

Best Practices for Lungworm Prevention & Treatment

Aelurostrongylus abstrusus, the most common lung parasite in cats, is found throughout the world. Infections may be asymptomatic, subclinical, or clinical. Most common signs include coughing, weight loss, tachypnea, and dyspnea. Severe cases may present with open-mouth breathing from interstitial pneumonia, coughing, nasal discharge, and sneezing. Forty-two cats from a private sanctuary were moved to a purpose-built shelter for 65 days. Most cats were in poor body condition and many had signs that could be attributable to lungworms. Fecal examinations were performed on all cats: 10, positive by Baermann method for *A. abstrusus* larvae, were treated with selamectin spot-on at 45 mg on days 4 and 28. Serial fecal examinations showed a rapid decrease in lungworm larvae, and, by day 65, 9/10 cats were successfully treated. All 10 cats were in good body condition with no respiratory signs by study's close.

■ Commentary

A. abstrusus is spread by ingesting common

transport hosts (eg, rodents, birds, amphibians). Although signs may be absent, some cats develop chronic cough and respiratory distress. Many topically applied drugs have been effective (eg, imidacloprid with moxidectin [Advantage Multi, bayerdvm.com], emodepside with praziquantel [Profender, animalhealth.bayer.com]). This study found that selamectin (Revolution, revolution4cats.com) is also effective. Topical medications are preferred for treating lungworm cases, and monthly applications of a broad-spectrum parasiticide as recommended by the American Heartworm Society has the added benefit of controlling other internal and external parasites (eg, fleas, ear mites) with which indoor and outdoor cats have frequent encounters.

—Sandra Sawchuk, DVM, MS

■ ■ Source

Evaluation of the efficacy of selamectin spot-on in cats infested with *Aelurostrongylus abstrusus* (Strongylida, Filarioididae) in a Central Italy cat shelter. Iannino F, Iannetti L, Paganico D, Podaliri Vulpiani M. *Vet Parasitol* 197;258-262, 2013.

RESEARCH NOTE: Tau Protein as Indicator for IVDH

Tau is a microtubule-associated protein; its release is thought to mark neuronal damage and death. Cerebrospinal fluid (CSF) tau concentrations of 51 dogs with intervertebral disk herniation (IVDH) were evaluated relative to the localization of IVDH (cervical vs thoracolumbar), previous corticosteroid treatment, MRI T2-weighted T2W hyperintensities in the myelon, and sign duration before admission. There was no significant difference in tau concentrations based on localization, glucocorticoid administration, T2W spinal cord hyperintensity, or sign duration. CSF tau protein concentration was able to predict unsuccessful outcome.

CSF tau concentrations were significantly higher in plegic dogs compared to healthy dogs and dogs with paresis. Lower tau concentrations were seen in plegic dogs that improved by 1 neurologic grade within 1 week than in plegic dogs that needed more time or did not improve. CSF tau concentration >41.3 pg/mL had 86% sensitivity and 83% specificity to predict an unsuccessful outcome in plegic dogs. CSF tau concentrations were unable to identify neurologic grade of disease. This study demonstrated utility of tau protein concentration as a prognostic indicator in dogs with IVDH causing plegia.

■ ■ Source

Cerebrospinal fluid tau protein as a biomarker for severity of spinal cord injury in dogs with intervertebral disc herniation. Roerig A, Carlson R, Tipold A, Stein VM. *Vet J* 197;253-258, 2013. ■ cb

Advantage Multi® for Dogs and for Cats

(imidacloprid + moxidectin)

BRIEF SUMMARY: Before using Advantage Multi® for Dogs (imidacloprid+moxidectin) or Advantage Multi® for Cats (imidacloprid +moxidectin), please consult the product insert, a summary of which follows:

CAUTION: Federal (U.S.A.) Law restricts this drug to use by or on the order of a licensed veterinarian.

Advantage Multi for Dogs:

WARNING

- DO NOT ADMINISTER THIS PRODUCT ORALLY.
- For the first 30 minutes after application ensure that dogs cannot lick the product from application sites on themselves or other treated animals.
- Children should not come in contact with the application site for two (2) hours after application.

(See Contraindications, Warnings, Human Warnings, and Adverse Reactions for more information.)

INDICATIONS:

Advantage Multi for Dogs is indicated for the prevention of heartworm disease caused by *Dirofilaria immitis* and the treatment of *Dirofilaria immitis* circulating microfilariae in heartworm-positive dogs. Advantage Multi for Dogs kills adult fleas and is indicated for the treatment of flea infestations (*Ctenocephalides felis*). Advantage Multi for Dogs is indicated for the treatment and control of sarcoptic mange caused by *Sarcoptes scabiei var. canis*. Advantage Multi for Dogs is also indicated for the treatment and control of the following intestinal parasites species: Hookworms (*Ancylostoma caninum*) (*Uncinaria stenocephala*), Roundworms (*Toxocara canis*) (*Toxascaris leonina*) and Whipworms (*Trichuris vulpis*).

