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Primary Tuberculosis of Penis Mimicking Malignant Ulcer: Our Experience and Literature Review

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ABSTRACT

Background: In literature very few cases of primary tuberculosis of penis has been reported. It is rare even in developing countries like India where pulmonary tuberculosis is common. We retrospectively evaluated its clinical presentation, diagnosis and management in our institute. **Methods:** On retrospectively reviewing the institutional records from 2006-2018 We found 5 cases of genital tuberculosis in our institute. **Results:** All are males with mean age of 50 ± 7.77 (38 – 62) years. 2 cases presented with non-healing slowly progressive ulcer over the shaft of the penis, 1 case as multiple urethrocutaneous fistula and another one as pen scrotal mass lesion with stricture urethra. All cases had previous history of taking multiple antibiotics for long time. Lesion was diagnosed as tubercular ulcer by wedge biopsy. On further investigation there was no evidence of Tuberculosis elsewhere. Under antitubercular treatment, total penectomy with perineal urethrostomy was done and anti-tubercular treatment was continued for 6 months. No evidence of recurrence during the mean follow up of 4±2.94 years. **Conclusion:** Even though it is rare, tuberculosis of penis should be considered for long standing or recurrent ulcer, otherwise diagnosis may be delayed causing severe morbidity.

Keywords: Tuberculosis of penis, Penile ulcer, Total penectomy and perineal urethrostomy, Anti Tubercular treatment.

INTRODUCTION

Tuberculosis is the most prevalent infection in the world, more prevalent in developing countries like India. Because of increase in incidence of HIV & other immune compromised status no country in the world can able to eradicate it. Tuberculosis is called as great mimicker because it can affect any organ and mimic other illnesses.[1,2] Even in countries where tuberculosis is highly prevalent, penile tuberculosis is extremely rare. Because of this, even in endemic countries, it is difficult to predict and diagnose genital tuberculosis as a first diagnosis and it is even more difficult in non endemic regions. Majority of the diagnosis will be by histological surprise. It presents on the glans or the shaft of the penis as an ulcers, nodule, papulo-necrotic tuberculides or induration and mass. Lesion may mimic like any other condition including malignant lesion of the penis. The aim of present study was to report our experience in this rare entity with respect to its clinical presentation, diagnosis, management and review of literature.

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MATERIALS AND METHODS

From 2005 till August 2019, institutional records were retrospectively analysed. Out of inpatient records 4 cases were reported as genital Tuberculosis. The mean age of the patients was 50 ± 7.77 (38 – 62) years. All patients were male. In two patients it presented as chronic large nonspecific ulcer, which is painless and slowly progressing over the shaft of the penis, almost destroying it [Figure 1 & 2]. In one case it presented as water-can penis with multiple uethro- cutaneous fistula and in another case it presented as large mass lesion in peno-sctoal area [Figure 3] for 6 months duration. No history of hematuria or dysuria. There was no history of trauma, weight loss, fever, cough or other constitutional symptoms. There was no personal or family history of tuberculosis. Patients had taken repeated course of antibiotic by various local doctors. All were heterosexual individual and their wife did not have any genital lesions or discharge or tuberculosis history. On examination, there was a large, nontender ulcer covered with slough with indurate base and edges similar to malignant ulcer was present on lateral aspect of shaft of penis [Figure 1]. On palpation, ulcer was nontender with edge and base of the ulcer along with surrounding cavernosa was indurated. Inguinal lymhnodes were enlarged in both sides and were nontender, firm in

consistency. Other genital and systemic examination was normal.

Primarily diagnosed as malignant ulcer, wedge biopsy was done after basic investigation in first 3 cases. As a histological surprise, biopsy from the ulcer showed epithelioid cell granuloma with caseating necrosis showing typical Langerhans giant cells, suggestive of tuberculous granuloma. FNAC of the inguinal lymph node was non-specific. Mantoux test and TB-PCR was positive. Urine for AFB was negative. Chest X- ray to rule out pulmonary tuberculosis was normal. Ultrasound evaluation of the abdomen and intravenous pyelogram of genitourinary system were normal. Other investigation like liver function tests, HIV and VDRL was normal.

