Case Report

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Filarial Granuloma on the Penis Mimicking a Sebaceous Cyst: A Rare Presentation

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Abstract

Lymphatic filariasis is caused by a haemo-parasite Wuchereria bancrofti . It is an endemic parasitic infection in the tropical and subtropical countries of the world. As such it is a major health problem in India with many patients being asymptomatic. The common presentation of genital filariasis in India is secondary vaginal hydrocele with associated epididymo-orchitis. Lymphatic filariasis may also present as lymphoedema with lymphadenopathy, genital lymphoedema and swelling of the lower limbs. Here we present a case of filariasis with a rare presentation of a penile nodular swelling mimicking a sebaceous cyst and without genital or limb lymphoedema.

Keywords: Filariasis; Wuchereria Bancrofti; Penile; Sebaceous Cyst.

Introduction

Lymphatic filariasis is a mosquito borne disease caused by a filarial parasitic nematode Wuchereria bancrofti (W. bancrofti),Brugia malayi (B. malayi) or Brugia timori (B. timori) [1]. Lymphatic filariasis is a major health problem in India. Many of the cases may be asymptomatic. The common presentation is genital filariasis in the form of secondary vaginal hydrocele with an associated epididymo-orchitis [2,3].

The thread like worm resides in the lymphatic channels or the lymph nodes of humans only, there being no animal reservoir [3]. The occlusion of the lymphatic channels leading to lymphangiectesia is related to the different clinical manifestations.

The most common presentation of lymphatic filariasis is sub-clinical microfilaremia, hydrocele, acute adenolymphangitis and chronic lymphatic disease [4].

Here we report a case of filariasis in the form of a nodule on the penis mimicking a sebaceous cyst and without any associated genital or limb lymphoedema which is a rare presentation.

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Case Report

A 52 year old male patient presented with a painless nodular swelling on the penis of size 2 X 1 cm since 8 to 9 months. He did not have any history of lymphadenopathy, lower limb swelling or scrotal lymphoedema. The lesion was clinically diagnosed as a sebaceous cyst. The nodule was excised and sent to us for histopathology.

On gross examination, we had received a nodular soft to firm mass, 2X1X1 cm in size which on cut section contained mucoid and white thread like material.

Microscopic examination revealed a granuloma formed of well vascularised granulation tissue with inflammatory cells containing plasma cells, macrophages and neutrophils (but no eosinophils) along with capillaries lined by plump endothelial cells. The centre of the granuloma showed live gravid worms with thick chitinous wall, paired uteri with eggs and a coelomic cavity (Figure 1 and 2). Other areas showed dead fragmented worms surrounded by inflammatory cells (Figure 3). A morphologic diagnosis of filariasis was made.

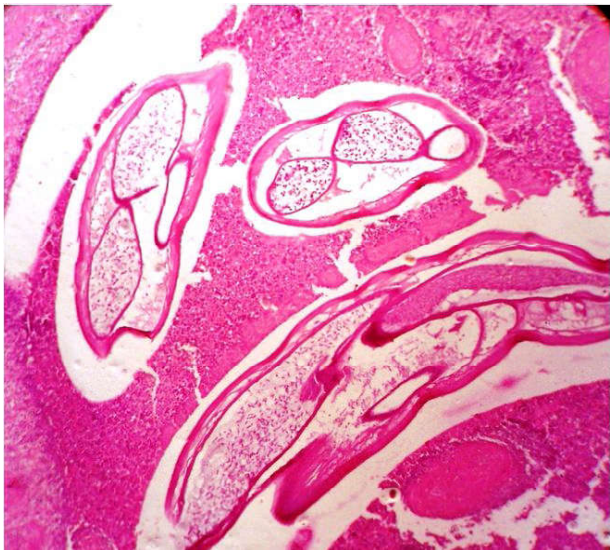

Fig. 1: Live gravid worms with thick chitinous walls, paired uteri with eggs and a coelomic cavity (H&E X100)

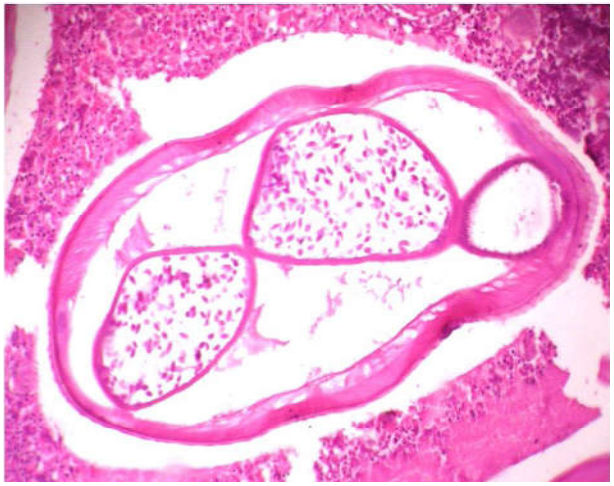

Fig. 2: Live gravid worms with thick chitinous walls, paired uteri with eggs and a coelomic cavity (H&E X400)

