ORIGINAL RESEARCH PAPER

General Surgery

FILARIAL HEMATURIA MASQUERADING AS THE BLADDER TUMOR: A RARE CASE REPORT

KEY WORDS: Gross haematuria, Microfilariae, W. bancrofti .

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ABSTRACT

A diagnosis of filarial hematuria without features of lymphatic filariasis can be difficult to make due to the absence of microfilaria in the urine in the majority of cases. This is even more difficult when the patient presents with gross or microscopic hematuria without chyluria. Apart from endemic areas such as India, filariasis does occur in different parts of the world. We report a rare case of gross painless hematuria in a 58 yrs old patient with the presence of *Wuchereria bancrofti* microfilariae in the urine.

INTRODUCTION:

Filariasis is a disabling parasitic disease and it constitutes as a major health problem in most of the tropical and sub-tropical countries. Wuchereria bancrofti, Brugia malayi and Brugia timori are the three most common species that causes the filariasis; in India, W. bancrofti is the most common cause.[1,2,3,4] The laboratory diagnosis of filariasis is conventionally made by demonstrating microfilaria in peripheral blood smear. Microfilariae (Mf) have been described in aspiration cytological smears from various sites and body fluids;[2,3,4,5] however its presence in urine smear in a case of hematuria is exceptionally rare.(6,7,8,9) Here, we are reporting, such a case of microfilariae of Wuchereria bancrofti in the urine of a 58–year old patient who presented with painless gross hematuria mimicking the bladder tumur.

CASE REPORT;-

A 58-year-old chronic tobacco chewer nonsmoker male patient presented to the surgery Outpatients Department with complaints of painless gross hematuria for 4 days. There was no history of fever, burning micturition, increased frequency of micturition, dysuria, renal or ureteric colic, jaundice, trauma, instrumentation or passage of milky white urine. The general physical examination did not reveal any abnormality. Local examination, including genitalia, did not reveal any abnormality. Initial routine hemogram and peripheral smear (PS) examination was within normal limits. Urine sample was sent for examination especially for malignant cells. Grossly, urine was redish in colour, in dipstick test done for urine chemistry was strongly positive for blood (four plus) and it was negative for urinary protein and sugar. For cytological evaluation of urine, Hematoxylin & Eosin and Giemsa stained cytospin smears were examined. Sheathed microfilariae, few degenerated urothelial cells, lymphocytes along with full of red blood cells were seen in the background [Fig-1]. No atypical cells (malignant cells) were seen. Under high power, microfilariae showed a sac like hyaline sheath which was present throughout the length, a cephalic space, central axis of nuclei, with tail tip free from nuclei and pointed terminal end. Subsequent to the cytological diagnosis, midnight blood smear of patient was evaluated, which also demonstrated microfilariae of W. bancrofti. X-ray KUB, and USG Abdomen are normal/does not detect any pathology .Thus, a diagnosis of microfilaraemia with microfilaruria of W. bancrofti was made. A course of Diethylcarbamazine (DEC) was given to the patient for three weeks, following which he became asymptomatic. The patient is in follow up.

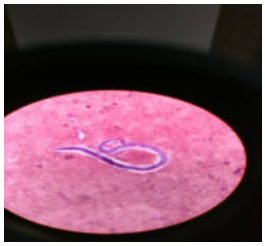

FIG-1

DISCUSSION

Lymphatic filariasis is a mosquito-borne parasitic disease occurring in tropical and subtropical areas and is widespread in India. Of the 128 million infected individuals worldwide, India accounts for 48 million. The heavily infected areas in India are Uttar Pradesh, Bihar, Jharkhand, Andhra Pradesh, Orissa, Tamil Nadu, Kerala, and Gujarat. The majority of cases of filariasis are caused by *W. Bancrofti*.[10,11]

The acute features of lymphatic filariasis consist of systemic reactions, lymphangitis, and adenitis. The pathogenesis of chronic filariasis involves obstruction of lymphatic vessels by adult worms caused by the host and parasite-induced inflammatory processes. The chronic features include hydrocoele, lymphatic varices, and elephantiasis.[12]