Patient was started on standard anti tubercular regime under DOT regime. After 3 weeks of anti tubercular treatment, patients were subjected to total penectomy with perineal urethrostomy. Last case diagnosed as urethral malignancy undergone MRI pelvis and basic evaluation and undergone total penectomy with perineal urethrostomy, histological surprise reported as genital tuberculosis involving urethra and corpora. Wound healed well and SPC was removed. Anti tubercular treatment was continued for 9 months. No evidence of recurrence during the mean follow up of 4±2.94 years.

RESULTS

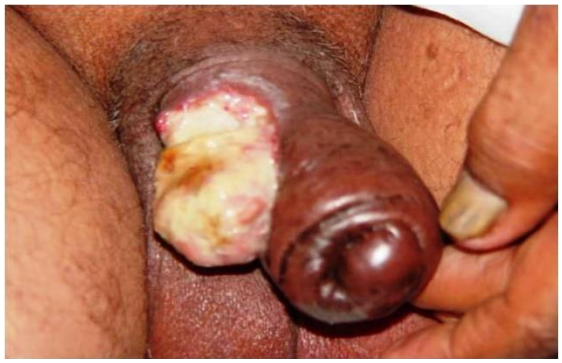

Figure 1: Large ulcer of size 6 X 4 cms, presenting on the right lateral surface of the penis.

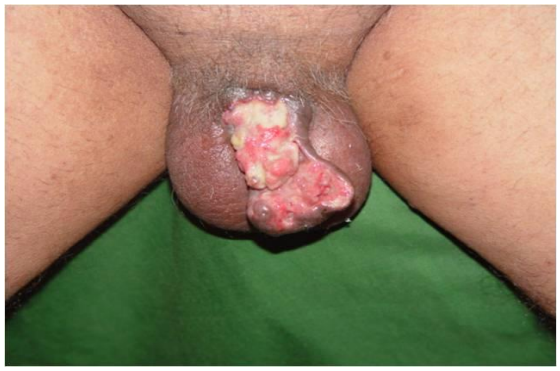

Figure 2: large ulcerative lesion completely eroding the glans and shaft of the penis

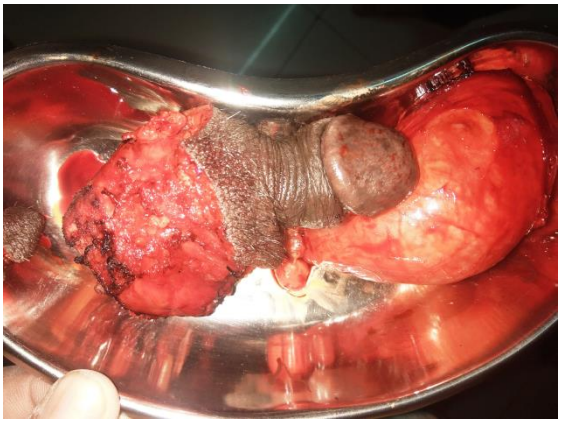

Figure 3: Total penectomy specimen done for penile tuberculosis presented as penoscrotal mass lesion

DISCUSSION

In developing countries like INDIA, Tuberculosis is still a most prevalent communicable disease. But even in population where Tuberculosis is more prevalent, extra pulmonary tuberculosis accounts for 10% of cases.[3] While tuberculosis of lymph nodes is most common extra pulmonary tuberculosis, genitourinary involvement is not uncommon and accounts for 30% to 40 % of extra pulmonary tuberculosis.[4,5] Tubercular involvement of penis is very rare feature of genitor-urinary infection.[5] Among tuberculosis of genitalia, penile tuberculosis comprises less than 1% of all cases in males. The commonly affected site include the epididymis in 42% of cases, seminal vesicles in 23% of cases, prostate in 21% of cases, testis in 15% of cases, and vas deferens in 12% of cases.[6,7] In 1848, Fournier, described the first case of a patient with multiple penile ulcers and regional lymphadenopathy.[8] Only 161 cases of penile tuberculosis were reported till 1999.[9,10] In 1992, first case of culture positive for Mycobacterium tuberculosis from penile lesion was reported by Konohana et al.[11] Other Mycobacterium species can also cause tuberculosis of the penis apart from Mycobacterium tuberculosis. In 1984, de Caprariis et al.[12] reported Mycobacterium avium-intracellulare causing penile lesion and venereal transmission. Dahl et al.[13] in 1996 reported penile mass caused by Mycobacterium celatum. Penile tubercular involvement may be primary or secondary. The primary cases occur as a complication of ritual circumcision during which the operator sucks the circumcised penis as a haemostatic and styptic measure. Some of these have open pulmonary tuberculosis.[14,15] But this act is now totally abandoned in all over the world, so this as a cause for tuberculosis of the penis is rarely seen now. Presently most common mode of transmission of primary tuberculosis by coital contact with the disease already present in the female genital tract or from infected clothing.[16] As normal genital mucosa is highly resistant to infection of tubercular bacilli,

