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Case Report

Filariasis of the breast

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Introduction

Filariasis is a common occurrence in India.¹ However, filariasis of the breast lump diagnosed on FNAC is rare.² Conventional mode of diagnosis is by demonstration of microfilaria in the peripheral blood smear.^{1–3} It is infrequent to find microfilaria in Fine needle aspiration cytology smears and body fluids. In the present case report, the patient had a rare presentation of induration of skin over left breast with a subcutaneous lump left breast and nipple secretion right breast. FNAC of left breast lump and right nipple secretion cytology showed evidence of filariasis.

Case report

A 21 year old unmarried female patient presented in the OPD with complaints of swelling and pain both breasts since past 04 weeks. There was history of nipple discharge right breast with itching in the overlying skin of one week duration. There

was no history of fever. Clinical examination revealed skin induration over left breast with a subcutaneous lump in the upper outer quadrant of left breast which was firm, non tender, adhered to the overlying skin. There was also present bilateral inversion of nipples. There was no evidence of axillary lymphadenopathy or pedal edema. There was no lump palpable in the right breast. The patient was treated as a case of mastalgia both breast with no relief of symptoms.

FNAC of lump left breast was done and the aspirate yielded yellowish white material which was smeared on a slide, air dried and stained with Leishman Giemsa. Another smear was wet fixed and stained with Papanicolaou stain. Smear of FNAC from the breast lump, left breast revealed numerous microfilariae both coiled and uncoiled, in various stages of development [Figs. 1 and 2]. These were seen against a background of necrotic debris and mixed inflammatory infiltrate comprising neutrophils, eosinophils and histiocytes. Fibrofatty tissue with scanty ductal cells were seen. However, no epithelioid cell clusters were seen, no malignant cells were present. The nipple discharge right breast also yielded yellowish white material and showed a dirty background with few scattered parasitic remnants. No cytological atypia was present in the discharge from the right breast nipple.

Following these findings, the patient's wet film preparation of a finger prick sample was taken which revealed numerous microfilaria. The hematological examination revealed an AEC of 882/cumm. The patient was subsequently treated for filariasis with Di-ethylcarbazine-citrate (DEC), 6 mg/kg/day for 12 days after which the swelling subsided.

Discussion

The largest number of cases of filariasis occur in India, where over 300 million people live in endemic zones.⁴ In endemic areas like Uttar Pradesh, people become infected early in life

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Fig. 1 – Low power view of the aspirate showing numerous microfilariae (Leishman Giemsa stain).

Fig. 2 – High power view of microfilaria (Leishman Giemsa stain).

with a peak incidence between 15 and 20 years. A majority of infected individuals in filarial endemic communities are asymptomatic.² In our case, the patient was in the younger age group and belonged to the endemic area of UP.

Lymphatic filariasis in humans is commonly caused by *Wuchereria bancrofti* and *Brugia malayi*.¹ The clinical manifestations of lymphatic filariasis may vary from one endemic area to another. Generally, the most common clinical form of the disease is hydrocele, with lymphoedema and elephantiasis occurs less commonly. Extranodal filariasis is rare and breast is an uncommon site for filariasis.¹ When the female breast is involved, the larvae enter the lymphatic vessels causing lymphangitis, fibrosis and disruption of lymphatic drainage.⁵ Most common site is upper outer quadrant of breast, but central or periareolar nodules occur with notable frequency.^{6–8} Most of the lesions involve subcutaneous tissue and present as a hard mass with cutaneous attachment.

Sometimes accompanying inflammatory changes in overlying skin including edema of the skin (peau d' orange) and enlargement of axillary lymph nodes make it clinically indistinguishable from carcinoma. Sometimes, a young female patient might present with skin induration over the breast with axillary lymphadenopathy mimicking Inflammatory carcinoma.⁹ In our case, the patient did have erythema in the overlying skin, however, no axillary lymph nodes were palpable. A possibility of a malignancy was ruled out based on absence of atypical cells on FNAC and no evidence of breast carcinoma on sonomammography of the breast.

In our case, the patient had a rare presentation with induration of skin over breast, lump in left breast with nipple discharge from right breast and bilateral inversion of nipples. The lump disappeared post treatment, the induration subsided and there was no nipple discharge from both breasts. However, there was no conclusive evidence of the inversion of nipple being related to the filariasis of the breast as it persisted after treatment. This could have been a coincidental finding in a case of filariasis of the breast. Thus to conclude, diagnosis of filariasis of breast by FNAC in a young unmarried female patient played a significant role in excluding breast carcinoma and institution of specific therapy which prevented any surgical intervention and development of complications as a result of filariasis.

Conflicts of interest

All authors have none to declare.

REFERENCES

- Dayal A, Selvaraju K. Filariasis of the Breast [Internet]; 2010 Nov 16. Available from: http://www.webmedcentral.com/article_view/942.
- Mitra Shaila K, Mishra Rajiv K, Verma Pallavi. Cytological diagnosis of microfilariae in filariasis endemic areas of eastern Uttar Pradesh. *J Cytol.* 2009;26(1):11–14.
- Hippargi SB, Kittur SK, Yellikar BR. Filariasis of the breast, diagnosed on fine needle aspiration cytology. *J Cytol.* 2007;24:103–104.
- Paniker Jayaram CJ. *Paniker's Textbook of Medical Parasitology*. 6th ed. Jaypee Brothers; 2011:197 Chapter 21, Filarial worms.
- Alkadhi H, Garzoli E. Calcified filariasis of the breast. *N Engl J Med.* 2005;352(2):e2.
- Rosen PP. *Rosen's Breast Pathology*. 2nd ed. Philadelphia: Lippincott Williams and Wilkins; 2001:65–75 Chapter 4, Specific infections.
- Pant I, Singh PN. Filariasis of breast – a report of two cases, an unusual site to be involved. *J Cytol.* 2003;20:206–207.
- Singh Naorem G, Chatterjee Leena. Filariasis of the breast, diagnosed by fine needle aspiration cytology. *Ann Saudi Med.* 2009;29(5):414–415.
- Kaur Rupinder, Phillip Kandathil Joseph, Masih Kanwal, Kapoor Rajeev, Johnny Cecil. Filariasis of the breast mimicking inflammatory carcinoma. *Lab Med.* 2009;40:683–685.