Filariasis can have varied manifestations, but tropical pulmonary eosinophilia and chyluria are unusual manifestations reported mainly from South Asian countries.[13] The diagnosis of extralymphatic filariasis is difficult because of the nonspecific presentations. Extralymphatic filariasis is caused by microfilaria in contrast to the adult form of lymphatic filariasis. The undefined parasite stages or immune complexes are responsible for the heterogeneous pathogenesis and clinical manifestations. The renal involvement in filariasis includes glomerulonephritis, hematuria, and proteinuria and is associated mainly with microfilaremia.[14] Chyluria is one of the late manifestations of filariasis and has been reported to occur 1 month to 54 years (average 20 years) after the acute filarial infestation.[15] Chyluria occurs because of rupture of lymph vessels as a result of retrograde lymphatic hypertension and dilatation in the urinary tract. It is usually associated with abnormal retrograde or collateral flow of lymph from intestinal lymphatics into the lymphatics of the kidney, ureter, or bladder. Chyluria occurs only in 2% of filarial afflicted patients in the filarial belt.[13]

Gross hematuria may occur in patients with filarial chyluria which may be associated with findings such as ulceration, congestion, and granulomatous reaction.[12,16] Hematuria can occur without being associated with chyluria.[5,6,7,8,9] However, a careful history taking may elicit chyluria in the past.

The mechanism of hematuria in lymphatic filariasis is unclear. It may be related to presumed venolymphatic fistulae and increased pressure in the lymphatic vessels.[9] Only a few reports of gross chylohematuria due to filariasis have been reported in literature, and in most cases, microfilariae were detected only in peripheral blood smears rather than in the urine.[9,12,16,17] Microfilaria positivity in urine has been reported to vary from 40% to 75%. Detection of microfilaria in the urine of patients with hematuria but without chyluria is rare.[5,14,18] The diagnosis depends mainly on a careful history, a high index of suspicion, a careful physical examination to look for lymphadenopathy, lymphangitis, and swelling of the extremities.[12]

Diagnostic investigations for chylohematuria include: (i) urine examination for chylomicrons, triglycerides, fat cells, and/or RBCs, (ii) ultrasound and CT scan of the thorax, abdomen, and pelvis to look for lymphovascular dilatation, structural abnormalities of the urogenital system, and exclusion of nonfilarial causes, (iii) cystoscopy to look for chylous reflux and the site of the lesion, (iv) intravenous urography for renal abnormalities and pyelolymphatic leaks, (v) lymphoscintigraphy to detect lymphovarix and leaks, (vi) microbiological tests including urine routine microscopy, Gram stain, ZN stain, Giemsa stain, culture and sensitivity to identify the microfilaria and to exclude other infective causes,[7,12] and (vii) immunology in the form of IgG4 enzyme-linked immunosorbent assay (ELISA) with urine samples, complement activating filarial Ag-containing immune complexes by ELISA, Ag-specific immune complex detection in the urine, and circulating immune complex Ag assay.[19,20]

Among all these investigations, the intravenous urogram, lymphoscintigraphy, and immunological investigations appear to be much less important than the rest, especially in developing countries.[21]

The management of these patients involves dietary manipulations, drug therapy, bed rest, and use of abdominal binders, which is believed to prevent the lymph urinary reflux by increasing intra-abdominal pressure. A diet exclusive of all fats except medium chain triglycerides, which enter the circulation through the portal system bypassing the thoracic duct, is recommended.[22] Ivermectin and DEC are the most widely used antifilarial drugs. However, their macrofilaricidal activity is uncertain and may be enhanced by combination with antibiotics (e.g., tetracyclines). The duration of drug therapy varies. One of the recommendations includes a 2-week course of DEC with a single dose of ivermectin (200 □g/kg)[6] or a 3-week course of DEC only. DEC also has disrepute of aggravating hematuria and chyluria in some instances. However, this problem is transient and subsides during the course of treatment.[23]
Chyluria and hematuria can be precipitated by associated conditions, the treatment of which can result in relief of chyluria and hematuria.[24] Improving the socioeconomic conditions is also advocated for a better long-term outcome.[23]

The surgical management of intractable chyluria/hematuria includes endoscopic fistulization, endoscopic coagulation, cystoscopic silver nitrate instillation, retroperitoneal pyelolymphatic disconnections, and lymphovenus shunts. [21,25,26,27,28]

No deaths owing to chyluria alone have been recorded. Spontaneous remission in half of the cases, most often within 6 months, has been noted. Recurrence of hematuria following drug therapy has been successfully treated by a repeat course of drug therapy. The maximum disease-free follow-up reported is up to 2 years in medically treated patients and 7 years in surgically treated patients.

CONCLUSION

Gross hematuria is a common manifestation of bladder tumour in old age (>50yrs) smoker patient. But gross Hematuria is an unusual manifestation of Bancroftian filariasis and hematuria alone is rare. The finding of microfilaria in the urine can clinch the diagnosis but it is a rare finding. Awareness among physicians, correct diagnosis, and appropriate drug therapy can lead to successful management of the condition and provide dramatic relief to the patient.

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