abrasions caused by vigorous sexual act or breach in the mucosa due to other sexually transmitted diseases can cause bacilli inoculation.[17] Sometimes, a penile lesion may be caused by reinoculation of the male partner through his own infected ejaculate as vagina is particularly resistant to tuberculosis.[14] BCG vaccine induced primary tuberculosis of penis after immunotherapy for carcinoma urinary bladder was also reported.[18] Secondary penile tuberculosis can present along with active pulmonary tuberculosis. Indeed, it affects skin, glans and cavernous bodies as superficial lesion.[2] Sometimes there may be difficulty in differentiating it from malignant tumours.[19] So, it is necessary to do histopathological examination of the involved tissue by taking biopsy of the lesion for accurate diagnosis. In most cases, the lesion appears as a superficial ulcer on the glans or around the corona as it is the most common part rubbed during sexual contact or with infected clothing.[15] The lesion may be associated with or may present as a nodule or papulo-necrotic tuberculides. It should be suspected in any asymptomatic, dusky red papules over penis, which ulcerate and crust and heal after a few weeks with varioliform scarring or any ulcer which is not responding to routine course of antibiotic course. Rarely this can present as erectile dysfunction as reported by Pal et al,[20] and Murali et al.[21] Based on the presentation genital tuberculosis had been classified into one Severe necrotic form (orificial tuberculosis) as in our second case which is a severe necrotic form of glandular TB, second, Papulonecrotic tuberculids of glans may present as erythematous or keratotic plaques, third Erythematous /ulcerative plaques- lupus vulgaris which may lead to scarring and disfigurement of the penis, fourth as Urethrities, cavernositis lastly as nodular, gummatous, phagedenic form as in our fourth case which can cause severe destruction.[8]

Mantoux test may be strongly positive but negative result will not rule out its presence. Granulomas or mycobacteria sometimes may be detected on direct microscopic examination of discharge from the penile ulcer/growth. If discharge is present it is preferable to send for culture and sensitivity tests not only to confirm tuberculosis but also to know the sensitivity pattern. Tuberculous infection can be confirmed by Polymerase chain reaction. Rest of the urogenital system involvement should be evaluated by careful clinical examination and Intravenous urography or CT Urography. Histo-pathological examination of the wedge biopsy specimen of the lesion demonstrates Caseating granulomas with or without acid fast bacillus. Associated pulmonary tuberculosis should be ruled out by Chest X ray and if needed sputum AFB. Anti-tubercular drugs are the mainstay of treatment. Every case of Tb of the penis should be adequately treated by first-line anti-Tb therapy for 6-9 months. In some patients it may be due to multidrug resistant tuberculosis, which has to be considered if patient is not responding. In such patients second line anti tubercular treatment may be required. Because of presence of anecdotal documented report of sexual transmission of tuberculosis of penis, patient's sexual patners should be screened to exclude pulmonary or genitourinary tuberculosis. It is preferable to advice both patners to abstain from sexual contact for period of time until possibility of transmitting to his patner is over. Even though there was no consensus with respect to duration of abstinence, 1 month after starting the treatment is enough.[22] Surgical intervention in the form of either partial or total penectomy may be required rarely as in our case, when ulcers had largely destroyed the penis due to late presentation.

CONCLUSION

Tuberculosis of penis should be considered in the diagnosis of long standing or recurrent ulcer otherwise diagnosis may be missed or delayed. This condition promptly responds to Anti tubercular therapy but neglected cases may require additional surgical intervention as evidenced by our case.

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