International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

A Rare Case of Isolated Testicular Filariasis Mimicking Intra-Testicular Neoplasm

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Abstract: ***Isolated testicular filariasis is extremely rare, with only a handful of cases reported in medical literature. The exact mechanism of testicular involvement remains unclear, although hypotheses suggest hematogenous spread or direct extension from nearby lymphatic structures. Clinical presentation often mimics testicular tumors, manifesting as painless testicular enlargement or palpable masses. Imaging modalities such as ultrasound may initially suggest malignancy, necessitating histopathological examination for definitive diagnosis. Management typically involves surgical excision of affected testicular tissue, aiming to relieve symptoms and prevent complications. In endemic regions, a high index of suspicion for filariasis should be maintained, especially when encountering unusual presentations of testicular pathology. Awareness among clinicians and pathologists is crucial for timely diagnosis and appropriate management of this rare manifestation of filariasis.***

Keywords: LF- lymphatic filariasis, DEC- Diethylcarbamazine

1. Introduction

Lymphatic filariasis (LF) is caused by infection of parasites classified as nematodes of the *Filarioidea* family. There are three types of filarial worms causing lymphatic filariasis: *Wuchereria bancrofti*, which accounts for over 90% of the global burden, *Brugia malayi* and *Brugia timori*. Its distribution extends from Latin America, across central Africa, Southern Asia and into the Pacific Islands.[1] Men usually suffer from urogenital manifestations of genital filariasis (GF), presenting testicular hydrocele, lymph scrotum and dilation of the scrotal lymphatic vessels. *Wuchereria bancrofti* is the only lymphatic filarial parasite that specifically induces genital diseases.[2]

While hydrocele with an associated epididymo-orchitis is the most common presentation of GF, the discovery of an adult worm in the testicular tunics is extremely rare in non-endemic areas. [3] Any firm or solid intratesticular mass on examination and/or any hypoechoic area within the tunica albuginea on imaging is markedly suspicious for testicular cancer. Filarial involvement of the testicular tunic has not been reported.

2. Case Report

29 year male, presented with complaints of left testicular nagging pain and swelling since 1 week. No history of fever, swelling of lower limb, loss of appetite, loss of weight or cough with expectoration. On self-evaluation patient felt a hard lump on left testicle which was painless without any local rise of temperature or any thickening or nodularity of epididymis or cords.

Ultrasound scrotum was done showed an oval solid hypoechoic mass seen in left testis inferiorly measuring 16.1 x 12.5 mm with micro and macro calcification and increased vascularity suggestive of left intra-testicular tumor with mild left hydrocele.

Figure 1: Ultrasound of left testis showing mass with calcification with normal cord and epididymis

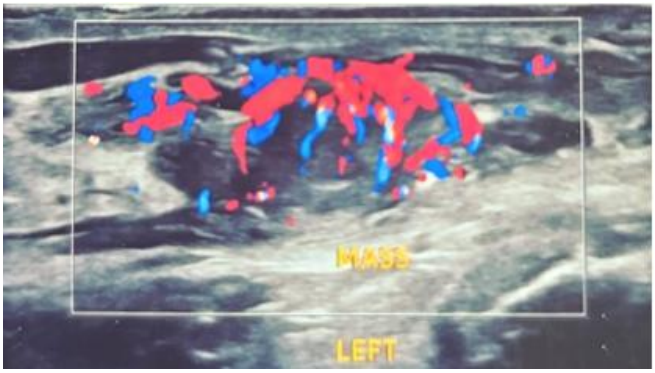

Figure 2: Ultrasound imaging showing increased vascularity in the intra-testicular mass

Tumor markers like beta HCG, AFP, LDH were within normal limits. Routine blood reports like complete blood counts, renal function test, liver function test, serology were normal except for raised ESR levels (40 mm in 1st hour). Mantoux test done was negative. Contrast computed

tomography of abdomen, pelvis and chest done and findings similar to ultrasound noted without any lymph nodal metastasis or foci of tuberculosis.

