



Lymphadenopathy in Pregnancy: A Dance of Filaria

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Abstract

Filariasis still remains a major health burden globally and is endemic in Southeast Asian countries including India. The aim of this article to highlight a rare manifestation of lymphatic filariasis in pregnancy. We report a 25 years old multigravida with 7 months gestation who presented with painful axillary lymphadenopathy and low grade fever since 25 days. Her haemogram had eosinophilia with peripheral smear showing microfilaria larva. Ultrasonography of left axilla was suggestive of dilated lymphatic channels within the swelling with filarial dance sign present. She was treated upon diagnosis with oral ivermectin 6 mg, which lead to resolution of lymphadenopathy with subsequent uneventful delivery of a healthy newborn. Physicians in endemic area should be alert to a differential diagnosis of filariasis for lymphadenopathy in pregnancy.

Introduction

Lymphatic filariasis is rare in developed countries; however an estimated 120 million people in tropical and subtropical areas of the world are infected with filariasis [1]. Of these, almost 25 million men have genital disease (most commonly hydrocele) and almost 15 million, mostly women, have lymphedema or elephantiasis of the leg [1]. It is endemic in 250 districts across 20 states in India, with 617 million individuals at risk [2]. Of the total population requiring preventative chemotherapy, 57% live in the South-East Asia region (9 countries) and 37% live in the African region (35 countries) [1]. Pregnancy is an exclusion for mass treatment programs to eradicate filariasis. Presence and manifestation of filariasis in pregnancy is rarely reported. This case report highlights the rare presentation of filariasis in third trimester of pregnancy as an axillary swelling with lymphangiomas with its successful treatment and outcome.

Case Presentation

A 25 years old female, in the seventh month of her second pregnancy, presented with complaints of two large painful left axillary swellings associated with low grade fever since 25 days. Her previous pregnancy was uneventful. On examination she was febrile, mild pallor was present and had tachycardia. On local examination, two swellings- 3 cm × 2 cm and 2.5 cm × 1 cm, which were soft, nodular, tender and mobile were present in left axilla with redness, without any limb edema (Figure 1). There was no lymphadenopathy elsewhere in the body, no pedal edema and no stigmata of tuberculosis. There was no breast lump or discharge from left breast. Systemic examination was normal with no organomegaly. Obstetric examination revealed 28 weeks gravid uterus with normal fetal heart sounds.

Her complete blood counts revealed hemoglobin of 10.1 gm%, total leucocyte count 14000/cumm with differential of neutrophils 68%, lymphocytes 16%, eosinophils 16% (absolute eosinophil count- 2240/cumm) and platelets of 365000/cumm. Her ESR was 78 mm per hour. The peripheral smear showed micro filarial larvae (Figure 2). A blood specimen collected at midnight showed microfilaria (Figure 3) and filarial dance. Her liver function and kidney function tests were normal. Ultrasonography of left axilla showed multiple dilated, anechoic, cystic structures in subcutaneous plane with filarial dance sign positive. She was treated with tab ivermectin, 6 mg single dose after obtaining a written informed consent from the patient and her husband. Tab Co Amoxiclav was given orally and a small incision and drainage done for the axillary abscess. Swelling gradually resolved (Figure 4) with normalization of ultrasonography findings. A repeat peripheral smear taken at midnight 4 days after ivermectin therapy confirmed absence of microfilaria. Patient had a full term normal vaginal delivery with no adverse fetal outcome. Newborn did not show any microfilaria on peripheral smear. At discharge, patient was counseled for telephonic follow up and

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Figure 1: Two soft, nodular, tender and mobile left axillary swellings.

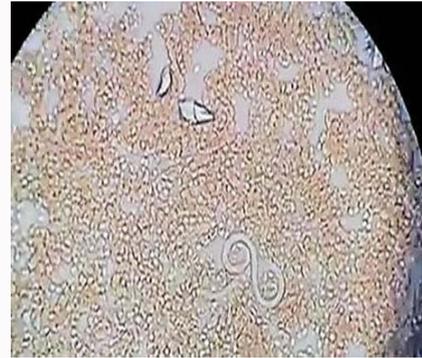


Figure 3: Wet mount of midnight blood sample showing microfilaria.

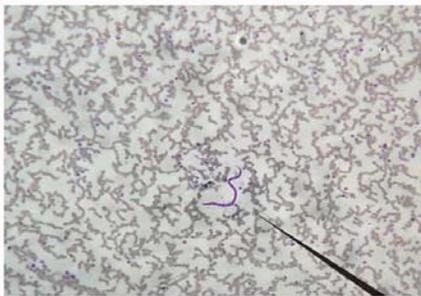


Figure 2: The peripheral smear showing microfilarial larvae. (Fields stain).

reporting to our centre for typical filarial symptoms. The patient has remained symptom free for past 2 years.

