



HEMOPET

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IMMUNE-MEDIATED HEMATOLOGIC DISEASE and BONE MARROW FAILURE

- 1) Autoimmune thyroiditis/hypothyroidism is frequently present and/or affected dogs are often of breeds or cross-breeds susceptible to thyroid disease.
- 2) Aggressive and more sustained treatment with corticosteroids is needed. Suggested doses are: Prednisone or prednisolone given at 2-3 mg/lb/day divided BID for 5-7 days, or dexamethasone equivalents at 0.25-0.35 mg/lb/day divided BID. Therapy is reduced weekly by 1/2 and maintained for at least six weeks. Alternate day steroid therapy may be needed for some time thereafter on a longterm, low level basis.
- 3) For severe cases, other immunosuppressive therapy is given. We prefer cyclosporine (Neoral, 100 mg/ml oral syrup, or capsules) instead of cyclophosphamide (Cytoxan) and give it at 10 mg/kg for 5 days rest 2 days, then at 5mg/kg for another 5 days. The lower dose is repeated after a 2 day rest on a 5 days on, 2 days off cycle as long as is needed (usually 2-3 courses of 5 days). This drug induces rapid T-cell suppression within about 48 hours and has been safe, effective, and well-tolerated at these doses. In cases where sustained more potent immunosuppression is required for clinical stabilization, azathioprine (Imuran) should be instituted along with cyclosporine. Dose is 1 mg/lb/day for 7-10 days initially followed by a downward tapering over several weeks. Azathioprine may be needed every other day or less often, on a longterm basis. As azathioprine takes about 10 days to effectively suppress T-cells, clinical responsiveness will not occur immediately. Cyclosporine is therefore given concurrently in the early stages of the disease to provide rapid immunosuppression until the azathioprine takes hold.

The goal of this immunosuppressive therapy is to stabilize the ongoing immune destructive process. The dosage guideline we use is adjusted to maintain the absolute lymphocyte count as about 1/3 of the normal range (500-1000/ul).

- 4) Those breeds most often affected in our case population are cocker spaniels, poodles (all varieties), golden retrievers, Doberman pinschers, dachshunds, miniature schnauzers, akitas, beagles, rottweilers, Lhasa apsos, German shepherds, shih tzus, terriers, and mixed breeds of these backgrounds. Any of the nearly 50 breeds predisposed to thyroid disease are at risk for an immune-mediated condition. Thyroid supplementation at 0.1 mg/10lb given twice daily is essential for cases with concomitant thyroid disease and is helpful to stimulate the bone marrow whether or not thyroid tests indicate hypothyroidism. It also enhances platelet function.
- 5) Anabolic steroid (nandrolone decanoate, Deca Durabolin, 2-5 mg/kg given once a week or 4-6 doses) can be given to stimulate the marrow, if available..
- 6) Hematinics containing iron, vitamin B12 and folic acid are important to supply nutrients for red cell maturation (e.g. Pet-Tinic, Pfizer).
- 7) In poorly responsive immune thrombocytopenias (ITP), an initial dose of vincristine (Oncovin, 0.01 mg/lb IV) may be helpful to release remaining platelet stores, and danazol (Danacrine, 2.5-5 mg/lb BID initially and then tapered to SID) has been effective along with steroids and thyroid for long-term maintenance.
- 8) The most severe cases with autoagglutinating red cells or profound thrombocytopenia may recover completely with the aggressive therapeutic approach outlined above, although a subset of these dogs convert to having a chronic low-grade non-responsive anemia over the long-term.
- 9) Cases with the best overall prognosis tend to be younger animals in which the underlying primary "trigger" of the immune-mediated disease was hypothyroidism, a drug which is withdrawn, or a recent vaccination/toxic exposure. Correction of the thyroid disease with serial monitoring of thyroid function to establish the appropriate maintenance dose of hormonal supplement is important.

References

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