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Case Report

AN UNANTICIPATED CAUSE OF INTRAMUSCULAR MASS – A CASE REPORT

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Abstract :

Dirofilaria are natural parasites of various species of carnivores. Man is an accidental dead end host. Human Dirofilariasis has been reported in certain parts of Southern India and is considered as an emerging zoonotic infection. A nematode extracted from an intramuscular swelling of the right forearm was identified as Dirofilaria immitis based on the morphological and microscopic characters.The sole purpose of this article was to review the clinical course and management of an intramuscular mass.

Keywords : Dirofilaria, Intramuscular, Mass, Zoonotic

Introduction :

Cases of zoonotic filariasis caused by filarial nematodes transmitted mostly by zooanthrophilic vectors occur worldwide, apparently with increasing incidence.[1] Human dirofilariasis has not been widely recognized in India, but there is probably a focus of infection in Kerala and the disease is relatively common in Srilanka which is geographically closer to southern India.[2] There has been an increased occurrence of filarial worms in the subcutaneous tissues and subconjunctival space of human beings belonging to different areas of the state of Kerala.[2,3] Filariasis, an accidental infection in human beings is on rise in certain parts of Southern India and is considered as an emerging zoonotic infection.

Case History :

A young tempo driver working at Calicut and hailing from Karichery in Kasargod district, Kerala reported to Taluk hospital in Kasargod with complaints of swelling and tenderness over right forearm, which gradually increased in size over a period of time. Patient did not give any history of trauma or similar swelling in the past.

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Physical examination showed, a firm oval swelling measuring approximately 3.5 x 2.5 cms, on the anterior aspect of the forearm. There was no evidence of digital neurovascular defect. Clinical diagnosis of an intramuscular neoplasm was made. Exploration done under general anaesthesia revealed a 16 cm thread like worm entangled in it. The worm was sent in formalin to the microbiology laboratory for further identification. A peripheral smear done for microfilaraemia was found to be negative. The haematological and biochemical investigations were within normal limits. ELISA for filarial antigen was negative.

Parasitological findings :

The worm (Fig.1) was long, white, thread-like cylindrical measuring 16 cms in length and a maximum diameter of 0.20 mm. Microscopic examination of the worm was done by glycerin wet mount which showed a slightly curved, pointed and unarmed cephalic end. The caudal end was rounded and well pronounced. Further observation showed short oesophagus, short tail and a patent sub terminal anus with spicule and three pairs of large caudal

papillae, one of which was post anal. The

above features were suggestive of the worm belonging to the family Dirofilaria. The cuticle appeared thick and smooth with 2-3 distinct layers. Muscles appeared to be separated into dorsal and ventral bands. Indistinct longitudinal ridges with cross striations were seen (Fig.2). Morphologically, based on the size and the arrangement of the longitudinal ridges and cross striations the worm was diagnosed as belonging to the species Dirofilaria immitis.

The patient recovered completely after the excision of the swelling and removal of the worm

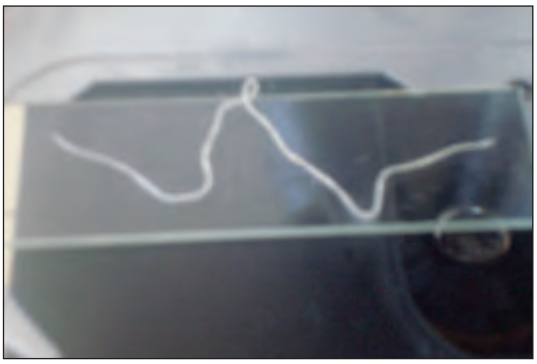

Fig: I – Macroscopic appearence: White, thread-like cylindrical worm

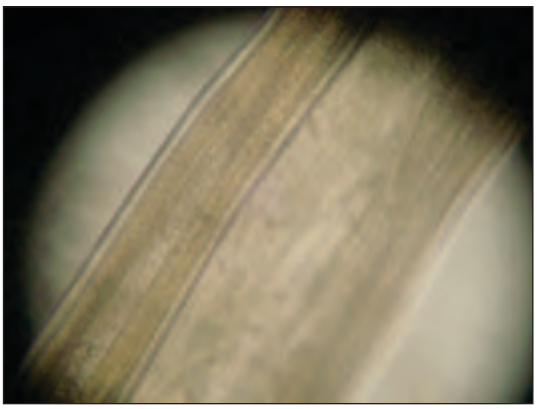

Fig: II – Glycerine wet mount:Indistinct longitudinal ridges with cross striations .

Discussion :

Zoonotic filariasis occur when humans are accidentally infected by filariae normally found in animals.[8] Dirofilaria immitis and Dirofilaria of the subgenus Nochtiella are parasites found in dogs predominantly, occasionally transmitted to humans. Clinical manifestations after infection include nodules in subcutaneous tissues, muscles and visceral organs.[4]

The size, nature of the cuticles, ridges and arrangement of the striations discussed here were indicative of Dirofilaria immitis. Dirofilaria should be considered as a differential diagnosis for migratory subcutaneous swellings and conjunctival nodules in Kerala and elsewhere in Southern India. In human infection, parasite development is impaired and microfilaria is not produced.[5] However it is important to identify the nematode as Dirofilaria to avoid treatment with antihelminthic drugs.[6] Treatment by surgical removal of the worm is usually simple and effective.[7]There is usually no need for chemotherapeutic intervention as microfilaraemia is extremely rare.[8]

References:

1. Orihel TC, Eberhard. Zoonotic filariasis. Clinical Microbiology Rev ;1998; 11:366-381.
2. George M ,Kurian C. Journal of the Indian Medical Association ;1978; 71:123-124.
3. Lucy sabu, Devada K,Subramanian H. Dirofilariasis in dogs and humans in Kerala. Indian J Med Res; 2005; 121:691-693.
4. Yehudit Raniel, Zulfia Machamudov,Hanna J, Garzozi MD.Subconjunctival infection with Dirofilaria repens . IMAJ; 2006;8:139.
5. Boreham PFL. Dirofilariasis in man. In Boreham PFL, Atwell RB, (Ed). Dirofilariasis, CRCPress;1998;218-226.
6. KG Bhat.Human Dirofilariasis.Indian journal of Medical Microbiology ; 2003; 21(1):65.
7. Sekar HS, Srinivas H, Battu RR, MathaiE, Shariff,Macadean RS. Human ocular dirofilariasis in Kerala Southern India. Indian journal of pathology and microbiology; 2000; 43:77-79.
8. Padmaja P, Kanagalakshmi, Samuel R, Kuruvilla PJ, Mathai E. Subcutaneous dirofilariasis in southern India: a case report .Annals of Tropical Medicine & Parsitology; 2005;99(4):437-440.