

Using IMMITICIDE® (melarsomine dihydrochloride) Sterile Powder to Treat Heartworm Disease

PRESENTATION

Possum is a 15 kg, 2-year-old blue heeler who, according to her owners, was the picture of health and extremely active until a few days before presentation, when she became lethargic, started coughing and lost her appetite. When her abdomen started to swell and she vomited a few times, her concerned owners took her to her regular veterinarian.

The veterinarian found that Possum's temperature was 105°F and she had harsh lung sounds, and made a presumptive diagnosis of pneumonia and possible intestinal blockage, since Possum was notorious for ingesting foreign

objects. The veterinarian prescribed antibiotics, discharged Possum and instructed her owners to bring her back the next day for X-rays if the vomiting continued. That evening, Possum's abdominal distention worsened and her breathing became labored, so her owners took her to a critical care facility.

DIAGNOSIS

On physical examination, the emergency veterinarian noted a grade 3/6 heart murmur, and blood work revealed leukocytosis and a normal biochemistry profile. Thoracic radiographs revealed an enlarged reversed-D cardiac silhouette, large tortuous caudal

lobar arteries and consolidated areas that indicated heartworm disease. Possum's heartworm antigen test was positive but negative for microfilariae. Possum was current on her core vaccines, her owner said, and she received a monthly ivermectin-based heartworm preventive. However, on further questioning, the owner said she did miss an occasional dose and had not started the medication until Possum was 6 months old. So, Possum was likely infected during her first few months. The heartworm preventive Possum received was essentially acting as a "slow kill" heartworm treatment, which the American Heartworm Society does not recommend. While these methods can be effective, rigid exercise restriction is necessary for the entire treatment period to minimize pathology. In Possum's case, the dying worms led to multiple pulmonary thromboembolisms and right-sided heart failure at an early age.

TREATMENT

Possum was stabilized with flow-by oxygen, and 450 ml of blood-tinged fluid was removed from her abdomen to decrease abdominal pressure that was interfering with her respiration. Her condition progressed as follows:

■ **Initial treatment** — Possum was started on 10 mg prednisone SID for two weeks, 150 mg

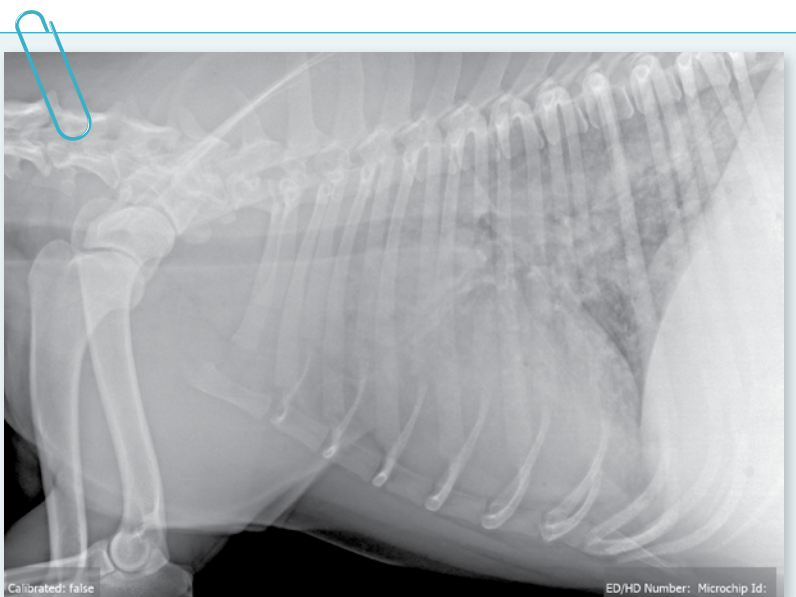


FIGURE 1. Right lateral thoracic radiograph at presentation.

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doxycycline BID for 30 days, 5 mg enalapril BID, and 12.5 mg furosemide SID. In addition, her owners were instructed to rigidly restrict Possum's activity.

