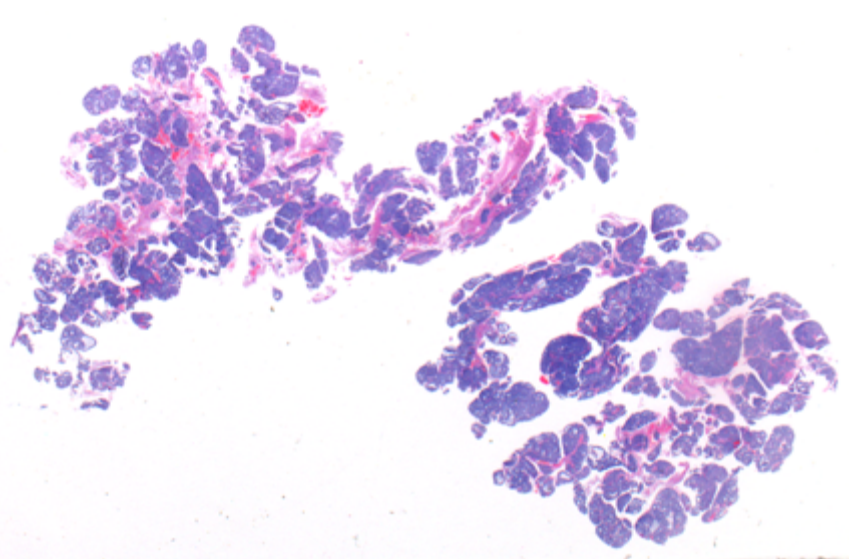
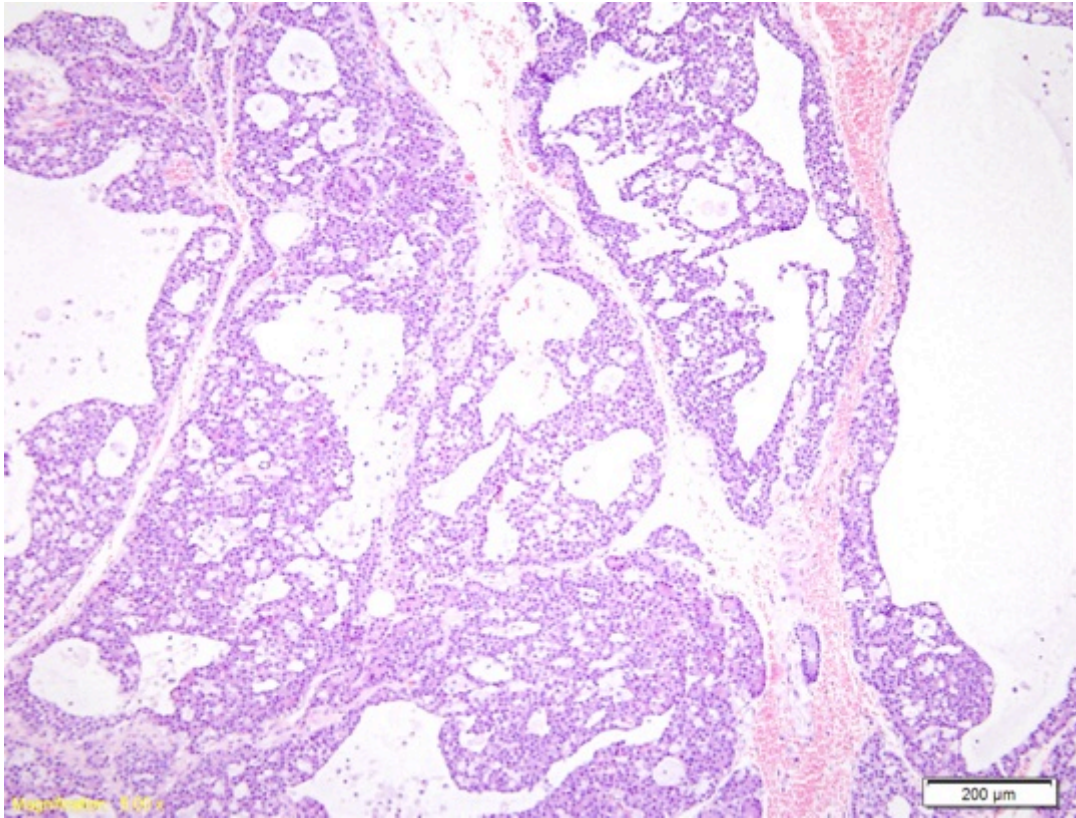
Headrick JF, Bentley E, Dubielzig RR. (2004) Canine lobular orbital adenoma: A report of 15 cases with distinctive features. *Vet. Ophthalmol.* 7: 47.

