Case Series of Testicular Tuberculosis in Calabar, South- South Nigeria

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Abstract

Introduction: Bilateral testicular tuberculosis should be considered as an important differential of testicular swelling and scrotal ulcer in a country like Nigeria with high burden of tuberculosis infection.

Case Reports: Here we present three cases of negroid male ranging in age from 39 years to 70 years who had orchidectomy on account of testicular malignancy that turn out to be genital tuberculosis which was diagnosed histologically.

Conclusion: Private medical practitioner in low income countries and in region of high tuberculosis burden should always have a high index of suspicions for tuberculosis in patients presenting with scrotal ulcers or testicular swelling that fails to respond to antibiotics therapy. Adequate evaluation of patients with testicular swelling and ulcer by means of abdominal and scrotal ultrasound, bacteriological studies and PCR is critical to diagnostic accuracy, optimal treatment and possibility of avoiding surgery in those with testicular tuberculosis and guiding against litigation.

Keywords: *Bilateral Tuberculosis, Scrotal Ulcer, Orchiectomy, Histopathology.*

Introduction

Testicular tuberculosis (TB) is a rare form of genitourinary tuberculosis.[1] Genitourinary tuberculosis represents a form of extra-pulmonary tuberculosis that occurs in the kidneys, ureters, seminal vesicles, prostate, testis, vas deferens, and epididymis.[2] WHO reported 10.4 million new tuberculosis cases and 0.25 million deaths were attributed to TB globally in 2015.[3] According to the world health organization, Nigeria is one of the countries with a high burden of tuberculosis worldwide.[3] In 2016, the prevalence rate of TB among HIV-negative people was 27% in Nigeria.[3] Incidence rate was 158 per 10000 people, while the total number of TB mortality was 39,933 deaths in 2016.[4] Disseminated tuberculosis is frequently being reported in Calabar and being frequently reported in sites such as the cervical lymph node.[5] Tuberculosis of the testis may present as painful or painless testicular swelling with or without scrotal ulceration or discharging sinus.[6] The incidence of male genital tuberculosis is not high, but diagnosis is difficult.[7] Sometimes it is impossible to differentiate TB epididymoorchitis from testicular malignancy because genital TB has no pathognomonic signs.[7]

Isolated epididymo-orchitis can also mimic testicular cancer.[6] Patient presenting with a scrotal ulcer in an endemic region like Nigeria should be investigated for tuberculosis as a possible differential diagnosis of scrotal ulcer, thereby avoiding over diagnosis, preventing avoidable surgery and litigation. Isolated testicular tuberculosis although rare should be consider as a differential diagnosis especially in atypical age group of patients presenting with testicular swelling in high prevalence areas like Nigeria.[4,8] The craze for private practitioners to make quick money, most often result in poor clinical argument, investigation of patient and possible surgical treatment. We present a case of a 39 years old male who had bilateral orchidectomy in a private clinic for suspected testicular carcinoma.

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Case Study:

Case Report 1: A 39 year old negroid male presented with bilateral swelling of both testicles. The overlying skin was ulcerated. Ultrasound scan show irregularly enlarged testicles with hypoechoic growths within and spreading into the adjacent scrotal wall. Microvasculardoppler flow was markedly increased. Hepatitis B and C negative as well as serology. Packed cell volume was 38% and Urinalysis was unremarkable. A diagnosis of Bilateral testicular malignancy was entertained and the patients' offered Bilateral Orchidectomy.

Macroscopy: Specimen consists of right and left testicular masses. The larger testicular mass measured 6.5cm x3.5cm x1.5cm in dimension and the attached spermatic cord measured 1.5cm in length and 0.3cm across. The covering tunic were thickened and there was an ulcer at the lower pole with necrotic walls and 0.5cm deep. The ulcer cut across the tunic into the parenchyma of the testis. Cut surface was a greyish white to creamy colour appearance. The smaller mass measures 5.5cm x2.5cm x 0.9cm with the attached spermatic cord measuring 1.3cm in length. The covering tunics were thickened and rough. The cut surface of the smaller mass was similar to that of the larger mass. It was greyish white in appearance with creamy colour areas.

