Research Paper

Volume : 5 | Issue : 5 | May 2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 69.48

An Usual Parasite At An Unusual Site : A Case Report of Breast Filariasis

Medical Science

KEYWORDS : Breast filariasis, diagnosis, Fine needle aspiration cytology, Wucheria bancrofti.

Dr. Fatema Topiwala	MA/8, MIG colony , opp Dikhshabhoomi, Laxminagar, Nagpur.
Dr. Sandhya V. Poflee	106,Jaikalpana Apartment, Ramdaspeth, Nagpur 440010.
Dr. Amrapali L.Gaikwad	40, Vishwakarma Nagar road, no.1 Nagpur 27.
Dr. Anuradha V. Shrikhande	Shraddanand Peth, Nagpur

ABSTRACT

Lymphatic filariasis , mainly caused by Wucheria bancrofti, is a major public health problem in tropical and subtropical regions. There are many extranodal sites of filariasis like thyroid, soft tissue, ascitic fluid etc. Breast is one of the unusual sites where this parasite presents as a lump and may mimic malignancy. Demonstration of filarial worm in fine needle aspiration plays a crucial role in the early diagnosis and institution of specific treatment. We report a case of breast lump in 40 years female that on fine needle aspiration cytology (FNAC) revealed gravid filarial worm with inflammatory reaction. The lump resolved on antifilarial treatment. High index of suspicion of parasites should be kept in mind while interpreting FNAC from lumps and nodules at any body site.

Intoduction

Filariasis has been known from antiquity. Lymphatic filariasis is caused by thread like nematodes Wucheria Bancrofti , Brugia Malayi and Brugia Timori. It is found throughout tropics and subtropics with highest prevalence in Asia and Subsaharan Africa. It is estimated that about 600 million people are at risk, residing in 250 districts of 20 states in India. Highly endemic states include Uttar Pradesh, Bihar, Jharkhand, Odisha, Andhra Pradesh, Tamil Nadu, Kerala and Gujarat.(1) A majority of infected individuals are asymptomatic in filarial endemic region. Filariais presents in two forms acute phase with eosinophilia, microfilaremia and raised Ig E levels and chronic phase with lymphedema, lymphadenopathy, hydrocele and elephantiasis. (2) Occult fialariasis is the condition in which classical manifestation as well as blood film for microfilaria are negative but the organisms may be found in the tissues. (1) In such subclinical cases Fine needle aspiration cytology plays a significant role. Breast is one of the unusual sites of occurrence of filariasis and very few cases have been documented in the literature.

Case report

A 40 year old female presented to the outpatient department with a painless lump in her left breast since 2 months. It was gradually increasing in size. On local examination lump was ill defined , of size 2.5cm × 1cm, soft to firm, mobile and nontender. It was in the upper outer quadrant of the breast. It was neither associated with nipple discharge nor with axillary lymphadenopathy. Clinical impression was breast neoplasm and the patient was sent for FNAC.

Fine needle aspiration cytology was performed using 23 gauge needle with 10 cc syringe. Around 2ml of turbid aspirate was obtained. H& E, Pap and MGG stained slides were prepared. The cellular smears from the aspirate showed gravid adult filarial worm with a preserved outer cuticle layer and coiled microfilaria (Fig 1). Numerous microfilaria in coiled and uncoiled forms with rounded anterior end and caudal space posteriorly(Fig 2). This morphology favours the diagnosis of Wucheria bancrofti parasite. There was abundant inflammatory reaction comprising of lymphocytes, histiocytes and polymorphs along with scattered benign ductal epithelial cells(Fig 3) . It was reported as a case of breast filariasis. Patient was advised peripheral smear examination and USG breast. Peripheral smear examination was completely normal and there was no eosinophilia and no parasite was seen. USG breast was also normal. Mammography was also within normal limits.

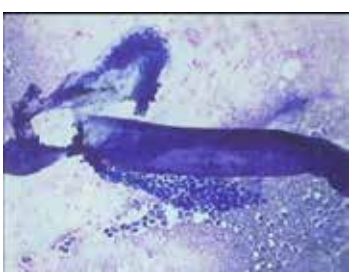

Fig 1.Gravid female worm with coiled microfilaria (MGG 100x).

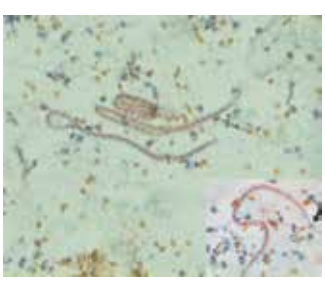

Fig 2. Microfilaria in coiled and uncoiled form (Pap 400x), Microfilaria with rounded anterior end and caudal space posteriorly (inset 1000x)

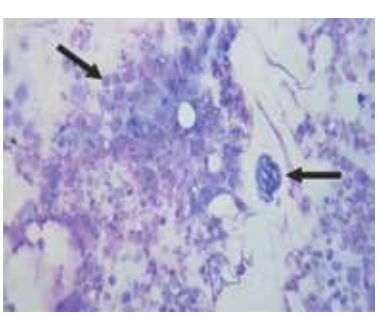

Fig3. Coiled Microfilaria on right with benign breast cells and inflammatory cells on left (MGG 100x)

The patient was prescribed a course of Diethylcarbamazine for 21 days, as per National filariasis control programme guidelines for

the treatment of lymphatic filariasis. The swelling resolved after the treatment.

