

ORIGINAL RESEARCH

Dirofilariasis: A rare case report

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ABSTRACT

Dirofilaria genus are the most commonly recognised zoonotic filarial infection. The worms are introduced into humans by the bites of mosquitoes containing third-stage larva. Pathologic examination of affected tissue reveals a localized foreign body reaction around a dead or dying parasite. The lesion consists of granulomas with eosinophils, neutrophils, and tissue necrosis. Definitive diagnosis and cure depend on surgical excision and identification of the nematode within the surrounding granulomatous response. Management is by surgical excision.

Key words: Dirofilaria, Heartworm, Filariasis, Dog Heartworm

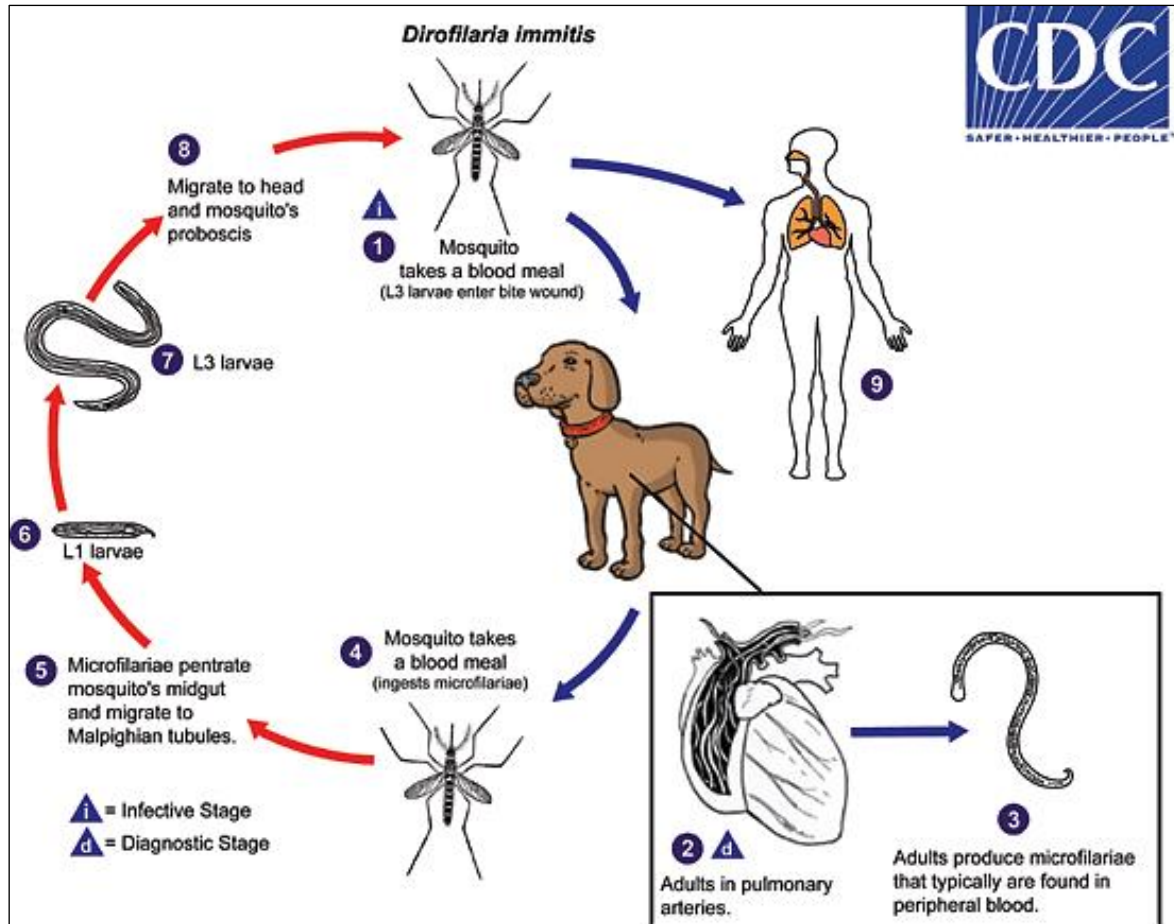
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INTRODUCTION