Discussion

Our patient was a febrile 25 years old pregnant female with a painful left axillary swelling of 25 days duration. The etiology of lymphadenopathy in pregnancy includes tuberculosis, bacterial infection, lymphomas, systemic lupus erythematosus, sarcoidosis or Toxoplasma, Rubella, Cytomegalovirus, Herpes simplex virus (TORCH) infections. Rare case reports of fungal etiology like paracoccidioidomycosis [3] and Kikuchi-Fujimoto disease [4] have also been reported.

In the present case presence of eosinophilia in differential WBC count and microfilaria on peripheral smear made us suspect filarial etiology for her lymphadenopathy. This was confirmed by dilated lymphatic channels on ultrasound of left axillary swelling, which showed active microfilaria. The microfilaria causing lymphatic filariasis typically have nocturnal periodicity. Therefore midnight blood samples should be collected to coincide with the appearance of the microfilaria in blood [5]. Our patient showed the typical filarial dance both, in the midnight wet mount specimen and even on ultrasound of axillary lymphangiovarix. Other causes of lymphangiovarix apart from filariasis include malignant infiltrates and congenital lymphedema (Milroy's disease, lymphedema praecox etc) [6]. These usually present with lymphedema of limb, which was absent in our patient. Filariasis is a parasitic disease caused by nematodes (roundworms) that inhabit the lymphatic and subcutaneous tissues. The three filarial species commonly causing lymphatic filariasis include- *Wuchereria bancrofti*, *Brugia malayi* and *Brugia timori*. The adult worms live in the human lymphatic system and are spread from person to person by mosquitoes [5]. In



Figure 4: Resolution of axillary swellings after treatment.

subcutaneous filariasis, the worms (*Loa Loa*, *Mansonella streptocerca* and *onchocerca volvula*) reside in subcutaneous tissue. *Mansonella ozzardi* and *M. perstans* are peculiar in causing ascites due to serous cavity filariasis [7].

Data regarding filariasis in pregnancy is scanty and the safety of appropriate therapy in pregnancy is not established. There is only one recent reported case in India (2016) of filariasis in an elderly multigravida who presented in seventh pregnancy with inguinal lymphadenopathy and bilateral lower limb non-pitting edema. (Elephantiasis) She had adverse fetal outcome with chronic abruption and intrauterine fetal death [8]. The only other reference is a series of two cases in Nigerian women in advanced pregnancy reported in 1963 in British Medical Journal. These had incidental findings of a mixed infection with *Loa Loa* and *Acanthocheilonema perstans* (*Mansonella perstans*) in peripheral blood, did not have any lymphadenopathy and were treated with the only available drug (diethylcarbamazine); albeit with a recurrence in one patient [9]. Though rare, lymphadenopathy with fever, as a presentation in pregnancy warrants consideration of filariasis in the differential diagnosis in endemic areas. Untreated filariasis has been shown to have complications in pregnancy affecting both the mother and the developing fetus including intrauterine fetal death [8]. Microfilaria invade regional lymph nodes in the pelvis, causing local inflammation and can result in genital deformities of the vulva [10]. Secondary bacterial infections may further worsen vulval deformities aggravating social stigma. A case study has suggested that infants born to mothers with filariasis during pregnancy can have hyporesponsiveness to filarial infection in the future as an infant or child [11]. ICMR here studied a cohort of 57 children born to infected and uninfected mothers (32 vs. 25) in Odisha, India by Og4C3 ELISA

test kit to detect Circulating Filarial Antigen (CFA). They have found high rate of CFA positivity in children born to infected mothers than in uninfected mothers (14 vs. 1) (p value=0.0006) [11]. This suggests that exposure in utero to transplacentally acquired filarial antigen may be treated as “self”, precluding a corrective immune feedback if and when body naturally acquires the filarial infection through mosquito bite in endemic areas.

Drugs recommended for the treatment of filarial infection are albendazole (400 mg), ivermectin (150 microgram/kg to 200 microgram/kg) and diethyl carbamazine (6 mg/kg). No antifilarial drug is safe in pregnancy as first two are category C and latter is category X drug. Considering benefit vs. risk ratio, patient was treated with ivermectin single dose with due informed consent. She had full term normal vaginal delivery and the newborn did not show any microfilaria on peripheral smear.

This case report adds to the dearth of literature on filariasis in pregnancy. Thus, filariasis should be considered in the differential diagnosis of lymphadenopathy in endemic area, even at atypical site or in the absence of non-pitting limb edema. The ICMR study supports the treatment of filariasis in pregnancy. Our case report reassures that timely management can lead to resolution of filariasis in pregnancy with no adverse fetal outcome.

Conclusion

Our case report emphasizes the need of looking for and diagnosing lymphatic filariasis in pregnant females which may reveal the hidden burden of filariasis in pregnancy in endemic areas. Further it asserts that timely management not only improves maternal but also fetal outcome. This helps in reducing socioeconomic burden of filariasis in resource limited endemic countries.

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