Microscopy: Section of testicular tissues showing intense mixed inflammatory infiltrates with granuloma formation within the paratesticular areas. There was extensive fibrosis and gaint cells consisting both the langhan and foreign body types. Residual atrophic seminiferous tubules with thickened basement membranes containing sparsely populated spermatogonia cells noted. Elsewhere seen were of caseous necrosis. The histopathological diagnosis was Granulomatous inflammation most probably tuberculosis.

Case Report 2: A 67 year old negroidknown Carcinoma of the prostate male who presented with bilateral swelling of both testicles. Patient had features of ureamia with deranged serum electrolyte and creatine. A diagnosis of Bilateral testicular malignancy was entertained and the patients' offered Bilateral Orchidectomy.

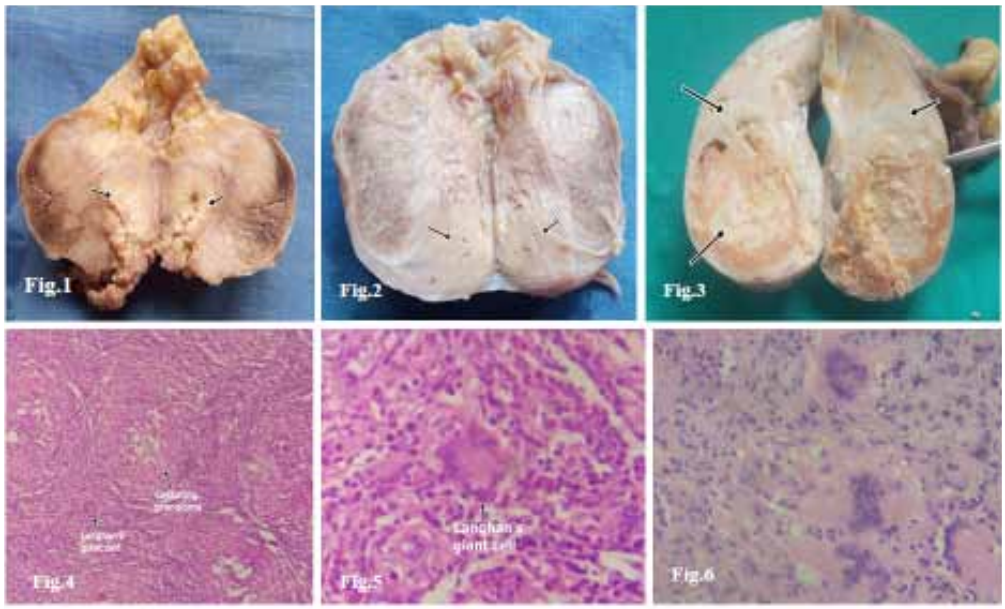
Macroscopy: Specimen consists of right and left testicular masses. The larger testicular mass measured 14.5cm x 4.5cm x 3cm in dimension and the attached spermatic cord measured 2.5cm in length and 0.4cm across. The covering tunic was thickened. The smaller mass measured 10.5cm x5.5cm x 3.5cm with the attached spermatic cord measuring 1.8cm in length. The covering tunics were thickened and rough. The cut surface of the right testes showed areas of caseous necrosis.

Microscopy: Section of testicular tissues shows atrophic seminiferous tubules with marked inflammatory infiltrates consisting of lymphocytes, epitheloid-like cells, fibroblasts and few plasma cells. There were areas of numerousgaint cells of both the langhan and foreign body.

Case Report 3: A 70years old negroid male, presented with a painless testicular mass of 4 years duration. There was no clinical history of weight loss, cough, breathlessness stated. No investigation was carried out. A clinical diagnosis of bilateral testicular malignancy was made and patient was offered left orchidectomy.

Macroscopy: Specimen consists of a left orchidectomy mass weighing 200g. It measured 9cm x 5cm x 2.5cm in dimension. The covering tunica albuginea was thicken, fibrotic and greyish white in color. The cut surfaces showed multiple areas of caseous necrosis at the upper pole and within the parenchyma of the testis. Residual normal orange colour parenchyma tissue noted.

