



Chronic Regenerative Anemia

Etiologies

- BLOOD LOSS/HEMORRHAGE
 - GI ulcers
 - Bleeding tumors (ex. Hemangiosarcoma)
 - Parasites (Fleas/ticks/intestinal parasites)
 - Chronic (external) blood loss leads to iron deficiency (usually non-regenerative or poorly regenerative)
- DESTRUCTION/HEMOLYSIS
 - IMHA (primary or secondary due to drugs, infections, neoplasia, etc.)
 - Drugs/toxins (ex. acetaminophen, aspirin, naproxen, penicillin, oak, red maple, bracken fern, fava beans, onions, garlic, heavy metals (especially lead and zinc)
 - Infection (ex. Babesia, possibly Ehrlichia)
 - Phosphorus deficiency (due to diabetes, hepatic lipidosis, or refeeding syndrome)
 - Turbulent blood flow (due to heartworms, DIC, splenic torsion, etc.)
 - Congenital (ex. pyruvate kinase deficiency in basenjis, beagles, Westies, Cairn terriers or phosphofructokinase deficiency in Cocker Spaniels)
 - History will reveal intermittent, episodic waves of hemolysis that may worsen with exercise or exertion

Recommended Diagnostics

- Physical exam (thoroughly examine for signs of parasitism, endocrine disorders, and chronic disease; perform rectal exam)
 - Examine urine for pigmenturia and/or hematuria
 - Spin down urine if discolored to distinguish hemoglobinuria from hematuria
- History (question owner about access to drugs and toxins above as well as previous medical history, color of stools and urine)
- Complete Blood Count/Chemistry OR PCV/TP and Azostick
 - Examine plasma for bilirubin for hemoglobin
- Blood smear with reticulocyte count
 - Look for parasites, nRBC's, basophilic stippling, schistocytes (DIC, hemangiosarcoma, heartworms), etc.

- Platelet count
- Slide agglutination
- Optional if slide agglutination negative: Coomb's test
- Activated clotting times if blood loss is a possibility
- Buccal mucosal bleeding time if breed predisposed to platelet dysfunction such as Von Willebrands

Recommended Treatments

- Deworm with fenbendazole
- Flea/tick control
- Prednisone at 2 mg/kg/day if slide agglutination positive or ruled out other causes
- Treatment trial for rickettsial disease
 - Doxycycline
- If evidence of GI blood loss, prescribe gastroprotectants for 1-2 months
 - Omeprazole (Prilosec)-1 mg/kg BID
 - Sucralfate