Case 15
Big Orange Fish

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Big Orange Fish

- 7-8 year old Fancy Goldfish
- From PetSmart
Big Orange Fish

• 7-8 year old Fancy Goldfish
  • From PetSmart

• Mass protruding from ventral aspect of right eye
  • Exophthalmia
  • Deviation of the globe
Enucleate...
Cornea

Protruding through sclera ventrally
Protruding through sclera ventrally
Cornea
Protruding through sclera
Retinal pigmented epithelium adenocarcinoma
Retinal pigmented epithelium adenocarcinoma

-AND-

Granulomatous anterior uveitis with intralesional acid fast bacteria

(*Mycobacterium* spp)
Retinal pigmented epithelium adenocarcinoma

• Rare
Retinal pigmented epithelium adenocarcinoma

- Rare
- Neuroectodermal origin
Retinal pigmented epithelium adenocarcinoma

• Rare
• Neuroectodermal origin
• Immunohistochemistry
  • Can express epithelial and melanocytic markers
Retinal pigmented epithelium adenocarcinoma

- Rare
- Neuroectodermal origin
- Immunohistochemistry
  - Can express epithelial and melanocytic markers
  - None worked
    - Cytokeratin
    - Vimentin
    - Melan-A
Retinal pigmented epithelium adenocarcinoma

• Gross:
  • Resembles melanoma
Retinal pigmented epithelium adenocarcinoma

- Microscopic:
  - Elevates the retina
  - Resembles ciliary body adenocarcinoma
Retinal pigmented epithelium adenocarcinoma

• Microscopic:
  • Elevates the retina
  • Resembles ciliary body adenocarcinoma
  • Not the pattern that would be expected with a primary melanocytic tumor
Tumors of the Retinal Pigmented Epithelium

• Humans:
  • Typically adenomas
  • Metastases not reported with adenocarcinomas
Tumors of the Retinal Pigmented Epithelium

• Humans:
  • Typically adenomas
  • Metastases not reported with adenocarcinomas
  • Misdiagnosed clinically as malignant melanomas
Retinal pigmented epithelium adenocarcinoma...in a Guppy

• First report in a fish
  • J.Comp.Pathol 1992
Retinal pigmented epithelium adenocarcinoma... in a Guppy

- First report in a fish
  - J.Comp.Pathol 1992

- Toxicologic study
  - 1 of 136 fish
  - Halogenated organic compounds
    - Chloroform, carbon tetrachloride etc.
  - Sacrificed 312 days post-exposure
  - Unrelated...
Big Orange Fish

• Died a year later of unrelated causes...
Questions

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