This Month's Topic: What REALLY Causes Reactions during Heartworm Treatment?

Case 1: You have just told your clients, Mr. and Mrs. Lee, the bad news: Buster, their 3-year-old Bulldog, has tested positive for heartworm. As you describe the treatment that Buster will need, Mr. Lee says “I read on the internet that fast-kill treatment (melarsomine) can cause terrible side effects. We don’t want to subject Buster to that.”

Q. Which of the following statements is NOT true about the risks of melarsomine treatment?

a. The half-life of melarsomine is only 3 hours, so the drug is completely out of the dog’s system after about a day.
b. While it is true that melarsomine can have side effects, including soreness or pain at the injection site, most reactions are actually due to the dying worms.
c. Each step in the American Heartworm Society (AHS) Treatment Protocol has been shown to minimize risk when compared with other treatments. By following AHS Guidelines for treatment, Buster will receive the safest and most effective treatment to cure him of this disease.
d. Because it’s the heartworms themselves that typically cause reactions and negative outcomes during treatment, it’s important to kill them in the safest and most effective way possible. Treatment protocols that don’t include melarsomine are known to be less safe and less effective because they allow heartworms to continue damaging a dog’s heart and lungs over a longer period of time.
e. All of the above are true (none are false)

A. The answer is e, all of these statements are true.

Pet owners may mistakenly blame melarsomine for side effects seen during the course of heartworm treatment. It is important to note, however, that these signs can be directly related to treating the heartworm disease and not necessarily the drug itself. In fact, melarsomine’s half-life of 3 hours means that the drug is eliminated from the dog’s body in less than a day. Other than pain or swelling at the injection site, most reactions are typically seen 7 to 10 days after injection and are caused by worms, which cause inflammation in the lungs and pulmonary arteries as they die.

All dogs with heartworm disease are at risk for post-treatment pulmonary thromboembolism, or PTE (blood clots in the lungs). While dogs with no signs or mild signs of heartworm disease, such as cough or exercise intolerance, may not have any clinically apparent reactions, PTE may be severe if infection is heavy and pulmonary arterial disease is extensive.

A pivotal factor in reducing the risk of thromboembolic complications is STRICT exercise restriction. Other components of the AHS protocol—administration of macrocyclic lactones, doxycycline, and prednisone—all further reduce the risk of thromboembolism and other treatment complications.

Q. What are two of the most important steps you can take to minimize the risk of adverse reactions during heartworm treatment?

a. Dose and administer melarsomine correctly.
b. Ensure your patient is kept strictly rested throughout treatment.
c. Don’t use melarsomine.
d. Only give melarsomine to dogs with no symptoms at all.

A. The correct answers are a and b.

We all know heartworm treatment can be nerve-wracking but that’s why the AHS is here! Practice understanding the risks and communicating those risks, and always refer to the AHS for questions on heartworm treatment. For more, check out the American Heartworm Society’s Current Canine Guidelines.

As a veterinary student, you are eligible for a free AHS membership; simply click here to register. Student members receive a free digital subscription to the quarterly AHS Bulletin plus other benefits.