Microscopy: Section of testicular tissues shows collections of mixed inflammatory infiltrates mainly mononuclear cells consisting of lymphocytes, epitheloid like cell and plasma cells with fibroblast. At the periphery there were gaint cells of both the langhan and foreign body cells. Prominent amorphous a cellular areas reminiscence of caseous necrosis noted. Residual atrophic seminiferous tubules were present.



FIGURES (1-6): Photographs showing the cut surfaces of the testis (Fig.1-3) with prominent areas of caseous necrosis with residual golden yellow parenchyma. Photomicrographs of the testis shows caseating granulomas consisting of epitheloid cells and giant cells of both the langhan's and foreign body types (Fig.4-6).

Discussion

Genital tuberculosis of the testis although rare should be consider as an important differential diagnosis of testicular swelling and scrotal ulcer in poor resource country like Nigeria with underfunded health care system and majority of people living in poverty within overcrowded and overpopulated settlements.[4] However, isolated testicular tuberculosis poses a diagnostic challenge even in regions that are known to be endemic for TB.[9] The dilemma is further made worse by diagnostic challenges.[10] Genital tuberculosis is associated with TB involvement of kidneys or lower urinary tract.[11] Khan et al, 2018 in a case report of primary cutaneous ulcerative tuberculosis of the scrotum concluded that Tuberculosis of the scrotum should be considered in the differential diagnosis of scrotal ulcers. Since proper diagnosis and adequate treatment will offer a cure to such patients.[12,13]

Medical practitioner practicing in endemic region like Nigeria should have a high index of suspicion in managing patients presenting to them with scrotal ulcer or testicular swelling thereby preventing over diagnosis and offering such a patient orchidectomy not warranted. Inadequate clinical investigation of patient for common granulomatous lesions and the craze for cutting corners and cost saving would always lead to misdiagnosis and occasionally litigation. The index patient would have avoided the surgeon knife and bilateral orchidectomy if the managing physician as consider tuberculosis of the scrotum as a differential diagnosis since the patient initial presenting complaints was that of a non-healing ulcer with associated pain and a testicular mass. Shugaba et al, 2012 in a case report in Jos, Nigeria also affirmed that although testicular tuberculosis is a very rare disease, the clinician should consider tuberculosis of the testis as a possible differential of a scrotal mass.[1]

This will increase the possibility of early diagnosis, as well as proper and early management. The patient was poorly investigated since the physician did not consider tuberculosis in his differential and depend mainly on ultrasound. Many physicians depend solely on ultrasonography for diagnosis and base their judgment on that, these depends on the knowledge of the sonographer as well as the equipment. Chudasama, 2017 affirmed that in a patient presenting with scrotal swelling, the USG detection of epididymal abnormalities, skin thickening, and hydrocele, in addition to heterogeneously enlarged testis, and suggests that this swelling is caused by an infection rather than a testicular tumor.[11] Late features like discharging scrotal sinus tracts and abscesses are very specific for tuberculosis. Denue*et al*, 2012 also emphasized that patients presenting with isolated testicular swelling should be thoroughly investigated

for TB especially in TB endemic region. This will obviate the need for unnecessary surgery and its possible complications such as damage to surrounding genitourinary organs, subfertility or infertility from radical orchidectomy.[14]

Conclusion

Private medical practitioners in low income countries and in region of high tuberculosis burden should always have a high index of suspicion for tuberculosis in patients presenting with scrotal ulcers or testicular swelling that fails to respond to antibiotics therapy. Detail clinical history, examination and adequate investigation such as imaging studies, serological and bacteriological studies should be requested and tissues for histopathological diagnosis is paramount to patient management.

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Ethical Clearance: This was obtained from University of Calabar Teaching Hospital Research Ethic Committee and the cases were done in accordance with the Declaration of Helsinki. No harm was done, written and verbal informed consents were obtained from the head of Pathology Department,University of Calabar Teaching Hospital.

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