



Case Report

Subcutaneous Dirofilariasis : A Case Report

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ARTICLE INFO

Keywords:

dirofilariasis
zoonotic
subcutaneous

ABSTRACT

Dirofilariasis is a zoonotic infection. Humans are the accidental host. Most of the cases reported in India are of ocular dirofilariasis, mostly from Kerala. Here we report a case of subcutaneous dirofilariasis which is a rare case from Maharashtra state Marathwada region.

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Introduction

Dirofilariasis is accidental human infection and it is transmitted by mosquito bite. Humans are the dead end in the life cycle of dirofilaria. It is prevalent in several regions of the world mainly from Europe, Africa and Asia[1]. Several species of mosquito transmitted *Dirofilaria* which include, *D.tenuis*, *D.repens*, and *D.ursi* which infect dogs, cats, racoons and bob cats[2]. Very few cases of subcutaneous dirofilariasis have been reported from Maharashtra[3,4]. In India, most of the reported cases of dirofilariasis had ocular infection[5]. With this background here we report a case of human subcutaneous dirofilariasis from our region.

Case Report:

A 40 year old male, farmer by occupation, resident of Aurangabad district in Maharashtra state, approached to MGM medical college and hospital, Aurangabad with history of 'unknown bite' over right side of forehead, followed by swelling over the bite area, for more than 10 days duration. The swelling was of the size of peanut. It was soft to firm, non tender with well defined margin. There was no history of visit to outside state. There was no history of exposure to dogs and cats. Blood smear examination was negative for microfilaria. All other systemic examination and laboratory investigations were within normal limits. A provisional diagnosis of abscess was made and was aspirated. During the procedure a worm was noticed in the lesion which was subsequently removed by gentle traction and preserved in formalin.

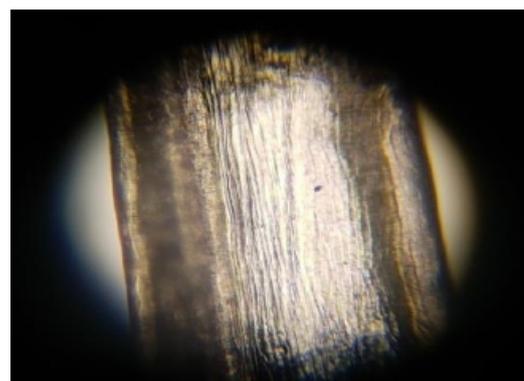
Morphology

The worm was thin, cylindrical, and whitish measured approximately 10 cm long with diameter of 200µm [FIGURE 1]. The anterior end was rounded and of greater diameter than the posterior end. The cuticle of the worm was thick and had marked longitudinal ridges with transverse striation [figure 2]. Molecular confirmation like PCR being unavailable, so the lab confirmation of the worm is based on the morphological features & based on the features described above, the worm was identified as *D.repens*.

FIGURE 1: Microphotograph showing rounded anterior end and of greater diameter of the posterior end.



FIGURE 2: Microphotograph showing longitudinal ridges and transverse striations on cuticle of the worm



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Discussion:

Dirofilariasis is a primary infection among dogs, cats and wild mammals that act as definitive host. The prevalence of *Dirofilaria repens* is 7 to 24 % in domestic dogs and may be much more in stray dogs [2]. There are about 40 recognised species of *Dirofilaria* and at least six of them are known to cause human infection viz *D. immitis*, *D. repens*, *D. striata*, *D. tenuis*, *D. ursi* and *D. spectans* [1]. Mode of transmission is through mosquito genera *Aedes*, *Armigeres*, *Culex*, *Anopheles* and *Mansonia* species [6]. As with other filarial species, mosquitoes transmit infection and microfilaria undergoes multiplication into definitive host. Dirofilariasis in human mostly caused by *D. repens* has been reported from many regions around the world, mainly from Europe, Africa and Asia [1]. In India, state of Kerala reported the first case of dirofilaria in 1999 [2]. Among the reported cases of dirofilaria in India, most of them had ocular infection and only few had subcutaneous involvement of face [3,4,5,7]. A case of dirofilarial infection involving scrotum has also been reported from the state of Orissa [8]. Diagnosis of dirofilariasis in humans remains difficult as patient present to the clinic with varying symptoms [2]. In most of the laboratories molecular technique like PCR being unavailable, the identification of the worm is based on the morphological features. So the diagnosis is confirmed by studying the morphology of the worm after its removal. On microscopic examination, worms belonging to the genus *Dirofilaria* are identified by their thick laminated cuticle, broad lateral ends and large muscle cells. [7] *D. immitis* can be differentiated from *D. repens* by the absence of ridges. Surgical removal of the worm is the treatment of choice.

Dirofilariasis is one of the emerging infections in India. It should be considered as one of the differential diagnosis of a single migratory or non migratory swelling. *Dirofilaria* infection is likely to be present in dog and with the abundance of mosquito in all localities, dirofilaria infection should be anticipated even in non endemic areas [1,3,4]. Surgeons and ophthalmologists need to be aware about this newly emerging infection [1, 8].

Conflict of interest: None.

Acknowledgment:

We the authors are very thankful to the faculty of PGIMER, Chandigarh for their support.

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