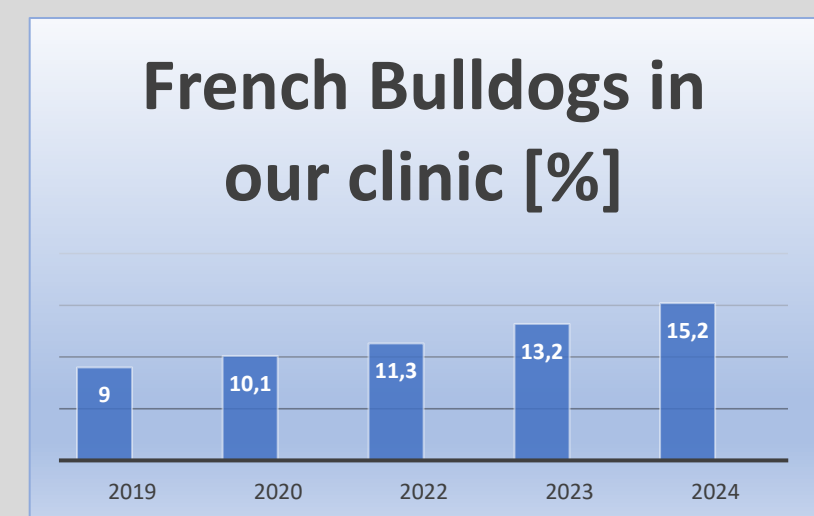


# PRIMARY GLAUCOMA IN FRENCH BULLDOGS: CLINICAL AND HISTOLOGICAL FEATURES IN 67 DOGS (80 eyes)

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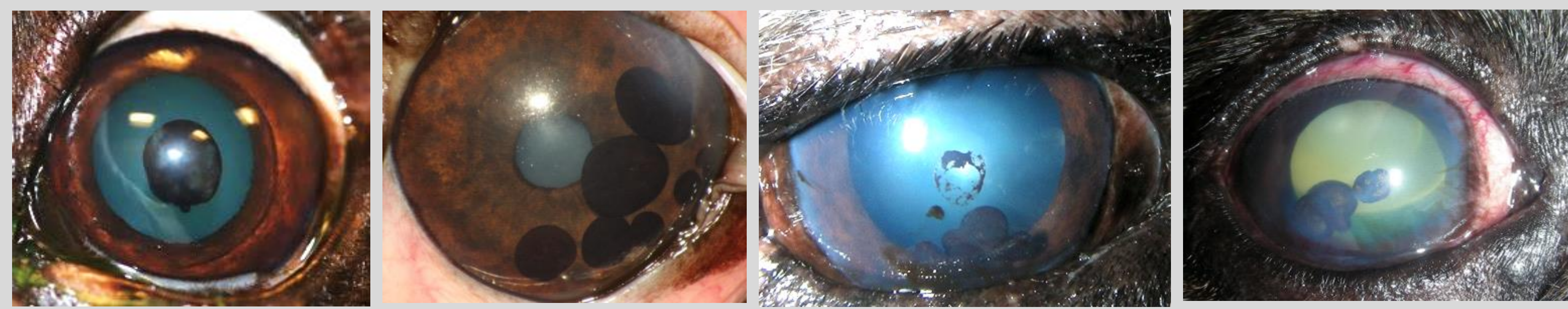
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**Purpose:** To describe the clinical and histological characteristics of primary glaucoma in French Bulldogs.

## Methods:

- complete ophthalmic examination
- gonioscopy in the affected and/or opposite eye if possible
- histopathology on enucleated, blind eyes