Canine Orbital Lobular Adenoma



Canine Orbital Lobular Adenoma





Canine Orbital Lobular
Adenoma

Clinical Presentation

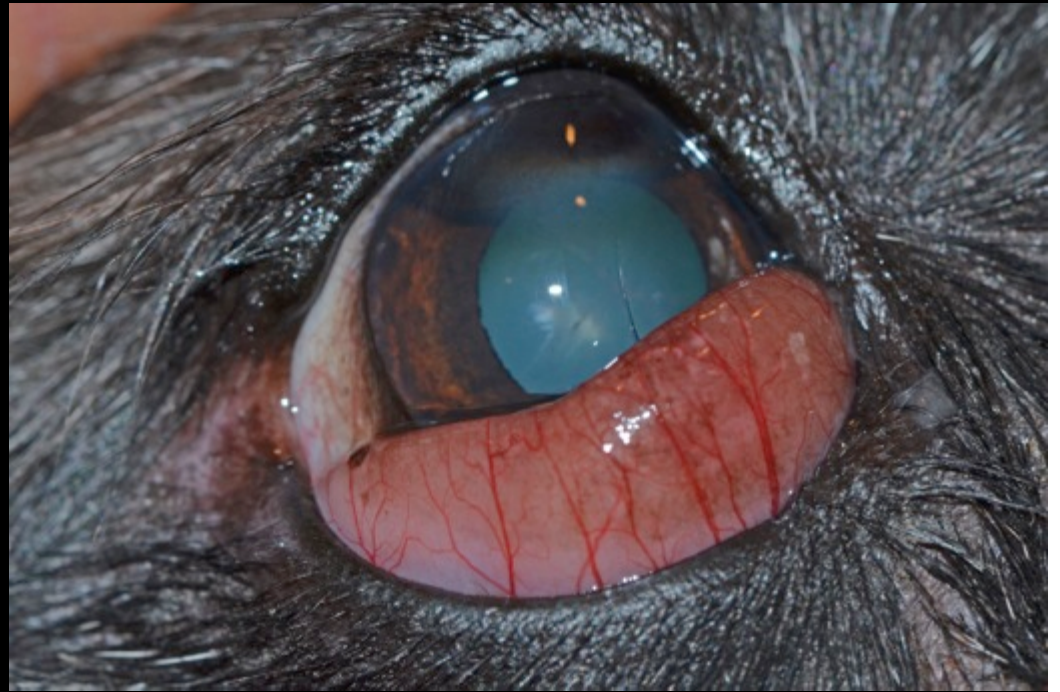
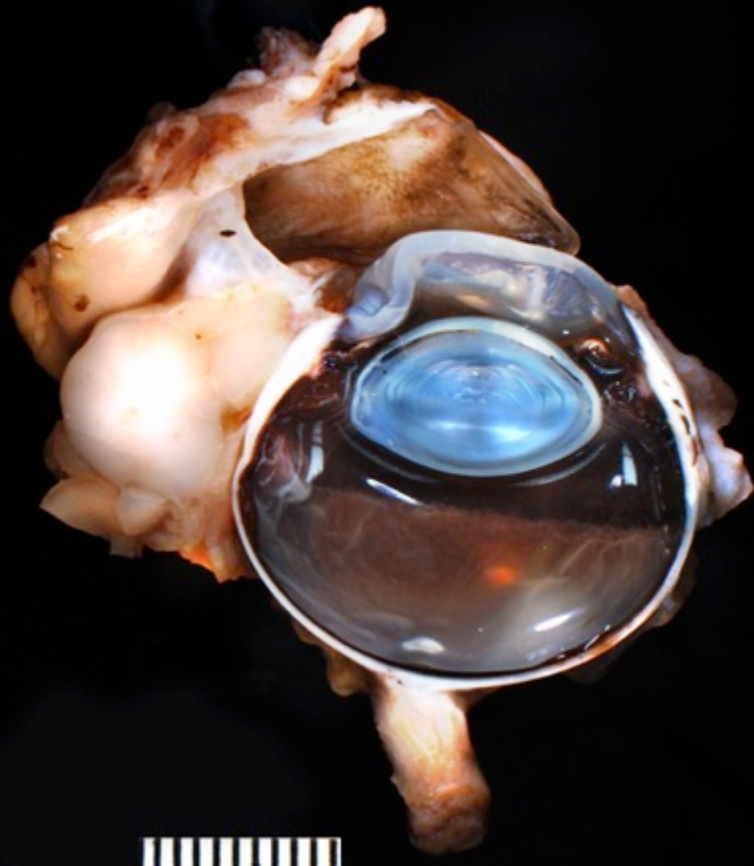
- Swollen eye lids.....5 cases
- Protrusion of the nictitans.....3 cases
- Retrobulbar masses.....2 cases
- Exophthalmia.....5 cases
- Resistance to retropulsion.....2 cases
- Strabismus.....1 case

