ISOLATED TESTICULAR TUBERCULOSIS: A DUBIOUS FACADE

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ABSTRACT

BACKGROUND

Isolated testicular tuberculosis is a bizarre entity and it can present with atypical clinical features and its radiological signs remain elusive. Owing to its unusual occurrence and presentation, it can be confused with testicular tumour as has been presented in this case of a 54-year-old male patient who presented with absolutely no clinical symptoms other than a painless progressive left scrotal swelling.

KEYWORDS

Testicular Tuberculosis, Caseous Necrosis, Testicular Tumour.

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INTRODUCTION

Genitourinary tuberculosis accounts for 30% of extrapulmonary tuberculosis with testis being rarely involved; a result of extension from infected epididymis which clinically masquerades a testicular tumour.[1,2] Formation of tubercles occurs within the seminiferous tubules and connective tissue of the testis, leading to caseous necrosis and fibrosis.[1]

CASE REPORT

A 54-year-old male came with complaints of painless, progressive swelling in left scrotum since past 6 months. There was no history of trauma, discharge from the swelling, fever, cough with expectoration, loss of weight. There was no history of burning urination or infertility. He was a known Diabetic on regular medication. He had no other co-morbidities nor was he a smoker/alcoholic. There was no history of chronic drug intake/previous surgery. Examination revealed swelling in left scrotum, not warm, not tender and hard in consistency with left testis not separately palpable, not transluminant and can get above the swelling. Skin over the swelling normal with no regional lymphadenopathy. A clinical diagnosis of hydrocele with suspicious left testicular tumour was made.

Ultrasonogram Scrotum: Left testis showing variable echogenicity, left > right hydrocele and prostatomegaly.

Computed Tomography (CT) Abdomen: Simple cyst in segment VIII of liver. No inguinal lymphadenopathy.

Magnetic Resonance Imaging (MRI) Pelvis: Hypointense lesion in left testis measuring 1.4x1.5x1.3 cm within posteromedial aspect of left testis – likely neoplastic lesion, bilateral hydrocele.

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Chest X-Ray
Normal.

Serum Alpha-Fetoprotein (AFP)
2.85 ng/mL (Normal <10 ng/mL)

Serum Beta-HCG
<0.1 mIU/mL (Normal: 0-5 mIU/mL)

Serum LDH
177 U/L (Normal: 140-280 U/L)

Total Count
7,500 cells/cu.mm (Normal: 4000-11000 cells/cu.mm)

A diagnosis of testicular tumour was made and patient was planned high orchidectomy under ASA Physical Status Grade-II. Left testis with cord sent for histopathological examination (Figure 1).

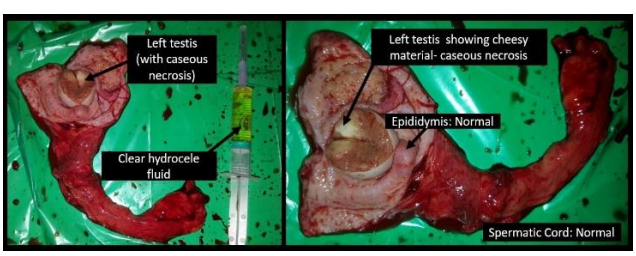

Fig. 1: Cut Section of Left Testis shows Unifocal Relatively Circumscribed Gray-White Homogeneous Nodular Lesion with Cheesy White Soft Areas (Caseous Necrosis) and Clear Hydrocele Fluid. The Epididymis and Rest of the Cord are Normal.

On gross examination of cut specimen testicular tuberculosis was suspected, hence sputum for Acid Fast Bacilli (AFB) and Serum Adenosine Deaminase (ADA) was sent while the histopathology report was awaited.

Sputum AFB
Negative.

Serum ADA
8.2 U/L (ADA value >100 U/L is highly suggestive of tuberculosis).

Hydrocele Fluid Cytology
Negative for malignant cells.

Histopathology Report
Testicular parenchyma is mostly replaced by caseous necrosis and well-defined and confluent epithelioid granulomas admixed with foamy macrophages and occasional Langhans type giant cells. Adjacent testicular parenchyma shows features of atrophy.

Epididymis, rete testis, spermatic cord and tunica vaginalis are free of tuberculous involvement (Figure 2).

Histochemistry
Acid fast staining showed occasional bacilli. Fite Faraco and PAS were negative.

