

Ropy and capilliform-microfilaria lymphadenitis

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Opinion

Filariasis emerges as an infection occurring due to a threadlike nematode *Wuchereria bancrofti* belonging to family Filarioidea. Filarial infection may induce lymphedema of extremities or elephantiasis, a genital disorder with configuration of hydrocele, chylocele or swelling of scrotum and penis. Additionally, repetitive and reoccurring, painful, acute disease episodes may concur. Microfilaria infection is a significant health concern within Asian countries as India, China, Indonesia, Africa or Far East.^{1,2} An estimated ~90% lesions occur due to infection with parasite *Wuchereria bancrofti*. Adult worms appear impregnated within the lymphatic system where female worms release larvae or microfilaria, configuring a periodic circulation within the blood. Occasionally, the larvae are ingested by breeding mosquitoes.^{1,2}

Microfilaria mature within host mosquitoes which appear infective and disseminate the microfilaria into diverse humans during mosquito feeding.^{2,3} Filariasis may represent with a spectrum of disease emerging as asymptomatic microfilaremia, acute or chronic lymphangitis and lymphadenitis, disfiguring oedema of extremities and genitalia or tropical pulmonary eosinophilia.^{2,3} Clinically, humans emerge as exclusive host of infection with *Wuchereria bancrofti*. Infected individuals are preponderantly asymptomatic and configure as a potential source of repetitive or future infection. Infected individuals demonstrate subclinical injury to lymphatic system whereas ~40% subjects expound renal injury with proteinuria and haematuria.^{2,3}

Upon cytological assessment, microfilariae may be encountered within unusual sites as nipple secretion, pleural and pericardial fluid, fluid from ovarian cyst, bronchoalveolar fluid, gastric brushings, cervico-vaginal smears, hydrocele fluid, lymph node, breast, thyroid, soft tissue, bone marrow, epididymis or pulmonary parenchyma. Microfilaria is may concur with several benign and malignant neoplasms or occasionally with malignant tumours of breast.^{3,4} Upon microscopy, the organism *Wuchereria bancrofti* delineates a sheath surrounding multiple, coarse, discrete nuclei emerging from head to tail excluding a miniature terminal segment of caudal extremity. Associated lymphadenopathy demonstrates distended sub-capsular spaces impregnated with a parasitic organism recapitulating an adult filarial worm. Upon sectioning, tail-piece is pervaded with microfilaments. Extraneous eosinophilic cuticle with subjacent hypodermis and nuclei configured of developing morules are discerned.^{4,5}

Adjacent soft tissue may expound distended lymphatic channels within which male worms or female worms with gravid uterus imbued with coiled microfilariae are discernible. Infiltration of inflammatory cells within circumscribing soft tissue is minimal. Tissue eosinophilia appears absent.^{4,5} Filariasis requires distinction from acute post-streptococcal glomerulonephritis, allergic bronchopulmonary aspergillosis, bacterial lymphangitis, cutaneous larva migrans, lymphatic system injury secondary to surgical intervention or radiation, zoonotic diseases occurring due to infection with *Dipetalonema*, *Loainia*, *Meningonema*, *Strongyloides* infection

as with strongyloidiasis or *Gnathostoma* as with gnathostomiasis, idiopathic hypereosinophilic syndrome, leprosy, lymphoma, non-filarial hydrocele, pelvic malignancies, podoconiosis, primary lymphedema, recurrent cellulitis, systemic vasculitis, tuberculosis or testicular malignancy.^{7,8}

Characteristically, filarial infection may be appropriately ascertained by identifying microfilariae within peripheral blood smears. Exceptionally, microfilariae may be incidentally discovered with smears obtained with fine needle aspiration cytology adopted for detection of diverse, concordant inflammatory or neoplastic lesions.^{8,9} Filarial infection may be suitably managed with administration of various anti parasitic agents as albendazole or ivermectin. Preventive measures as control of mosquitos appears beneficial Figure 1,2, Table 1,2.^{10,11}

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None.

Conflicts of interest

None.

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