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MICROFILARIA IN A ROUTINE PAP SMEAR.

Pathology

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KEYWORDS

Filariasis is endemic in India and accounts for about 40% of the total global disease burden - in 2000 over 120 million people were infected by filariasis and about 40 million were disfigured and incapacitated due to lymphatic obstruction and lymphedema.[1] In India, Uttar Pradesh, Bihar, Orissa, Jharkhand, Gujarat, Andhra Pradesh, Tamil Nadu, and Kerala are mainly affected.[2]

We report a case of 24 years old female who came for a routine annual health check with no specific complaints. All routine investigations were within normal limits, including complete blood counts. There was no evidence of eosinophilia or microfilaremia - the general condition of the patient was good and the vitals were stable. The Papanicolaou stained cervical smear done as a part of a routine investigation showed mild inflammation and a microfilariae worm [Figure1]. The patient was started on diethylcarbamazine citrate and she lost follow up.

Filariasis is caused by a parasite classified as a nematode, family filarioidea. Eight species of filarial worm can infect humans. Five of them are responsible for severe filarial infection (1) W. bancrofti, (2) Brugia Malayi, (3) Brugia timori (4) Onchocerca volvulus, and (5) Loa loa. The first three cause lymphatic filariasis and the other two cause non lymphatic filariasis. Wuchereria Bancrofti is responsible for 90% of lymphatic cases. [1&2]

Filarial worm is - transmitted through Culex, Anopheles and Aedes mosquitoes. The larval form is the infective form that is inoculated into the body by the mosquito bite. The inoculated larval form develops into an adult form in the lymph nodes. The adult form then enters the circulation and gets lodged in various organs and is the infective form for the mosquitoes.[1&2]

Parasite in cervicovaginal smears is very rare, The vaginal parasitosis was reported as early as in 1987 in an article by Mali et al, who reported 6 cases of Enterobious vemilcularis, 1 case of Ascaris lumbricoides, and 3 cases of microfilaria in cervicovaginal smears.[3] Other parasite reported in cervicovaginal smear also include strongyloides stercoralis.[4]

In routine practice microfilaria are identified on the peripheral blood smear. Morphologic criteria for identifying microfilaria include the length and width of the microfilaria, presence or absence of a sheath, and arrangement of nuclei in the tail. Microfilariae can be divided into two groups based on size, the large species which include W. bancrofti, L. loa, and Brugia species and the smaller species, include Mansonella. The larger species are as wide as or wider than a normal red blood cell, that is 6 to 8 microns, while the width of the small species is half the diameter of a normal red blood cell. W. bancrofti, Brugia species, and L. loa may possess a sheath, while Mansonella species do not posses a sheath and lastly based on nuclear column at the tail end. Short head space and anucleate tail is Wucheraria bancrofti, short head space with nucleated tail is Loa loa and long head space with nucleated tail are Brugia species.[5]

Other methods of detecting filariasis include, provocation test with diethylcar-bamazine drug, skin tests with filarial antigens, serological detection of filarial antigen, and antibody tests which include ELISA, IHA and Immunochromatographic test.[6]

Microfilaria is more common in the male genital tract as compared to the female genital tract. Rare cases of microfilariae are reported in female genital tract few presenting as ovarian masses or in the cervico vaginal smears. The finding of microfilaria in cytological specimens is uncommon. But aspirates from various organs like breast, eyeball, sputum, bronchial washings thyroid, skin & soft tissue swelling, epididymis, breast, salivary gland, ovarian cyst, urine, lymph node, endometrial smear, nipple secretion, hydrocele fluid, lung, bronchial washings, bronchial brushings, bone marrow aspirate, brain aspirates and effusions have reported microfilaria. They have appreciated both adult worms & ova in the aspirates.[7&8]

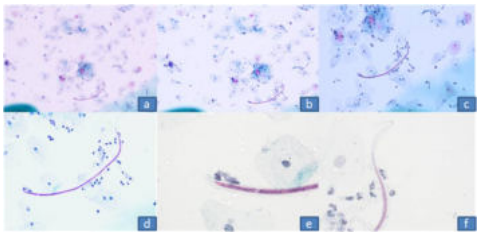

Figure -1 .

Detection of adult worms, eggs, and larva at unusual sites, emphasizes that filariasis can be seen in cytology specimens, including the cervico vaginal smears. In the endemic regions microfilariae has to be differentiated from other parasite larval and adult forms.

Early diagnosis of filarial worm in cervicovaginal smears may help in timely diagnosis which can prevent complications of chronic lymphatic obstruction and disfigurement.

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