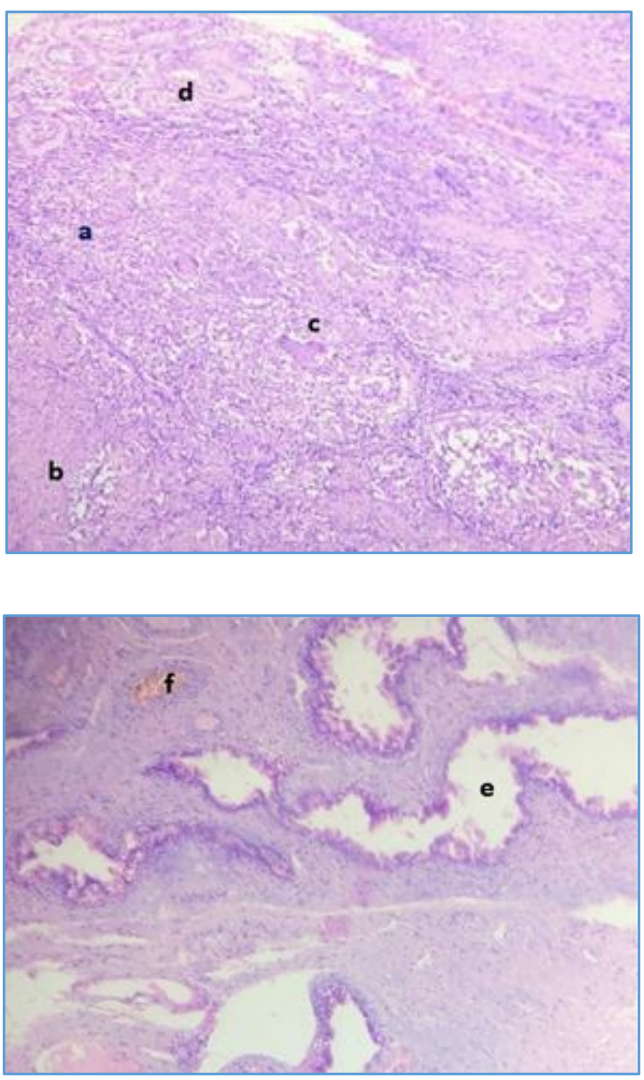

Fig. 2: Section from Testis shows Epithelioid Granulomas (a) with Caseous Necrosis (b) and Langhans Giant Cells (c). Top Left Corner shows Atrophied Seminiferous Tubules (d); Section from Epididymis shows Unremarkable Histological Features, Absence of Tuberculous Focus in Epididymal Ducts (e) and Blood Vessels (f). H&E, x40

Patient was started on Anti-Tubercular Therapy (ATT) and discharged.

DISCUSSION

The incidence of isolated genitourinary tuberculosis is very rare 4% and solitary involvement of testis without epididymis involvement is almost negligible ~1.6% among genitourinary tuberculosis, as infection of testis occurs due to local invasion of epididymis, retrograde spread from epididymis and rarely haematogenous route.[3,4,5,6,7] Testicular tuberculosis usually affects ages from 30-50 years, but it creates a diagnostic impasse when it presents as a painless, diffuse testicular swelling in absence of fever, burning urination or infertility and clinical examination revealing non-tender indurated testis thus mimicking a testicular neoplasm.[5,6,7,8] Testicular neoplasms are hypoechoic on Ultrasonogram and show hypointense enhancement on T1W MRI images.[5] As the findings of Ultrasonogram are non-significant and the rarity in incidence of isolated testicular tuberculosis; any testicular swelling presenting with atypical features should be treated as testicular tumour (with orchidectomy) unless proven otherwise.[5] Histopathology confirms the diagnosis of testicular tuberculosis by presence of granulomas consisting of caseous necrosis, plasma cell infiltration, epithelioid cells, Langhans Giant cells and ATT should be started.[8]

CONCLUSION

The case presented here puts the surgeon in diagnostic and therapeutic perplexity due to, 1) Painless diffuse swelling without other features of any bacterial infection, 2) Ultrasonogram being non-specific and MRI pelvis showing features of testicular neoplasm, 3) Chest X-ray being completely normal, 4) Sputum AFB and serum ADA were normal. This dubious facade shows the misfortune of such patients who have to face the tribulation of having to undergo an orchidectomy, and isolated tuberculosis of testis being an incongruent entity needs a thorough research for its early and prompt diagnosis in the near future.

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