

# Syncope and general body edema in a great dane with heartworm disease

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## ABSTRACT

This case was presented at mercy pet clinic Lahore Canine heartworm is caused by *dirofilaria immitis*. It is common in tropical areas and spread as a vector by culicoides. It is major circulatory disease and replicates in the cardiovascular system of primary host. In this particular case, we noticed general body edema increasing in limbs with recurrent syncope. Live, adult heartworm cause direct mechanical trauma and other suspected factors are thought to directly and to stimulate the host immune system. This damage vessel intima, lead into proliferative endarteritis and perivascular cuffing with inflammatory cells including infiltration of high numbers of eosinophils.

### Introduction:

Heartworm disease in dogs, brought on by *Dirofilaria immitis*. Aedes, Culex, and Anopheles are only a few of the many kinds of culicine mosquitoes that serve as vectors for the heartworm's full life cycle. The microfilariae infect the mosquitoes when they feed on blood from a microfilaremic host, and in the Malpighian tubules of the mosquitoes, they mature into third-stage larvae (L3). Then, when the mosquito is sucking blood, the L3 migrates to the host. Here, it completes the life cycle by maturing into an adult heartworm in the right atrium (RA), right ventricle (RV), and pulmonary arteries (PAs) in 7 to 9 months. To remove adult heartworm from the heart, this article covers minimally invasive approaches, clinical signs, examination processes, and heartworm confirmation methods [1].

### Case Presentation

Patient Description: Great Dane, Female, 6yrs, Spayed.

Case History: 2-week history off feed, emaciated and body score of 2/9.

Physical examination: The patient was dull, depressed and recumbent. Heart murmurs (S1-S2) were heard on auscultations. There was general body edema on palpation.

Clinical examination: CBC report shows neutrophilia and monocytosis. Radiographic examination reveals inverted D-shape heart appearance and bronchovascular pattern of lungs

Treatment: Doxycycline IM, pimobendan IV and furosemide IM was given.

Outcome: Due to doxycycline, we expect the reduction of *dirofilaria immitis* load and edema.

Follow up: The patient died.

### Discussion

Previously it was noticed that heavy heartworm migration into ectopic locations impeding blood circulation was observed but that was only limited to lower limbs [1]. This case was reported in Bangkok, Thailand. In our case report syncope and general body edema was noticed. Bacterial culture test is crucial to confirm the presence the presence or absence of secondary bacterial infection. But there was no evidence suggesting that it is not caused by secondary bacterial infection. This underscores the importance of thorough diagnostic process to rule out potential causes and ensures appropriate and targeted medical interventions for patients experiencing edema. Another diagnostic approach was CBC and radiographic examination. We noticed neutrophilia and monocytosis in CBC. Reversed shaped-D heart appearance of heart and bronchovascular pattern of lungs was observed in radiograph.

### References

- [1] Taweethavonsawat P, Rattanapinyopituk K, Tachampa K, Kiertkritikhon S, Jitsamai W, Klomkleaw W, Choisunirachon N, Komin K. Thromboembolic heartworm induced lower limb necrosis in a dog. *Frontiers*.9. 2022. <https://doi.org/10.3389/fvets.2022.868115>.