Dirofilariasis is rare zoonotic diseases which are commonly caused

by two *Dirofilaria* species; *Dirofilaria immitis* and *Dirofilaria repens*. Humans are accidental dead-end hosts of the parasites, and the infection is mainly asymptomatic. Most of the times *Dirofilaria* causes pulmonary or ocular infections and subcutaneous

nodules are also seen rarely. *D. repens* usually causes subcutaneous and ocular dirofilariasis, whereas *D. immitis* responsible for human pulmonary dirofilariasis. Subcutaneous infection is noticed as a lump at the affected site¹. The transmission of *Dirofilaria* occurs through mosquito bites of flies belonging to the genera *Aedes*, *Culex*, *Anopheles* and *Mansonia*.



Presentation in a toddler is extremely rare. We report a case of subcutaneous *Dirofilaria immitis* in a toddler that was diagnosed by ultrasonography.

CASE REPORT

A 2-year-old girl was brought to the Paediatrics OPD of a tertiary care centre in South Kerala on May 2023 with progressive, painless, non-tender swelling over submental region in the last 1 month. She has no H/o fever, evening rise of temperature, night sweats, throat pain, and difficulty in swallowing, significant weight loss or any other systemic abnormalities. She was

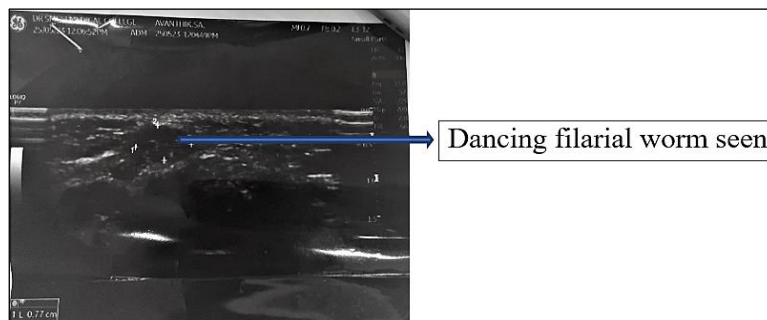
healthy and had no underlying diseases. Her neighbor owned a dog which she used to visit and play with quite regularly.

On examination she has normal vitals, anthropometric measurements general and systemic examination. The local examination revealed a non-tender, immobile, hard swelling of size 1x1 cm over right submental region with no movement on deglutition or respiration. There was no local rise of temperature or skin changes over the swelling. No cervical lymphadenopathy was noted.



Investigations showed normal total counts with normal morphology (12240/mm³ with differentials N33 L60 E4) and negative inflammatory markers (CRP & ESR). However, upon doing USG of the concerned swelling it showed a unique finding of Dancing Filarial worm hypoechoic lesion measuring 7

x 5 mm with mobile linear echogenic parallel structures in the right submental region anterior to anterior belly of right digastric muscle- likely *Dirofilariasis*. Complete surgical excision was planned by the surgeons.



DISCUSSION

Dirofilaria repens was first reported in India is a case of ocular *Dirofilariasis* in a patient from Southern coastal state of Kerala. Geographically, Sri Lanka is one of the most affected countries; Kerala is the focus of *Dirofilariasis* in India due to its close proximity to Sri Lanka, its warm and humid climate, which is conducive for breeding mosquitoes and a high prevalence of *dirofilariasis* in dogs and cats in Kerala. Diagnosis is often based on high clinical suspicion in endemic areas. Peripheral blood may show eosinophilia but it depends on host's immune response. A high-resolution ultrasound is the imaging modality of choice in which live worms can be visualised in real time. The definite diagnosis can be made after surgical excision or biopsy. In order to confirm the diagnosis of *D. repens* infection, Deoxyribonucleic acid extraction followed by pan-filarial polymerase chain reaction (PCR) may be performed. Complete excision of the nodule with extraction of worms is mostly successful. A medical line of treatment is unnecessary in this case⁴.

CONCLUSION

In conclusion, we clinicians should always consider subcutaneous *Dirofilariasis* as a differential diagnosis for subcutaneous nodules as it is an emerging zoonosis³. We should have an increased awareness of this entity and also be keen about the possibility of presentation of these infections both in currently recognized clinical patterns and in unusual presentations.

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