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

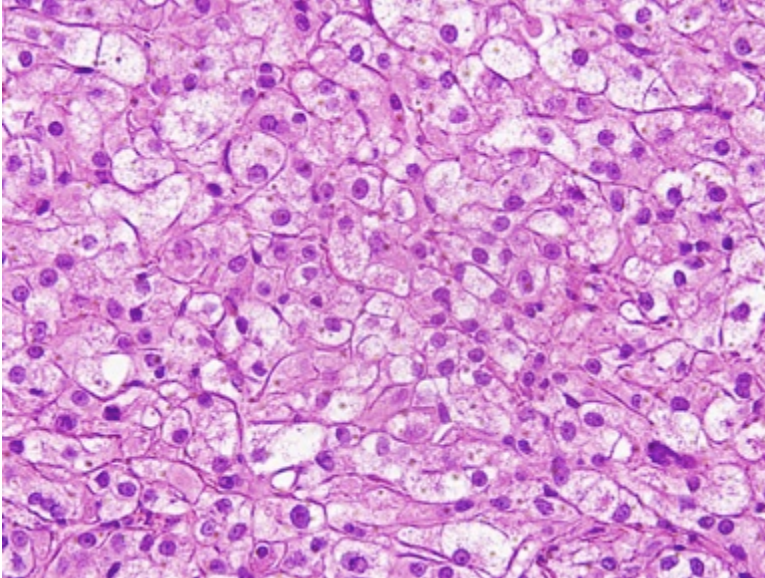
Canine Orbital Hibernoma: 13cases

Tumor of Brown Fat

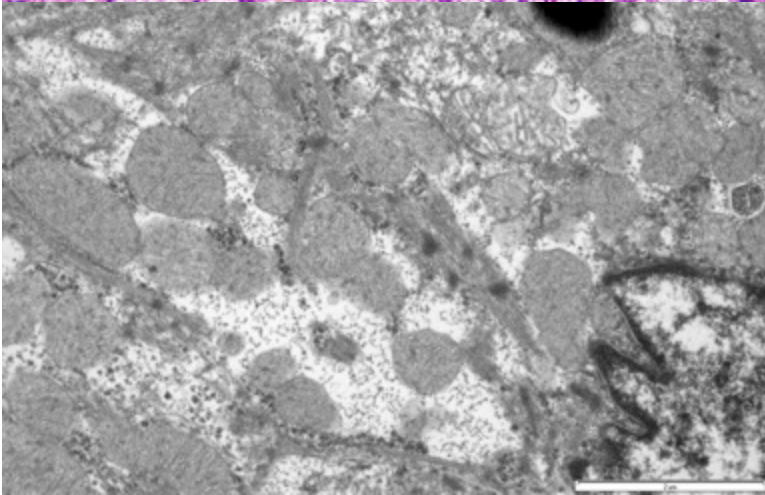
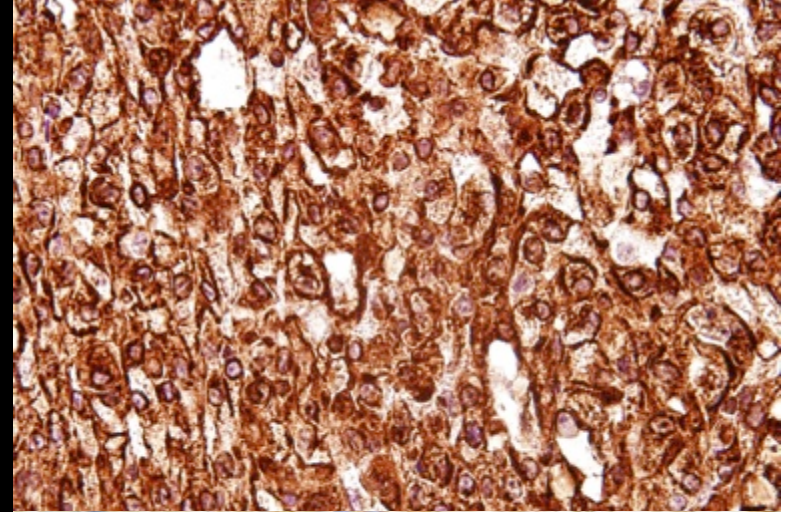


