

Beyond Corticosteroids: Treating IMT



Corticosteroids are considered the first line of treatment for immune-mediated thrombocytopenia (IMT) in dogs. However, in some instances (eg, drug interactions, intolerable side effects), corticosteroids are contraindicated; thus other immunosuppressant drugs must be considered. This case series described the management of 5 hemodynamically stable dogs presumptively diagnosed with primary IMT and treated only with mycophenolate mofetil (MMF), an immunosuppressant drug most commonly used in veterinary medicine to prevent rejection following kidney transplant. All dogs were administered NSAIDs chronically prior to the study, making concurrent corticosteroid use potentially harmful. All dogs had severe thrombocytopenia ($<14,000$ platelets/ μL) on presentation, and 4 of the 5 had petechiae or ecchymoses. A diagnosis of IMT was made based on low platelet counts and exclusion of other identifiable causes of thrombocytopenia. Patients were administered MMF at a median dose of 8.5 mg/kg PO q12h. Median time for platelet counts to reach $>50,000$ platelets/ μL was 3 days; median time for platelets to be within reference interval was 9 days. Median time to discharge was 3 days, and ecchymotic lesions appeared to resolve in 4 of 5 dogs within 7 to 10 days. Diarrhea was seen in 2 dogs, and one of them had decreased appetite; these signs resolved when the MMF dose was decreased. Unlike previous study results that suggested MMF onset of action was slow, this case series suggests that clinical effect, evidenced by platelet count recovery, was relatively rapid.

Global Commentary

Additional therapeutic approaches are needed for the treatment of IMT in dogs because some dogs do not respond to conventional therapies utilizing glucocorticoids. Additionally, the long-term use of glucocorticoids may result in serious side effects. MMF use gave positive results with controllable GI side effects; however, only 5 dogs were studied. It is noteworthy that a study group has recently reached a consensus recommendation that mycophenolate alone, or in combination with prednisolone, be used for the treatment of immune-mediated kidney disease in dogs.¹ If the combination is used, the study group recommended that prednisolone be tapered as quickly as possible. Additional studies using mycophenolate (with or without prednisolone) for treating IMT in dogs are warranted, including determination of the lowest effective dosages to minimize adverse side effects.—*John W. Harvey, DVM, PhD, DACVP*

Source

Treatment of five haemodynamically stable dogs with immune-mediated thrombocytopenia using mycophenolate mofetil as single agent. Yau VK, Bianco D. *J SMALL ANIM PRACT* 55:330-333, 2014.

1. **Consensus recommendations for the immunosuppressive treatment of dogs with glomerular disease based on established pathology.** Segev G, Cowgill LD, Heiene R, et al. *J Vet Intern Med* 27 Suppl 1:S44-S54, 2013.

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Caution

Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.

Indications

SENTINEL[®] SPECTRUM[®] (milbemycin oxime/lufenuron/praziquantel) is indicated for the prevention of heartworm disease caused by *Dirofilaria immitis*; for the prevention and control of flea populations (*Ctenocephalides felis*); and for the treatment and control of adult roundworm (*Toxocara canis*, *Toxascaris leonina*), adult hookworm (*Ancylostoma caninum*), adult whipworm (*Trichuris vulpis*), and adult tapeworm (*Taenia pisiformis*, *Echinococcus multilocularis* and *Echinococcus granulosus*) infections in dogs and puppies two pounds of body weight or greater and six weeks of age and older.

Dosage and Administration

SENTINEL SPECTRUM should be administered orally, once every month, at the minimum dosage of 0.23 mg/lb (0.5 mg/kg) milbemycin oxime, 4.55 mg/lb (10 mg/kg) lufenuron, and 2.28 mg/lb (5 mg/kg) praziquantel. For heartworm prevention, give once monthly for at least 6 months after exposure to mosquitoes.

Dosage Schedule

Body Weight	Milbemycin Oxime per chewable	Lufenuron per chewable	Praziquantel per chewable	Number of chewables
2 to 8 lbs.	2.3 mg	46 mg	22.8 mg	One
8.1 to 25 lbs.	5.75 mg	115 mg	57 mg	One
25.1 to 50 lbs.	11.5 mg	230 mg	114 mg	One
50.1 to 100 lbs.	23.0 mg	460 mg	228 mg	One
Over 100 lbs.	Administer the appropriate combination of chewables			

To ensure adequate absorption, always administer SENTINEL SPECTRUM to dogs immediately after or in conjunction with a normal meal.

SENTINEL SPECTRUM may be offered to the dog by hand or added to a small amount of dog food. The chewables should be administered in a manner that encourages the dog to chew, rather than to swallow without chewing. Chewables may be broken into pieces and fed to dogs that normally swallow treats whole. Care should be taken that the dog consumes the complete dose, and treated animals should be observed a few minutes after administration to ensure that no part of the dose is lost or rejected. If it is suspected that any of the dose has been lost, redosing is recommended.

Contraindications

There are no known contraindications to the use of SENTINEL SPECTRUM.

Warnings

Not for use in humans. Keep this and all drugs out of the reach of children.

Precautions

Treatment with fewer than 6 monthly doses after the last exposure to mosquitoes may not provide complete heartworm prevention. Prior to administration of SENTINEL SPECTRUM, dogs should be tested for existing heartworm infections. At the discretion of the veterinarian, infected dogs should be treated to remove adult heartworms. SENTINEL SPECTRUM is not effective against adult *D. immitis*.

Mild, transient hypersensitivity reactions, such as labored breathing, vomiting, hypersalivation, and lethargy, have been noted in some dogs treated with milbemycin oxime carrying a high number of circulating microfilariae. These reactions are presumably caused by release of protein from dead or dying microfilariae.

Do not use in puppies less than six weeks of age.

Do not use in dogs or puppies less than two pounds of body weight.

The safety of SENTINEL SPECTRUM has not been evaluated in dogs used for breeding or in lactating females. Studies have been performed with milbemycin oxime and lufenuron alone.

Adverse Reactions

The following adverse reactions have been reported in dogs after administration of milbemycin oxime, lufenuron, or praziquantel: vomiting, depression/lethargy, pruritus, urticaria, diarrhea, anorexia, skin congestion, ataxia, convulsions, salivation, and weakness.

To report suspected adverse drug events, contact Novartis Animal Health at 800-637-0281 or the FDA at 1-888-FDA-VETS.

Manufactured for: Novartis Animal Health US, Inc.
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