## Results:

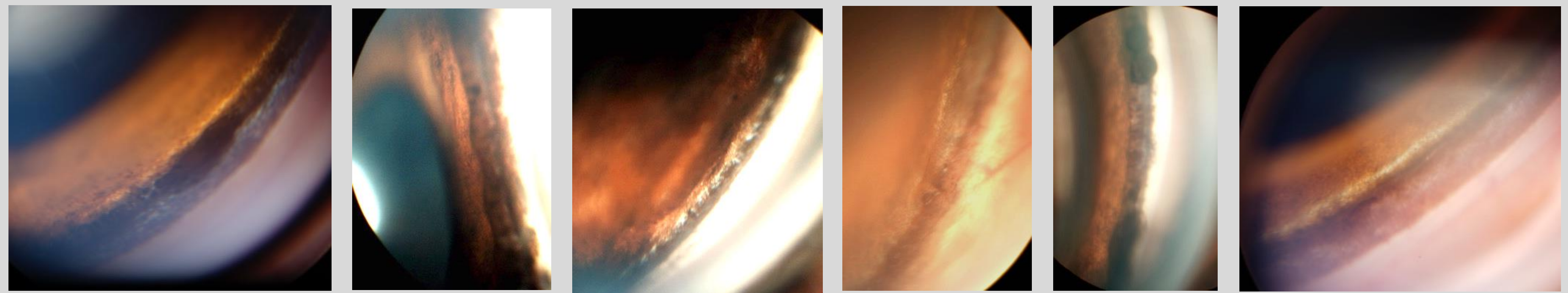
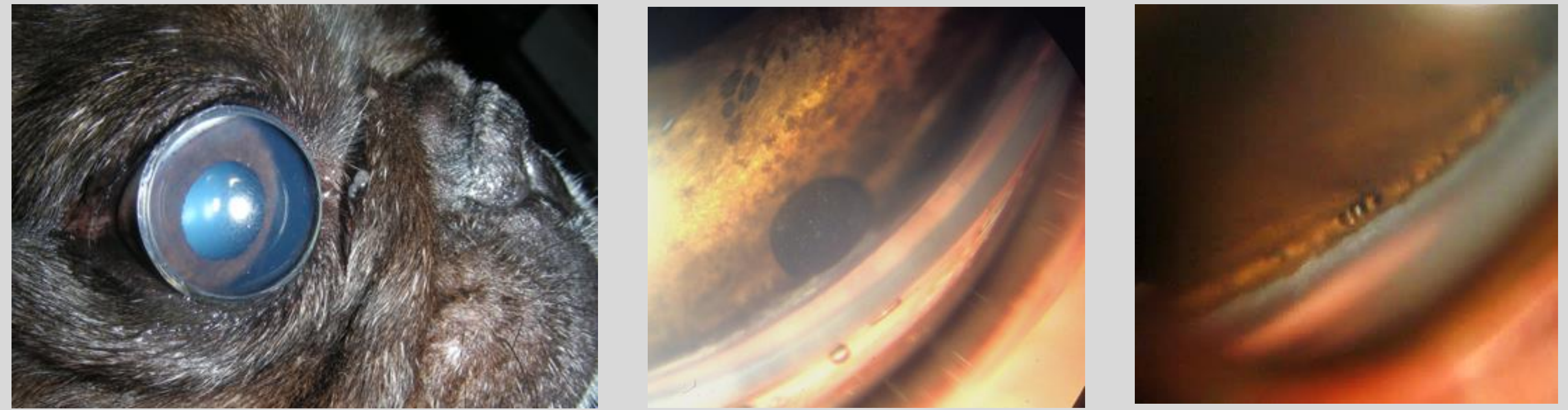
- 76 dogs – 80 eyes
- age at onset of glaucoma 9 y median (1-14)
- IOP at presentation 60 mmHg median (31-98)

## Clinical features:

- iris hyperpigmentation 64/80
- pigmented uveal masses 13/80
- free pigment 62/80
- multiple thick walled iris cysts 37/80