Canine Orbital Hibernoma

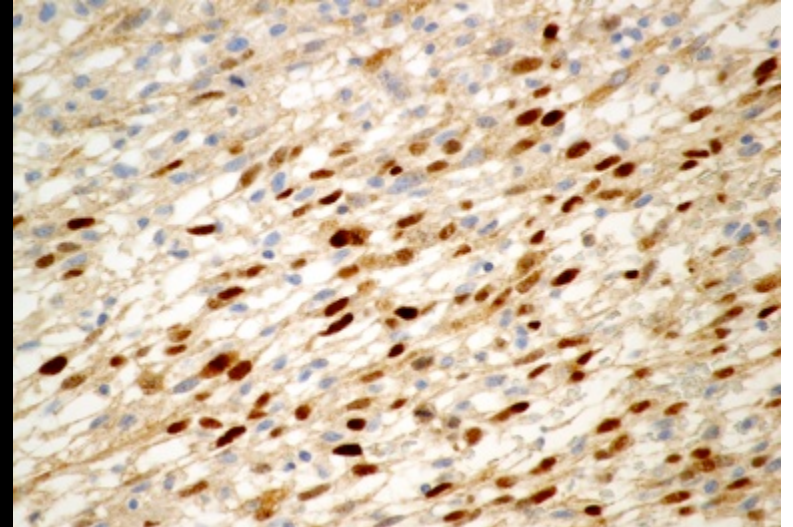
H&E



Vimentin



TEM



Myo D Nuclear stain

Orbital Rhabdomyosarcoma

- 12 cases
- 2 Belgian terrier and 2 German shepherds
- Only one older than 4 years-old
- 8 female and 3 males