Advantage Multi for Cats is indicated for the prevention of heartworm disease caused by *Dirofilaria immitis*. Advantage Multi for Cats kills adult fleas (*Ctenocephalides felis*) and is indicated for the treatment of flea infestations. Advantage Multi for Cats is also indicated for the treatment and control of ear mite (*Otodectes cynotis*) infestations and the intestinal parasites species Hookworm (*Ancylostoma tubaeforme*) and Roundworm (*Toxocara cati*). **Ferrets:** Advantage Multi for Cats is indicated for the prevention of heartworm disease in ferrets caused by *Dirofilaria immitis*. Advantage Multi for Cats kills adult fleas (*Ctenocephalides felis*) and is indicated for the treatment of flea infestations in ferrets.

CONTRAINDICATIONS: Do not administer this product orally. (See WARNINGS). Do not use the Dog product (containing 2.5% moxidectin) on Cats.

WARNINGS:

Advantage Multi for Dogs: For the first 30 minutes after application: Ensure that dogs cannot lick the product from application sites on themselves or other treated dogs, and separate treated dogs from one another and from other pets to reduce the risk of accidental ingestion. Ingestion of this product by dogs may cause serious adverse reactions including depression, salivation, dilated pupils, incoordination, panting, and generalized muscle tremors. In avermectin sensitive dogs^a, the signs may be more severe and may include coma and death^b.

^a Some dogs are more sensitive to avermectins due to a mutation in the MDR1 gene. Dogs with this mutation may develop signs of severe avermectin toxicity if they ingest this product. The most common breeds associated with this mutation include Collies and Collie crosses.

^b Although there is no specific antagonist for avermectin toxicity, even severely affected dogs have completely recovered from avermectin toxicity with intensive veterinary supportive care.

Advantage Multi for Cats: Do not use on sick, debilitated, or underweight cats. Do not use on cats less than 9 weeks of age or less than 2 lbs. body weight. Do not use on sick or debilitated ferrets.

HUMAN WARNINGS: Not for human use. Keep out of the reach of children. Dogs: Children should not come in contact with the application site for two (2) hours after application. Cats: Children should not come in contact with the application site for 30 minutes after application.

Causes eye irritation. Harmful if swallowed. Do not get in eyes or on clothing. Avoid contact with skin. Wash hands thoroughly with soap and warm water after handling. If contact with eyes occurs, hold eyelids open and flush with copious amounts of water for 15 minutes. If eye irritation develops or persists, contact a physician. If swallowed, call poison control center or physician immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or physician. People with known hypersensitivity to benzyl alcohol, imidacloprid or moxidectin should administer product with caution. In case of an allergic reaction, contact a physician. If contact with skin or clothing occurs, take off contaminated clothing. Wash skin immediately with plenty of soap and water. Call a poison control center or physician for treatment advice. The Material Safety Data Sheet (MSDS) provides additional occupational safety information. For a copy of the Material Safety Data Sheet (MSDS) or to report adverse reactions call Bayer Veterinary Services at 1-800-422-9874. For consumer questions call 1-800-255-6286.

PRECAUTIONS: Do not dispense dose applicator tubes without complete safety and administration information. Use with caution in sick, debilitated or underweight animals. The safety of Advantage Multi for Dogs has not been established in breeding, pregnant, or lactating dogs. The safe use of Advantage Multi for Dogs has not been established in puppies and dogs less than 7 weeks of age or less than 3 lbs. body weight. Advantage Multi for Dogs has not been evaluated in heartworm-positive dogs with Class 4 heartworm disease.

Cats may experience hypersalivation, tremors, vomiting and decreased appetite if Advantage Multi for Cats is inadvertently administered orally or through grooming/licking of the application site. The safety of Advantage Multi for Cats has not been established in breeding, pregnant, or lactating cats. Use of this product in geriatric cats with subclinical conditions has not been adequately studied. Ferrets: The safety of Advantage Multi for Cats has not been established in breeding, pregnant, and lactating ferrets. Treatment of ferrets weighing less than 2.0 lbs. (0.9kg) should be based on a risk-benefit assessment. The effectiveness of Advantage Multi for Cats in ferrets weighing over 4.4 lbs. (2.0 kg) has not been established.

ADVERSE REACTIONS: Heartworm Negative Dogs: the most common adverse reactions observed during field studies were pruritus, residue, medicinal odor, lethargy, inappetence and hyperactivity. **Heartworm Positive Dogs:** the most common adverse reactions observed during field studies were cough, lethargy, vomiting, diarrhea, (including hemorrhagic), and inappetence. **Cats:** The most common adverse reactions observed during field studies were lethargy, behavioral changes, discomfort, hypersalivation, polydipsia and coughing and gagging. **Ferrets:** The most common adverse reactions observed during field studies were pruritus/scratching, scabbing, redness, wounds and inflammation at the treatment site, lethargy and chemical odor.

For a copy of the Material Safety Data Sheet (MSDS) or to report adverse reactions call Bayer Veterinary Services at 1-800-422-9874. For consumer questions call 1-800-255-6286.

Advantage Multi is protected by one or more of the following U.S. patents: 6,232,328 and 6,001,858.

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