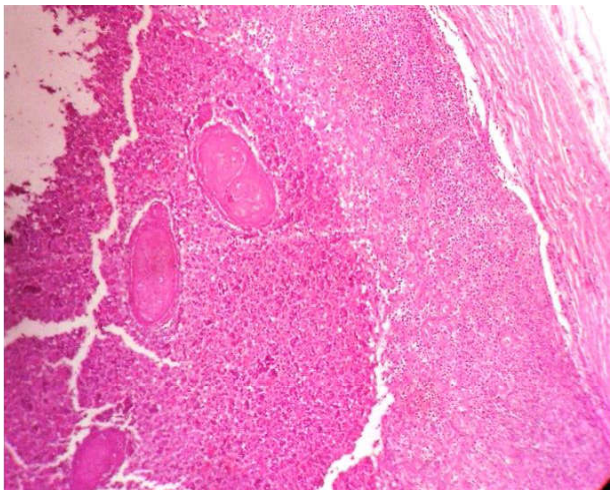

Fig. 3: Dead worms surrounded by inflammatory cells (H &E X 1 00)

His blood examination revealed all values within normal limits except for mild eosinophilia (10%). Peripheral blood smear (PBS) of midnight sample did not show any microfilaria. Filarial antigen test was negative. Physical examination of the patient did not reveal any lymphadenopathy, limb or genital lymphoedema.

The patient was started on treatment with Diethylcarbamazine (DEC) in the dose of 6mg/kg/ day for 14 days because of microscopic evidence of the filarial worm in the nodule.

Discussion

Lymphatic filariasis, a mosquito borne disease is caused by a parasitic filarial nematode, W. bancrofti, B. malayi or B. timori [1]. More than one billion people in more than 80 countries are at risk from this disease. About 1/3rd of the people infected with this disease are in India due to the numerous breeding sites for mosquitoes which are the vectors that transmit it. W. bancrofti and B.Malayi worms can live upto 6 years in blood circulation of the patient [5]. In India, the Culex species is the major vector for W. bancrofti and B. malayi [1]. Infections are contracted throughout life. Most persons remain asymptomatic for years with symptoms emerging during adolescence and adulthood [1].

Lymphatic filariasis can cause a broad range of clinical manifestions, varying from no evident clinical disease to lymphoedema and/ or severe disfigurement of extremities and genitalia [1]. Majority of persons infected with lymphatic filariasis in endemic areas have few visible clinical manifestations inspite of the large number of circulating microfilaria in the peripheral blood. Subclinical disease in the form of microscopic haematuria and/or proteinuria, dilated and tortuous lymphatic vessels and scrotal lymphangiectesia in men and breast oedema in women may be seen.

Acute adenolymphangitis (ADL) characterized by sudden onset of high-grade fever, painful lymph node, lymphatic inflammation and transient local oedema is another manifestation and occurs during adolescence. Another symptom may be chyluria due to obstruction or physiological impairment of renal lymphatics. Chyluria may have serious nutritional consequences due to large quantities of fat and proteins lost in the urine [1].

Our case showed a rare presentation in the form of a nodule on the penis mimicking a sebaceous cyst and without any genital or limb lymphoedema or lymphadenopathy.

Diagnosis of filariasis can be achieved by epidemiologic history, clinical findings, laboratory tests and as was done in our case, microscopy [1,6,7]. Microfilaria can be demonstrated in PBS of nocturnal blood sample which was not seen in our case [1]. Negative results in a routine thick PBS microscopy for filarial larvae does not rule out filariasis [5].

Filariasis can easily be overlooked since it can be detected in blood only few hours after midnight due to its nocturnal periodicity [5].

The filarial antigen test by Enzyme linked immunosorbent assay(ELISA) or card test can be performed [5]. This was negative in our case. Disease may persist in individuals with burned out infections and so it is impossible to exclude a diagnosis of filarial disease in the absence of circulating antigens or parasite [1].

Ultrasonography with high frequency probe can pick up the microfilaria (size-50-100microns) which show rapid movements in an acoustic medium and create turbulence in the surrounding fluid, named the filarial dance sign [3].

Alive and motile adult worms and microfilaria do not cause tissue reaction. Dead or fixed adult worms or microfilaria cause severe reaction in the form of eosinophilia, eosinophilic abscess, neutrophilic abscess, necrosis and epithelioid cell granuloma followed by fibrosis with or without calcification [7].

We still have to rely on morphology for diagnosis because specific tests like monoclonal antibodies against circulating antigen, molecular biology techniques like Fluorescent in situ hybridization (FISH) and Polymerase chain reaction(PCR) are not easily available [7].

Treatment: Diethylcarbamazine (DEC) given in the dose of 6mg/kg/day for 14 days is the drug of choice [2,4].

Doxycycline is given to treat filariasis whether due to W. bancrofti, B. malayi or L. loa. It is effective only in the early stages of infection and should be given for 8 weeks for complete elimination of infection [5]. It acts by killing the symbiotic bacteria necessary for survival of the worm [6].

Conclusion

To conclude, our case showed a rare presentation of filariasis as a penile nodule mimicking a sebaceous cyst and in the absence of any genital or limb lymphoedema.

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