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BMH Med. J. 2021;8(3):119-122. **Case Report**

Cutaneous Dirofilariasis - A case Report

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Introduction

Dirofilaria is a zoonotic disease, where human beings become the accidental host of the worm. Three types of worms have been reported and they are D. immitis, D. repens and D. tenuis. D. immitis occurs world wide, where as repens and tenuis are found endemic in certain countries, D. repens is found in Asia, Africa and America. Natural host of the parasite is dog and mosquitoes become the intermediate host and finally human beings are the accidental host.

The intermediate host, mosquitoes suck the blood, the microfilaria found in the peripheral stream enters into the stomach of the mosquito, where it matures to the infective form of larva, the third stage [1,2]. When it meets another host, it is ready to transmit the infective larvae.

In its natural host, dogs it creates only asymptomatic infection. The prevalence of this zoonotic infection is more among Europeans due to their proximity or affectionate attitude towards pets. D. repens [2] rides the show over immitis in this mainland.

Case history

A middle aged female presented with swelling in the flank region. No other comorbidities detected. While examining it was a fluctuant swelling in the subcutaneous plane and it bulged out the localised contour of the skin. High-Resolution sonography of the lesion, using a 10 MHZ, linear probe, depicted a cystic lesion of 45 x 35mm, containing an anechoic cystic component with floating multiple serpigineous structures. No vascularity was noted in the peripheral or central aspect of the lesion and floating structures didn't show any evidence of inherent activities.