Discussion

Lymphatic filariasis is mainly caused by Wucheria bancrofti. The adults are whitish , translucent ,thread like with smooth cuticle and tapering ends. Females are larger than the males. They remain coiled together in the abdominal and inguinal lymphatics and testicular tissues for 5-15 years. Humans are the definitive hosts and the intermediate hosts are the female mosquito Culex fatigans. When a vector mosquito feeds on a carrier the microfilaria enters its stomach, exsheathing takes place and they enter the thoracic muscle for maturation. Later in 2 to 3 weeks it develops into infective 3rd stage filariform larvae which enters proboscis and when it bites a person the larvae get deposited and penetrate the skin. It gets deposited in the lymphatics of human and undergoes further maturation.(3)

Literature contains very few reports of microfilaria found in location other than lymph nodes. These locations include thyroid nodule, wrist, skin and soft tissue swelling, spermatic cord, nipple discharge, salivary glands, cervicovaginal smear, ovary, effusion fuilds.(4,5,6,7) Breast is an unusual location of occurrence of filariasis. It is an incidental finding to detect microfilaria in breast lump when clinically not anticipated. There are only few cases of breast filariasis in literature.(8,9,10). Demonstration of parasite in peripheral smear provides a definitive diagnosis. However , in our case peripheral smear examination did not reveal any microfilaria. This finding correlates with the findings of Ahuja et al and Haleem et al.(5,11). Absence of blood eosinophilia was also seen in our case. This finding was also reported by Varghese et al.(12) Microfilaremia in occult form generally shows such presentation.

In case of breast filariasis the pathogenesis is that the larvae enters the lymphatic vessels causing lymphangitis , fibrosis and disruption of lymphatic drainage. Mostly upper outer quadrant is involved but periareolar region can also be involved.(13) In our case upper outer quadrant of breast was involved. On ultrasound live microfilaria shows a distinctive wringling, continuous pattern of movement called as "Filarial Dance".(14). However dead microfilaria undergo calcification and are visualised as microcalcification on mammograph.(14). In our case ultrasound was normal and the mammography did not show microcalcification.

Nowadays in the modern era many new techniques have come up for the detection of filarial parasite. These include filarial antigen detection test against filarial antibodies, Polymerase chain reaction, Flourescent in situ hybridization. Though these tests are specific but they are highly expensive and are available at specialized centers and out of reach of many people. Also they are of use provided there is prior suspicion of tissue filariasis. In the absence of latter, FNAC diagnosis remains the only simple, quick and reliable method of diagnosis.

Conclusion

Fine needle aspiration cytology plays a significant diagnostic role in palpable lesions anywhere over body. High index of suspicion is required to diagnose filariasis especially in the absence of eosinophilia and absence of parasite in peripheral smear. Demonstration and identification of parasite in the smear plays an important role in prompt recognition of the disease and institution of therapy. Patient is spared of unnecessary surgical procedure.

References

1. Sastry A.S., Bhat S. Somatic Nematodes; Essentials of Medical Parasitology. 1st edition. New Delhi:Jaypee Brothers;2014: pp.262-66.
2. Park K. Lymphatic filariasis; Park's textbook of Preventive and Social Medicine.22nd edition. Jabalpur: Banarasidas Bhano; 2013:pp.245-50.
3. Panikar CKJ. Filarial worms; Textbook of Medical Parasitology.5th edition. Noida: Jaypee Brothers; 2004:pp.199-202.
4. Mitra SK, Mishra RK, Verma P: Cytological diagnosis of microfilariae in filariasis endemic areas of eastern Uttar Pradesh. J Cytol; 2009; 26(1): 11-14.
5. Ahuja M, Pruthi SK, Gupta R, Khare P: Unusual presentation of filariasis as an abcess: A case report. J Cytol; 2016; 33(1): 46-48.
6. Jha A, Aryal G, Pant AD, Adhikari RC, Sayami G: Cytological diagnosis of bancroftian filariasis in lesions clinically anticipated as neoplastic. Nepal Med Coll J; 2008; 10(2): 108-114.
7. Khare P, Kala P, Jha A, Chauhan N, Chand P. Incidental diagnosis of filariasis in superficial location by Fnac: A retrospective study of 10 years. J Clin Diagn Res 2014;8: FCO5-8.
8. Thakur M, Lhamo Y. Breast filariasis. J Surg Case Rep. 2014 Jan; 2014(1): rjt128.
9. Kumar P, Bhattacharjee, Prasad R, S Halder. Filariasis of breast: An unusual presentation. Annals of Tropical Medicine and Public Health. 2012; 5(4): pp 376-78.
10. Chakrabarti, Das V, Halder B, Giri A. Adult Filarisis worm in the aspirate from a breast lump mimicking fibroadenosis. Trop Parasitol. 2011 July; 1(2):129-31.
11. Haleem A, Al Juboury M, AL Husseini H.Filariasis: A report of three cases. Ann Saudi Med 2002;22:77-9.
12. Varghese R, Raghuveer CV, Pai MR, Bansal R: Microfilariae in Cytologic Smears A Report of Cases. Acta Cytologica; 1996; 40(2): 299-301.
13. S Gole, V Satyanarayana, G Gole. *Unusual Cytological Findings In Breast Aspirates: Case Studies Of Microfilariae With Review Of Literature*. The Internet Journal of Pathology 2013: 14(1).
14. Amaral F, Dreyer G, Figuerrdo-Silva J, et al: Adult worms detected by ultrasonography in human bancroftian filariasis. Am J Trop Med Hyg; 1994; 50: 753-757.