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Case report

Incidental diagnosis of Filariasis in an aspirate from a knee joint in a tertiary care hospital – An unusual case report

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Abstract

Lymphatic filariasis is a major public health problem in India with most infections being caused by *Wuchereria bancrofti*.The present case is being presented, as the patient with a chronic history of pain in the knee from Uttar Pradesh who was diagnosed as a case of filariasis incidentally on microscopy of synovial fluid aspirated from the affected knee joint.

Introduction

Tropical and subtropical countries like India, China, Indonesia, Africa and the Far East suffer from the huge burden of filariasis which has proven it to be a public health problem. The disease is endemic all over India, especially Uttar Pradesh, Bihar, Tamil Nadu, Kerala etc. A majority of the infected individuals in filariasis endemic communities are asymptomatic. Adult worms in the lymphatics cause progressive lymphatic vascular dilation and dysfunction [1]. The life cycle of *Wuchereria bancrofti* was found in two hosts. Man is definitive host and mosquito is an intermediate host. The periodicity of appearance in the blood is usually between 10 pm to 2 am [2].

There have been a few case reports detecting microfilaria at various different unusual sites like breast, thyroid, lymph node, liver, lungs, bone marrow and subcutaneous nodule. The presence of this parasite in synovial fluid has not been seen till date. We thus present a case of filariasis that was diagnosed incidentally on examination of synovial fluid.

Case Report

A 19 year old male presented with complaints of left knee swelling for the past 8 years. He was a resident of Uttar Pradesh and welder by occupation. It started as a painless swelling which was gradually increasing in size. The patient developed restriction of movements in the left knee joint. Over the years, the swelling developed pain which was intermittent and mild in intensity. There was no association with fever, rash or pain in any other joints. There was no history of trauma and no co-morbidities. On examination, the swelling was about 7cms by 6cms, on and above the left knee joint with diffuse margins (Figure 1). The overlying skin was normal. On palpation it was heterogeneous (soft to firm), moderately tender and fluctuant. There was no inguinal lymphadenopathy. External genitalia were normal. No other lymph node group was significantly enlarged. General examination revealed no other abnormalities.



Figure 1. Swelling in left knee joint

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Aspiration of synovial fluid was done by the clinician and was sent to the Microbiology department for culture and sensitivity. The aspirated fluid received was 5ml in quantity, straw coloured and slightly turbid. On direct microscopy, multiple motile microfilarias were seen. The Giemsa staining was done to identify the microfilaria. It showed microfilaria with hyaline sheath, cephalic space length: breadth ratio was 1:1, nuclei were almost spherical, regularly placed, appeared in regular row, well separated without any overlapping and were absent at the tip tail (Figure 2). Hence the diagnosis of *Wuchereria bancrofti* was made. A peripheral blood sample was taken and Leishman staining was done which was negative for microfilaria. The patient was given a single dose of Diethylcarbamazine 100mg (DEC Provocative Test) and a repeat peripheral blood sample was taken after 30 minutes. Leishman staining was done and it was positive for microfilaria of *Wuchereria bancrofti*. The patient also had raised absolute eosinophil count (400/cu mm) and raised Immunoglobulin E levels (>400IU/ml). Other tests (CBC, LFT, uric acid) were within normal limits. The X ray of left knee showed prominence of soft tissue shadow which gave a provisional diagnosis of bursitis. Ultrasonography of the left knee was done which showed a collection of fluid in suprapatellar bursa.

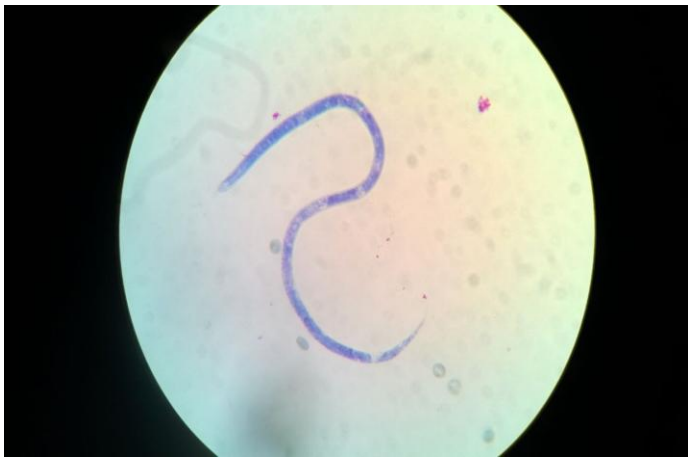


Figure 2. Giemsa staining showing Microfilaria

The patient was treated with DEC 100mg thrice a day dose for 21 days. After completion of treatment, the swelling had subsided and the patient was asymptomatic. Leishman staining of the peripheral blood was also negative for microfilaria.

Discussion

Lymphatic filariasis is a major health problem in India with most infections caused by *Wuchereria bancrofti*. The presence of adult worms of *Wuchereria bancrofti* in the infected individuals is confirmed by detecting microfilariae or filarial antigens in the patient's blood [3]. The disease is ranked by the World Health Organization (WHO) as the second leading cause of permanent and long-term disability, and has been targeted for elimination by 2020 [4].

Our case appears unique for the following reasons: Demonstration of live motile microfilaria in synovial fluid was an incidental finding which is very rare. A search of literature revealed no such case report of filariasis diagnosed in microscopy of synovial fluid. However, in the reported cases there was lymphadenopathy [1,4] which was absent in our case. This is probably explained by differences in host response to the presence of parasite.

Besides the documented usual mode of presentation of filarial infection, it can present in an atypical manner, so careful examination of aspirates from the swellings, especially in filariasis endemic zones, is very important [5].

Conclusion

The study shows the importance of detection of chronic asymptomatic carriers from endemic regions who pose a major challenge for the eradication of filariasis.

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