

IGM Publication

Journal of Medical Science and Clinical Research

Volume||1||Issue||2||Pages112-114||2013

Website: www.jmscr.igmpublication.org ISSN (e): 2347-176X

Microfilariae in Breast Fine Needle Aspiration- an Unusual Finding

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Abstract

Filariasis is a major public health problem particularly in tropical countries like India. The presence of microfilaria using fine needle aspiration cytology has been reported from various sites. However, the presence of filarial worm on breast aspirates has rarely been reported. Here, we report an unusual case in which aspiration cytology revealed presence of numerous microfilariae in breast lump.

Keywords- *Microfilariae, Fine needle aspiration cytology, Breast.*

INTRODUCTION

Filariasis is a global problem. It is a major social and economic scourge in tropics and subtropic of Asia, Africa and parts of Americas [1]. *Wuchereria bancrofti* accounts for more than 90% of cases of world followed by *Brugia malayi* and *Brugia timori* [2]. The adult *W. bancrofti* may produce lesions in various sites by affecting the lymphatics [3]. However, finding worms by fine needle aspiration cytology (FNAC) of breast has rarely been reported. Here, we report a case of 41- year- old lady who presented with tender lump in right breast.

CASE REPORT

A 41-year-old female patient presented in the cytology department with a painful swelling in her right breast of 2 weeks duration. The swelling was insidious in onset and slowly progressive in size. There was no history of cyclical mastalgia and fever. The haemogram revealed a hemoglobin level of 9.8 g/dl with normal total leucocyte count and eosinophilia (12%). On examination, a 1.5x1 cm swelling was present in the upper outer quadrant near the areola of the right breast. The skin over swelling showed dimpling. The swelling was tender, and was firm in consistency with ill-defined margins. There was no axillary lymphadenopathy.

FNAC was performed by a 24G needle fitted to a 10 cc syringe. Thick yellow sticky material admixed with turbid fluid was aspirated. The smears were air dried and stained with May-Grumwald-Giemsa (MGG) stain. The smears were cellular and showed presence of numerous coiled and elongated sheathed microfilariae against a background showing fair number of neutrophils, few eosinophils and cellular debris (Figures 1 and 2). A diagnosis of filariasis of breast was made. The peripheral blood smear examination of the patient was negative for microfilariae. The patient was treated with diethylcarbamazine (DEC) and amoxicillin-clavulanic acid.

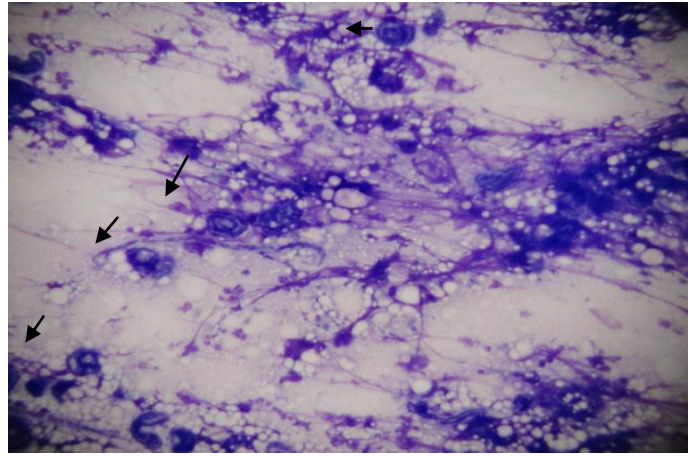


Figure 1: FNAC smear of breast showing microfilariae (arrows) in a background of cellular debris (MGG, X100)

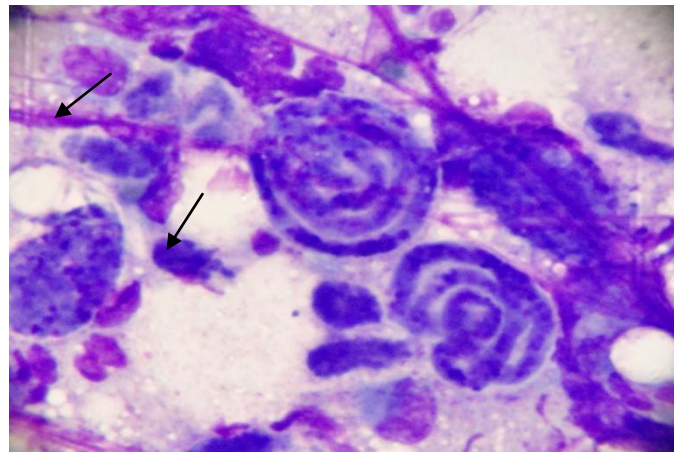


Figure 2: FNAC smear of breast showing sheathed coiled microfilariae (arrows) in a background of neutrophils and cellular debris (MGG, X400)

DISCUSSION

Filariasis dates back to 600 BC when Sushruta recognized the clinical manifestation of elephantiasis and referred it as elephantiasis arabicum [4]. Filariasis is a major health problem and India is also badly hit by it [1].

The infection is transmitted by the *Culex* mosquito and humans are the definitive host [2]. The parasite usually involves lymphatics and produce lesions in various sites like lower limbs, spermatic cord, epididymis, testis, retroperitoneum, and female breast [5]. The most common clinical presentations of lymphatic filariasis are asymptomatic microfilaremia, hydrocele, acute adenolymphangitis and chronic lymphatic disease [6]. The tests used for diagnosis include demonstration of microfilariae in peripheral blood or skin and detection of filarial antigen and antibody [2].

Despite high incidence of filariasis, microfilaria in fine needle aspiration cytology of breast lump is not a common finding. Moreover, female breast is an unusual site for occurrence of filarial nodule and few such cases, especially on FNAC, have been reported [5],[7],[8]. The upper outer quadrant is the most common site but central or periareolar nodules can also occur [9]. Sometimes inflammation may also accompany leading to edema of skin making it clinically indistinguishable from carcinoma [8].

The condition responds well to DEC therapy and therefore, the demonstration of parasite, in aspirate, play a significant role in recognition of disease and institution of specific treatment.

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