

Worm under the Skin—An Unusal Case of Filariasis

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Abstract

Background: Filarial disease has a very high prevalence in South East Asian region especially India. It commonly presents as an affliction of the lymphatic system like acute lymphangitis and chronic lymphedema. Presentation of lymphatic filariasis as a subcutaneous nodule is a rare but previously reported scenario. **Aim:** We discuss a case with incidental detection of filaria in a subcutaneous nodule following excision biopsy. **Case Presentation:** 20-year-old male patient presented with subcutaneous swelling in left lower chest. Undergoing excision biopsy for same and on histopathological examination was found to be an encysted filarial worm. **Conclusion:** Such rare presentation of filariasis has been reported earlier also and should be kept in mind.

Keywords

Filariasis, Subcutaneous, *Wuchereria*

1. Introduction

Filariasis is an endemic disease with a very high prevalence in India. It accounts for 40% of global burden of the disease and has almost 600 million people at risk of the disease [1]. The majority of disease burden in India is caused due to lymphatic filariasis, out of which 98% is due to *Wuchereria* [2]. The infection which is spread by mosquito *Culex quinquefasciatus* most commonly present as hydrocele or lymphedema involving the lower limbs. Microfilariae are produced from the female worm and start appearing in blood stream six months to one year after onset of infection [3]. Due to the diurnal pattern of microfilaria, night blood sample examination is being used to identify carriers under the national programme [4].

Presentation of lymphatic filariasis as a subcutaneous nodule is very rare but has been reported before in literature [5] [6]. Diagnosis in these cases has been made following FNAC. Here we present a case with incidental diagnosis of filariasis following excision biopsy.

2. Case Report

20 years old male patient, hailing from Himachal Pradesh, presented to surgical OPD with complaints of swelling in the left lower chest for past four to five years. The swelling was first noticed five years back and it remained static in size since then. It was associated with occasional pain. No history of any redness or fever associated with the swelling. No history of any lower limb swelling preceding the swelling. On examination, patient had 2×2 cm discreet globular swelling in the left hypochondrial region. It was firm in consistency with well defined borders and restricted mobility. Overlying skin was normal, but was adherent to the swelling. An excision of the lesion was planned for cosmetic reasons. Patient underwent excision of the swelling under local anaesthesia. Intra-op the swelling was had white wall and was firm in texture.

Post-op period was uneventful. On histo-pathological examination, the lesion turned out to be an encapsulated filarial worm (**Figure 1**). The adult filarial seen inside the lesion was dead and was surrounded by a fibrous capsule and had inflammatory cells in the surrounding. On follow up, patient underwent a total leukocyte count which revealed a normal eosinophil count. He also underwent a midnight blood smear examination to check for microfilaria which was also negative. Even though there was no evidence of microfilaraemia, patient was given a course of Diethylcarbamazine (DEC) for 14 days and at six months follow-up remains asymptomatic.

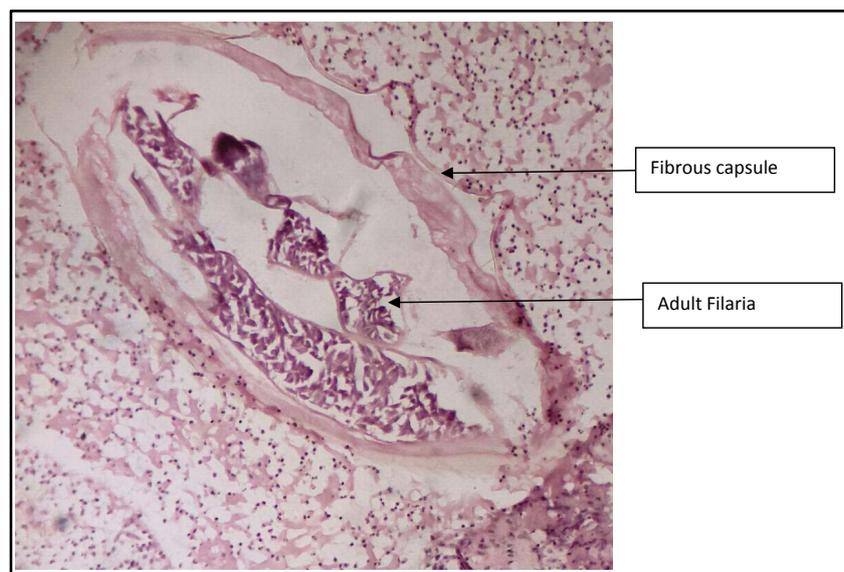


Figure 1. Photomicrograph showing filarial worm surrounded by a fibrous capsule and inflammatory cells around.

3. Discussion

Filariasis is an endemic disease in India with states such as Bihar and Kerala being the most affected. The latest survey shows that there are around 600 million people at risk of this disease in India [1]. Under the family Filariidae comes various species like *Wuchereria*, *Brugia*, *Mansonella* and *Onchocerca* [7]. Genus *Wuchereria* and *Brugia* which is commonly prevalent in India cause lymphatic filariasis. *Mansonella* and *Onchocerca* are prevalent in South America and Africa and mainly affect skin and serous membranes.

Presentation in lymphatic filariasis can be broadly classified into acute and chronic. Common acute presentations include dermato lymphadenitis and lymphangitis [8]. Repeated attacks of lymphangitis leads to destruction of lymphatic vessels which results in the most common and dramatic chronic presentation, elephantiasis. An article by Dreyer *et al.* [9] mentions the rare extralympathic syndromes associated with filariasis. This included arthritis, glomerulonephritis, tropical pulmonary eosinophilia, microfilarial granulomata and filarial splenomegaly. The pathogenesis of these syndromes is supposed to be sub-clinical lymphatic damage caused by filaria.

The classical method of diagnosis of filarial infection is the examination of midnight blood smear. Various concentration techniques have also been described to increase the yield of this test. Of late, serological tests are replacing these labour intensive procedures. Newer techniques include detection of circulating filarial antigen using monoclonal antibodies namely Og4C3 and AD12-ICT-card and ultrasound demonstration of live worms in scrotal lymphatics. Among these ICT card has been found to be the most convenient for identification of carriers [10].

Treatment protocol for eradication of filariasis involves mass drug administration in the endemic areas. This includes a single dose of DEC at 6 mg/kg body weight and single dose of albendazole (400 mg) taken together [4]. Treatment of acute attacks include antifilaria treatment using DEC, Ivermectin or Albendazole along with management of super added bacterial or fungal infection. Management of chronic manifestations such as lymphedema centres around intensive physiotherapy and surgical procedures if all else fail [11].

Though there are few reports in literature, lymphatic filariasis rarely manifest as skin disease. The above case report mentions one such rare presentation of lymphatic filariasis in a relatively non endemic region. The patient also showed no features of microfilaremia or any other clinical features of infection. This is known to occur in patients coming from endemic areas [5]. With efforts on to eradicate filarial disease by 2020, it is pertinent to remember that the disease can have such rare presentations also.

4. Conclusion

Filarial disease in India is commonly caused by genus *Wuchereria* and genus *Brugia*. These parasites are commonly known to inhabit the lymphatic system.

Wuchereria presenting as a subcutaneous nodule is rare. Diagnosis usually happens following FNAC or as in this case excision.

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