Patient underwent left high orchidectomy under spinal anesthesia uneventfully and specimen was sent for histopathological examination. Cut section of left testis showed a well circumscribed grey white area measuring 2 x 1.5 cm in para-testicular area abutting the capsule of testis. Cords and epididymis were unremarkable. Histopathological examination revealed circumscribed chronic inflammation lesion with foci of suppuration, abundant eosinophils, granulomas, foci of calcification and part of parasite suggestive of parasitic granuloma most likely filarial in etiology.

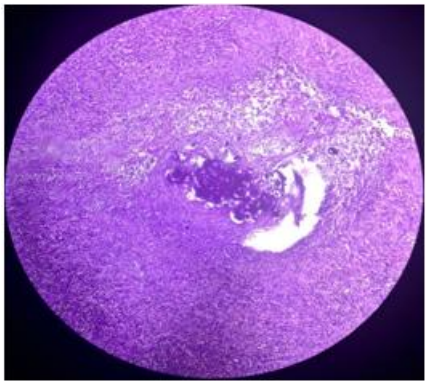

Figure 3: low power microscopic view of parasitic granuloma

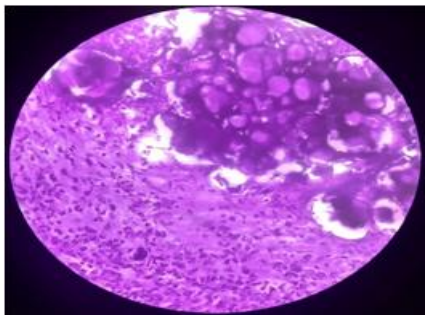

Figure 4: High Power microscopic view of parasitic granuloma

On postoperative follow-up patient was started on Diethylcarbamazine (DEC) 100 mg thrice daily for 3 weeks and Doxycycline 100 mg twice daily for 2 weeks. Patient symptomatically better and is under follow up.

3. Discussion

The disease may be manifested in the genitourinary organs in an acute (lymphangitis, epididymitis, orchitis, abscess) or chronic form (elephantiasis, hydrocele, calcifications of tunica vaginalis). The acute phase may appear in a milder form with only moderate pain in the genital area, with no systemic symptoms and only slight inflammation of the cord and epididymis. The chronic phase is the result of permanent obstruction of lymphatic vessels resulting in a hydrocele of the tunica vaginalis. GF lesions occur in the stage of early established filarial infection. After migration outside the bloodstream, microfilariae may produce granulomas that contain an abundance of eosinophilic cells, macrophages, occasional giant cells and zones of necrosis of a variable extent. Clinically, it presents as a tender, well-circumscribed, firm nodule close to the epididymis.[1]

Ultrasound is an ideal non-invasive tool to detect adult worms residing in the scrotal lymphatic vessels. The “filarial dance sign” caused by undulating movements of adult worms during scrotal US may be diagnostic but it may also be absent, as in our case. The role of FNA is questionable even though it is used for differential diagnosis in countries where the prevalence of genital tuberculosis and filariasis is high, whereas in non-endemic areas it is not advisable for the risk of disease dissemination when malignancy may be suspected.[3]

There is no consensus on management methods for the different urogenital manifestations. Doxycycline treatment can serve as an effective treatment to halt or ameliorate lower stages of GF and diethylcarbamazine citrate is thought to be the anthelmintic treatment of choice for lymphatic filariasis. [4]

The diseases often lead to orchidectomy as it clinically simulates malignancy. Testicular neoplasms clinically mimic filariasis and tuberculosis. Histopathological examination is required to exclude all possibilities. Microscopic examination of tuberculosis of testis shows structure of testis with granulomas consisting of caseous necrosis surrounded by epithelioid cells, lymphocytes and langhans giant cells. [5]

4. Conclusion

While it is generally regarded that any testicular swelling, especially in a young person, should be treated as a malignancy unless proven otherwise, it is important to remember that infectious diseases such as filariasis and tuberculosis may mimic neoplasms. In conclusion, isolated testicular filariasis presenting as a testicular neoplasm is an exceptional diagnostic challenge requiring careful clinical evaluation and histopathological confirmation.

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