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Cytological Diagnosis of Microfilaria in Salivary Gland

Dr.S.Srikanth Asst professor.Dept of Pathology. Prathima Institute of Medical Sciences. Telangana state.India.

ABSTRACT

Filariasis is a major public health problem in tropical countries, including India. The disease is endemic all over India, especially in Uttar Pradesh, Bihar, Jharkhand, Andhra Pradesh, Orissa, Tamil Nadu, Kerala and Gujarat. A majority of infected individuals in filarial endemic communities are asymptomatic. Adult worms live in the lymphatic vessels of the definitive host and microfilaria is released and circulates in the peripheral blood. Cases of microfilaremia have been reported from atypical sites like thyroid, lymph node, pleural and pericardial fluid, breast lump and bone marrow. We here present a case of microfilaria in salivary gland on fine needle aspiration cytology which is an unusual finding.

KEYWORDS Fine needle aspiration acytology,microfilaria,salivary gland

Introduction:

Filariasis is a common public health problem in the South-east Asia. There are approximately 60 million people infected in the region and approximately 31 million people have the clinical manifestation of this disease. Filariasis in India is caused by two closely related nematode worms - W. bancrofti and B. malayi . [1] The disease mainly involves the lymphatic system of the body. The most frequently involved lymphatics are those of lower limbs, retroperitoneal tissues, spermatic cord, epididymis and mammary gland.[2],[3] Although the incidence is high in the Indian sub-continent, yet it is unusual to find microfilaria on Fine Needle Aspiration Cytology (FNAC). There are at least six million attacks of acute filarial disease per year and 45 million persons are currently having one or more chronic filarial lesions .We report an interesting case of microfilaria in salivary gland aspirate which is an unusual finding.

Case report:

A 48 year old male patient presented with right parotid gland swelling since two months. The swelling was firm to cystic with restricted mobility of size 3x3cm.[Figure 1]. There were no other significant complaints. Results of routine blood studies were normal.Clinically it was diagnosed as Pleomorphic adenoma.. The patient was sent for FNAC for the presumptive diagnosis of the mass. Clear fluid was aspirated at first and on second attempt hemorrhagic material was aspirated. Cytological examination revealed moderately cellular smears with epithelial and mesenchymal elements,occasional plasma cells along with microfilaria.[Figure 2&3]. The patient was treated with diethylcarbamazine, which is the drug of choice for the treatment of filariasis for 21 days.

Discussion:

Wuchereria Bancrofti and Brugia malayi that are responsible for 90% and 10% cases, respectively, of the 90 million infections worldwide. Adult worms live in the lymphatic vessels of the definitive host and microfilaria is released and circulated in the peripheral blood. Filariasis causes a spectrum of diseases including asymptomatic microfilaremia, acute lymphangitis and lymphadenitis, chronic lymphadenitis, edema of limbs and genitalia and tropical pulmonary eosinophilia. [4]

Wuchereria bancrofti presenting as a salivary gland swelling is a very rare presentation. Microfilariae have been identified cytologically at unusual sites such as thyroid, soft tissue, bone marrow, epididymis, lung, broncho-alveolar fluid, breast, gastric brushing, cervico-vaginal smears. and hydrocele fluid [5] They have also been reported in association with various benign and malignant tumors such as hemangioma of liver, meningioma, intracranial hemangioblastoma, squamous cell, and undifferentiated carcinoma of the uterine cervix, pharyngeal carcinoma, lymphangiosarcoma, urinary bladder carcinoma, prepucial carcinoma, metastatic carcinoma, melanoma. and leukemia. [6]Despite the large number of people at riskand wide variety of tissues affected, it is unusual to find microfilariae in FNAC smears.

Individuals having circulating microfilariae are outwardly healthy but have the ability to transmit the infection to others through mosquito bites . Those with chronic filarial infection suffer severely from the disease but no longer transmit the infection.

Diagnosis of filarial infection is frequently made on clinical grounds in endemic areas, but demonstration of microfilariae in circulating blood is the only means by which one can make definitive diagnosis. [7]

In the present case patient did not have any signs and symptoms of filarial infection, and the disease was not clinically suspected. FNAC of the parotid swelling was done in aseptic conditions, by 23 gauge needle attached to 10ml disposable syringe. Slides were air dried, fixed, with ether alcohol and stained by hematoxylin and eosin and Giemsa.

The life cycle of Wuchereria bancrofti is found in two hosts. Man is definitive host and mosquito is an intermediate host. Adult worm resides in lymph node where the gravid female release a large numbers of microfilariae. These larvae pass through the thoracic duct and pulmonary capillaries to the peripheral circulation .

Subsequent examination of night blood smear from patient failed to demonstrate microfilariae which is in accordance with the reports by other authors thus suggesting that filaria can exist without microfilaremia. Majority of cases in endemic regions neither show microfilariae in blood, nor any symptom.

The main purpose of this case report is to raise the awareness that in tropical countries like India where filariasis is endemic , it should always be considered as a differential diagnosis of swelling at any site . Our presentation revealed that microfilaria may even be present at rare site like parotid swelling. Careful examination of cytological smears is very important in prompt recognition of the disease and institution of specific treatment especially in unsuspected and asymptomatic cases. FNAC is extremely useful in identifying filarial infection at uncommon sites like parotid.

REFERENCES

1. Park K. Park's Textbook of Preventive and Social Medicine. 18 th ed. Jabalpur; p. 211-6. | 2. Sodhani P, Nayar M. Microfilariae in a thyroid aspirate smear: An incidental finding. Acta cytol 1989;33:942-3. | 3. Yenkeshwar PN, Kumbhalkar DT, Bobhate SK. Microfilariae in fine needle aspirate: A report of 22 cases. Indian J Pathol Microbiol 2006;49:365-9. | 4. Mcadam AJ, Sharpe HA. Infectious diseases. Robbins and Cotran Pathologic Basis of Disease. In : Kumar V, Abbas AK, Fausto N, editors. 7 th ed. Philadelphia. | 5. Shamshad Ahmad S, Jaseem Hassan M, Akhtar K, Arif SH, Naim M, Rahman K. Microfilariae in Testicular Fine Needle Aspiration Biopsy. JK Sci 2008;10:199-200. | 6.Gupta S, Sodhani P, Jain S, Kumar N. Microfilariae in association with neoplastic lesions. |