MISSISSIPPI STATE UNIVERSITY

Acute Blindness in a Dog

Etiologies

1. **Systemic hypertension causing retinal detachment**
    - **a.** Causes
        - i. Acute or chronic renal failure
        - ii. Protein-losing nephropathy
        - iii. Pheochromocytoma
        - iv. Hyperadrenocorticism
        - v. Functional thyroid tumor
        - vi. Polycythemia vera
        - vii. Diabetes mellitus
        - viii. Idiopathic
        - ix. Obesity (uncommon cause)
        - x. Hypothyroidism (uncommon)
        - xi. Medications (phenylpropanolamine)

2. **Optic neuritis**
3. **Sudden acute retinal degeneration syndrome**
4. **Other ophthalmic pathology**
    - a. Anterior lens luxation
    - b. Uveitis
    - c. Glaucoma

Recommended Diagnostics

-Medication history
-Identify any pu/pd and/or polyphagia, panting, change in behavior, etc.
-Arterial blood pressure
-PCV/TP
-Urine dipstick, urine specific gravity and Azostick
-SNAP 4Dx
-Blood smear to evaluate red cells, white cells, and platelets
-Thorough ophthalmic exam, including pupil dilatation and fundic exam
- LDDS test if suspect hyperadrenocorticism
-If suspect pheochromocytoma, measure urinary metanephrine and normetanephrine levels
-Cytology of any skin lesions and/or enlarged spleen

-Urine histo/blasto antigen to Mira Vista labs
-Cytology of lymph nodes

Recommended Treatments

-Systemic hypertension (systolic >150 mmHg) – treat with ACE inhibitor such as enalapril or benazepril first then a calcium-channel blocker such as amlodipine if hypertension does not resolve with ACE inhibitor
-If severe hypertension (systolic >180 mmHg) or evidence of hypertensive encephalopathy or retinopathy, consider oral hydralazine but monitor closely for hypotension (ideally in hospital).

*Sighthounds BP normally runs about 10-20 mmHg higher

-Other considerations:

*Pain medication

*For polycythemia vera: phlebotomy (10 ml/kg-20 ml/kg of blood volume), hydroxyurea

*Remember normal Greyhounds and dachshunds may have a PCV in the low to mid 60%.

* Treat other ophthalmic pathology appropriately

d. Anterior lens luxation
e. Uveitis
f. Glaucoma
g.

* Sudden acute retinal degeneration syndrome diagnostics: ruling out other causes, fundic exam; may be pu/pd and be similar to hyperadrenocorticism in many ways; no treatment (they are non-painfully blind)

*For optic neuritis, causes are systemic inflammation/infection/neoplasia/idiopathic

a.Distemper: anti-diarrheals, broad-spectrum antibiotics, diazepam, IV fluids, isolation

b.Cryptococcus: fluconazole or itraconazola, amphotericin-B, Terbinafine

c. Blastomycosis: fluconazole or itraconazole, supportive care, oxygen therapy

d. Neoplasia: due to monetary constraints, supportive care and potential euthanasia when quality of life declines

e. Rickettsial diseases: doxycycline

f. Protozoal diseases: clindamycin and TMS

If/when infectious diseases are ruled out, try systemic steroid course at 0.5-1 mg/kg/day. Give a course of doxycycline and clindamycin then steroids if no improvement if budget if limited to such