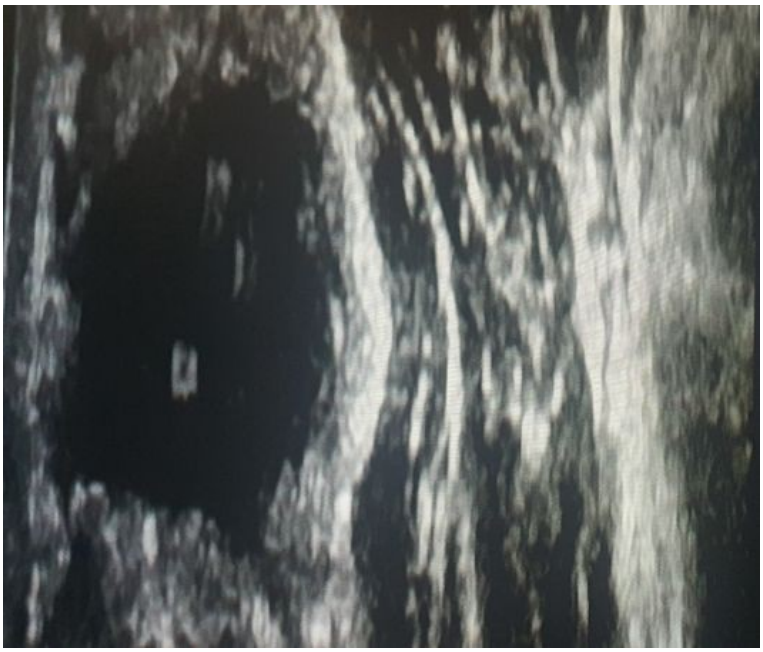

Figure 1: Sonographic picture

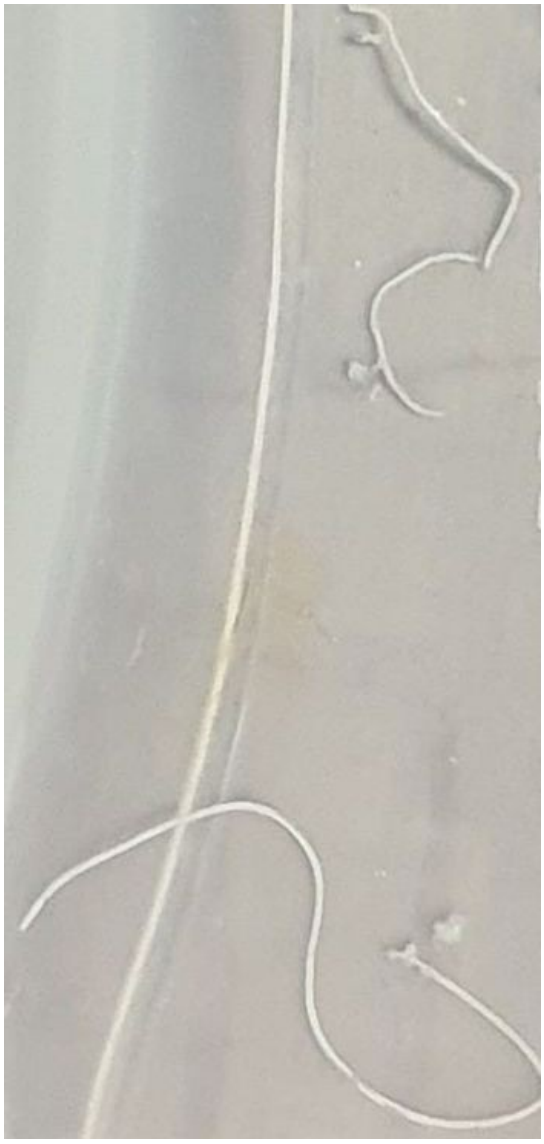

Figure 2: Resected specimen

Subcutaneously placed cystic lesion having floating serpigineous structures raises the possibility of dirofilariasis. The surgeon resected out the lesion and found two intermediate-sized worms.

Discussion

Among the dirofilaria species are D. immitis, repens and tennis. Natural hosts of D. immitis are dog and other wild carnivores, where it causes blockage of pulmonary artery, resulting cardiac failure. So it is named as "Heart worm disease".

Since humans are the accidental host of the disease, where this D. immitis larvae can penetrate the skin, subcutaneous tissue and enter into blood stream. When it reaches the pulmonary artery branches, the worm can not survive long, due to strong immunogenic response invoked by our system resulting death of intermediate matured worms. It doesn't sexually mature in humans. Further the inflammatory reaction produces small granuloma, which may appear as coin lesions in X-rays. It is named as "Pulmonary Dirofilariasis".

It's clinical presentation is often asymptomatic, occasional cough, chest pain or pleural effusion (rarely reported). Other sites of inhabitation include brain, testicle or eyes.

D. repens is not found in United States, its occurrence most commonly is found in Europe, Asia and Africa. Infected larvae usually inhabit under the skin or sub conjunctival regions. They do not have the ability penetrate beyond the deeper tissues. It appears as skin nodules, often fluctuant swelling. Other reported findings include pruritis and rarely redness near the swelling.

The first documented case of Dirofilaria was in the year 1566, by a Portuguese Medical Doctor Amalu Lusitano, where he described a swelling in the angle of eye with a worm tip seen projecting out [3,6].

D. repens has a long pre patient period (170-238 days) [4,7]. Infective larvae migrate into the subcutaneous tissue and sometimes muscular connective tissue, where they develop into adult stage and reside there permanently. Adult forms and microfilaria are long living in their natural hosts, via desensitizing the host immunity, assuring it's long term survival [5,9].

No inflammatory reaction is invoked by these invaded parasite in the subcutaneous or in the connective tissue layer, it forms a capsule and within it, it moves freely [6,8]. Dermal swelling, subcutaneous nodules or subconjuctival swelling/conjunctivitis are being reported as presenting findings [7].

Conclusion

Presence of skin swelling, subcutaneous nodules and sub conjunctival nodules should raise the possibility of D. repens infestation, it is in an endemic circuit, whereas in D. immitis pulmonary findings like granuloma formation subsequent coin lesions follow the course.

Management

It is based on the site of the lesions, skin, subcutaneous, sub conjunctival and pulmonary lesions are being surgically removed and further no medical treatment needed.

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