## Gonioscopy:

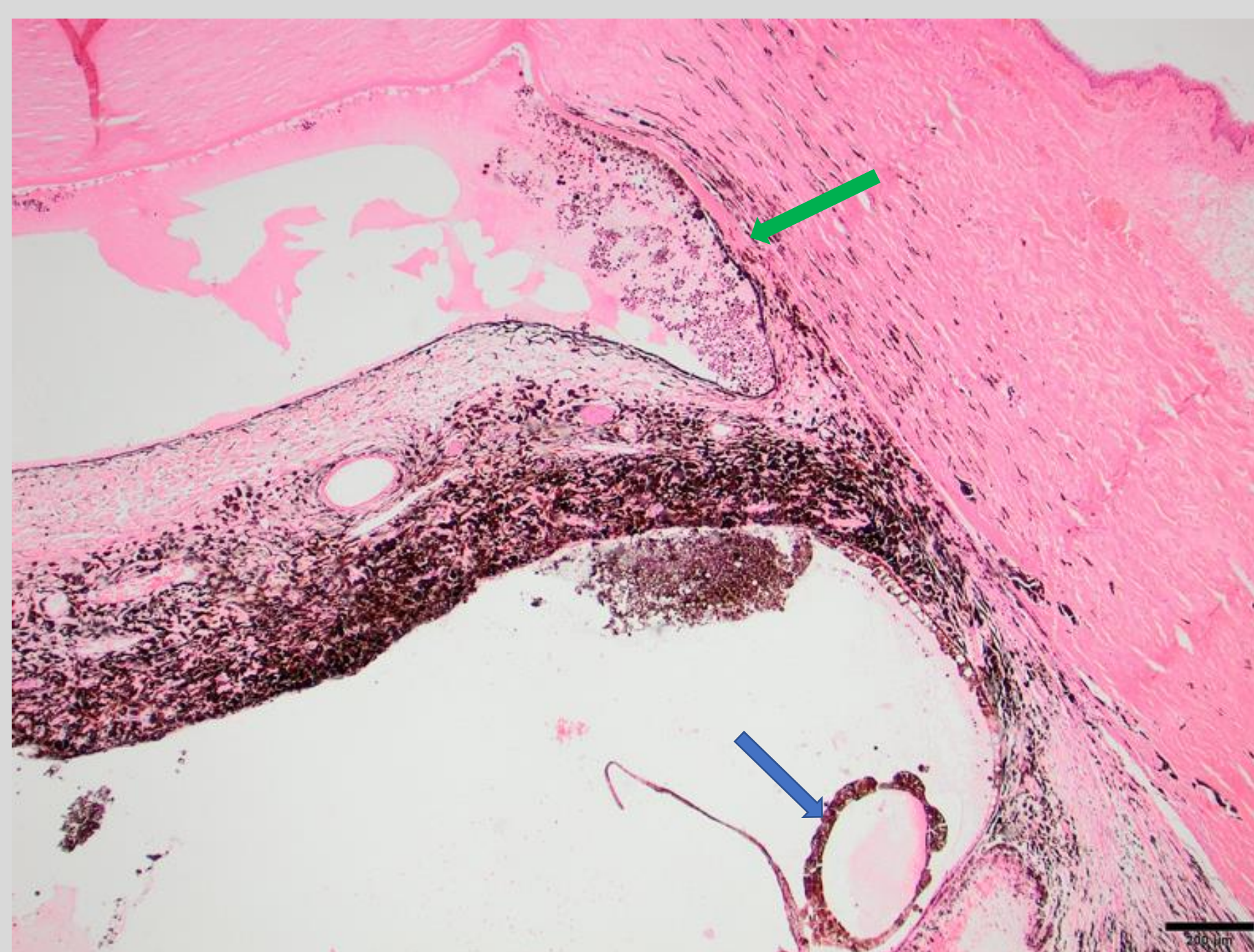
- 60/76 dogs
- severe iridocorneal angle abnormality (ICAA)
- narrow/closed angles
- laminae/sheets with few flow holes
- fibrae latae



## Histopathology:

- closed/collapsed iridocorneal angle (ICA), arborization of Descemet's membranes 49/49
- retinal degeneration, optic nerve atrophy and cupping 49/49
- uveal pigmentation and pigment dispersion in the ICA 47/49
- malignant melanoma and melanocytoma 12/49, choroidal melanoma 1/49
- pre-iridal fibrovascular membrane/peripheral anterior synechia PIFM/PAS 31/49

- pre-iridal fibrovascular membrane (PIFM)
- peripheral anterior synechia (PAS)
- arborization of Descemet's membrane (green arrow)
- closed/collapsed ICA and ciliary cleft
- neutrophilic inflammation
- ocular melanosis and uveal cyst (blue arrow)



- goniodysplasia with closed/collapsed ICA and ciliary cleft
- arborization of Descemet's membrane (green arrow and circle)
- neutrophilic inflammation ICA
- trabecular meshwork with pigment-laden cells (melanophages/melanocytes)
- uveal cyst (blue arrow)

## Conclusions:

French Bulldogs with glaucoma were found to have severe ICAA with pectinate ligament abnormalities mostly consisting of laminae with few flow holes on gonioscopy. Presentation with glaucoma predominantly occurred in middle-aged to older dogs and appeared to be associated with progressive melanosis of the uvea and pigment dispersion in the iridocorneal angle in a majority of dogs. Arborization of the Descemet's membrane was a consistent histological finding in all eyes.

