



MASSIVE SCROTAL FILARIASIS: AN UNUSUAL CASE REPORT

Pathology

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ABSTRACT

Filariasis is a parasitic disease caused by the infection of nematodes of Filarioidea family. These are spread by blood-feeding insects such as mosquitoes and black flies. Lymphatic filariasis is a major cause of disability worldwide, with an estimated 40 million individuals affected by the disfiguring features of the disease. Repeated episodes of inflammation and lymphedema leads to lymphatic damage, chronic swelling, and elephantiasis of legs, arms, scrotum, vulva and breasts.

We report a case of 45 years old male patient presenting with massive enlargement of scrotum in the OPD of department of surgery, RIMS, Ranchi. The patient was sent to pathology department for fine needle aspiration of inguinal lymph nodes. Following thorough examination and investigations, the patient was operated in department of surgery with resection of the mass while preserving the testes and spermatic cords followed by construction of neo-scrotum with anterior and posterior flaps, and shaft of penis by auto skin-graft.

KEYWORDS

Filariasis, Scrotal, Lymphatic, Wuchereria bancrofti, Microfilariae.

INTRODUCTION

Lymphatic filariasis is caused by *Wuchereria bancrofti*, *Brugia malayi*, or *Brugia timori*. The threadlike adult nematohelminth resides in the lymphatic channel or lymph nodes, where they may remain viable for more than 20 years.

Wuchereria bancrofti is the most widely distributed filarial parasite of the humans, and is found in tropics and subtropics. In India, filariasis is estimated to be endemic over 250 districts in more than 20 states, putting more than 650 million people at risk. 99.4% of the cases in India are caused by *W. bancrofti* while *B. malayi* is responsible for rest 0.6%. natural vectors for *W. bancrofti* are *Culex fatigans* in urban settings and *Anopheles* or *Aedes* in rural areas. *B. malayi* are confined mainly to north east region.

Most common presentation of filariasis in India are asymptomatic/subclinical microfilaremia despite large number of circulating microfilaria in peripheral blood. The symptomatic patients usually present with acute adenolymphangitis, testicular or inguinal pain, limbs, genital or breast swelling, and tropical pulmonary eosinophilia.

CASE REPORT

A 45 year old male patient, weight 70 kg, from West Bengal presented in the surgery OPD of RIMS, Ranchi with massive enlargement of scrotum. The enlargement was gradual over last 3 years. Patients gives history of occasional fever, malaise and tenderness in the inguinal region during initial periods of enlargement which has subsided till now. Now the patient complains tractional pain in the inguinal region following long standing and walking.

On general examination, patient was afebrile, pulse rate 80/min, BP-110/70mmHg, right inguinal lymphadenopathy was obvious on superficial examination, while left inguinal nodes were evident on deep palpation only. The scrotal mass was so large to reach below halfway his legs on standing. On measurement, it was 40×36 cm in standing position, ovoid in shape. We can get above the swelling. The mass was non-tender, non-pitting, with no rise of local temperature. Translucency test was negative. Testes were not palpable. Spermatic cord was thickened. Coughing reflex was absent. The skin was thick shiny, rough, giving Peau d Orange appearance. There was a slit like depression on left antero-lateral side along midway of the swelling though which urine oozed out during micturition. The penis was buried deep inside the swelling and was not appreciable even on deep palpation. The micturition reflex was normal.

On investigation, the hematological profile of the patient showed Hb-11.5g/dl, RBC predominantly normocytic, mild hypochromic with slight increase in RDW-CV. Total platelet count was $250 \times 10^3/\text{mm}^3$.

Total leucocyte count was $6.4 \times 10^3/\text{mm}^3$ with mild eosinophilia (7.5%). No microfilaria was found on peripheral blood examination on daytime sample but was seen when the sample was collected during late night. The USG guided fine needle aspiration of inguinal lymph nodes also revealed microfilaria in the aspirate. Following other pre-operative investigations, elective excision of the scrotal mass was planned in the department of surgery at RIMS Ranchi.

With the patient in modified lithotomy position, the mass was excised with a "U" shaped incision. Both testes, penis and spermatic cords were preserved. The neo-scrotum was made by anterior and posterior flaps. Reduction scrotoplasty was done. Shaft of penis repaired with auto skin grafting. Romovac drain was put in the pouches prepared for testicles. The excised mass was 30kg in weight. Post-operative period was uneventful. Following post-operative period, 14 day course of Diethylcarbamazine was given. At the time of discharge, patient's weight was 42kg compared to 70kg at the time of admission. Patient was followed for six months without any significant complication or recurrence.

DISCUSSION

We are presenting a common disease because of its massive manifestation. A scrotal filariasis that became so massive that interfered the daily activity of the patient. At the time of excision, it was 30kg in weight.

Filariasis is a common disease of tropical and subtropical countries caused by several species of family Filariidae. Of the hundreds of described filarial parasites, only 8 species cause natural infections in humans. WHO has identified lymphatic filariasis as a major cause of disability worldwide, with an estimated 40 million individuals affected by the disfiguring features of the disease.

Lymphatic filariasis is endemic in India affecting more than 20 states. *Wuchereria bancrofti* is the causative agent in more than 99.6% cases while *Brugia malayi* causes the rest in some north-east states.

In lymphatic filariasis, repeated episodes of inflammation and lymphedema lead to lymphatic damage, chronic swelling, and elephantiasis of legs, arms, scrotum, vulva and breasts.

The clinical manifestation of lymphatic filariasis depends on the stage of infection viz.

- Stage of invasion
- Asymptomatic or carrier stage
- Stage of acute manifestation

• Stage of chronic manifestation

Genital filariasis manifests in a number of ways. It can present as an acute inflammatory disease like funiculitis or epididymo-orchitis. This is by far the most frequent manifestation. Chronic manifestations include hydrocele, lymph varix, lymph scrotum filarial penis or elephantiasis of genitalia or chyluria. Hydrocele accounts for the 90% morbidity due to the above genital manifestations.

Medical management of filariasis involves use of antihelminthic drugs like Diethylcarbamazine, Albendazole and Ivermectin. Two drug regimen is usually more effective than single drug use.

Surgical management is usually performed in massive enlargement particularly of scrotum or breasts. The principles of these surgeries follows general plastic surgery involving resection of excessive mass and reconstruction.



Anterior view at the time of presentation. Right inguinal lymphadenopathy is visible.



Left lateral view of the mass



Slit-like opening through which urine comes out



Patient on operation table



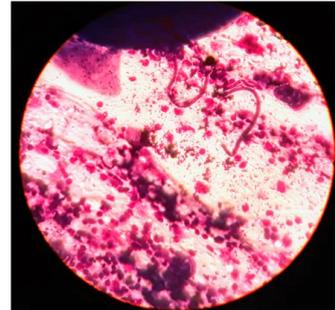
Preservation of Testes, Spermatic cords, and Penis (Folley,s urinary catheter in situ)



Excised scrotal mass



Formation of neo-scrotum and skin graft of shaft of penis



Right inguinal lymph node aspirate showing microfilariasis along with inflammatory cells (H&E 40x)



Microfilaria in peripheral blood smear (LG 40x)

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