- **Recheck** — Two weeks later, Possum returned for a recheck. Her appetite had returned, her lung sounds were improved and her heart murmur was resolved. Her X-rays showed significant improvement. Her prednisone dose was decreased to 10 mg every other day, and she was scheduled to start IMMITICIDE therapy in one month.
- **First injection** — Possum received her first IMMITICIDE injection into the epaxial muscles in the lumbar region. Pressure was placed at the injection site after needle removal to ensure the medication didn't leak subcutaneously and cause inflammation. Prednisone was increased to 10 mg SID for two weeks and then reduced to every other day. Furosemide was decreased to every other day. The importance of exercise restriction was emphasized to the client.
- **Second and third injections** — Possum received her second and third injections on consecutive days a little over one month after her first injection. Prednisone was increased to 10 mg SID for two weeks and then reduced to every other day.
- **Medication reduction** — One month after her third IMMITICIDE injection, Possum returned for a recheck. Her lungs were clear, and the furosemide, enalapril and prednisone doses were reduced by 50%.
- **Follow up** — A little more than a month later, Possum was back to

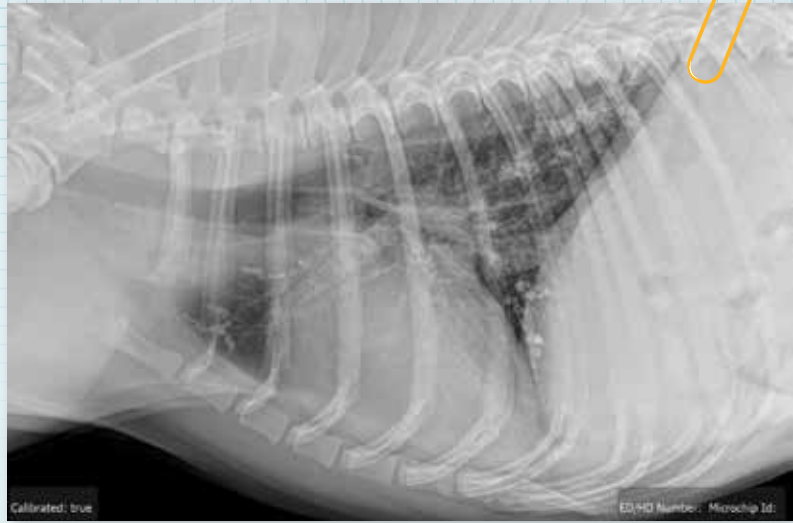


FIGURE 2. Right lateral thoracic radiograph at 7 years post-treatment.

her old self, according to her owner. Her last examination looked good, and all medications were discontinued. Possum was allowed to resume normal activity.

- **Post treatment X-rays** — Seven years after presentation, Possum continued to do well clinically. X-rays revealed cardiac, vascular and pulmonary parenchymal changes associated with dead adult heartworms.

CONCLUSION

With a three-dose protocol and appropriate pretreatment, IMMITICIDE eliminates 99% of adult heartworms. Controlled killing allows the veterinarian to know when the worms will die, so they can take steps to mitigate the

side effects caused by the dying worms. With slow-kill protocols, the worms die over an extended period of time, which causes more fibrosis and lung damage, especially if the dog's activity isn't significantly restricted for the entire period. For full product information please visit docs.boehringer-ingelheim.com/PI/Theras/2019_Immiticide_UPDATED_PI.pdf.

IMMITICIDE is appropriate for the majority of heartworm-positive dogs, but is not approved for very severe (Stage 4) heartworm disease. With good veterinary care, proper treatment technique and exercise restriction, the associated pathology can be minimized, and successful worm clearance can be achieved in approximately 99.9% of dogs.

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Dr. Nelson is Medical Director at the Animal Medical Centers of NE Alabama, based in Anniston, Alabama. He is a past president of the American Heartworm Society and a coauthor of the American Heartworm Society's guidelines. *Sponsored by Boehringer Ingelheim*