Case Report

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Typhoid Fever, Below the Belt

Internal Medicine Section

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ABSTRACT

Genital ulcers occur due to infective, inflammatory, malignant and drug-related causes. In tropical countries such as India, such ulcers are due to parasitic, tubercular, rickettsial and bacterial (sexually transmitted infections) aetiologies. Typhoid fever is endemic in the tropics. Except "rose spots", skin manifestations in typhoid fever are unusual, and they are missed due to pigmented skin. Patients do not often complain of genital ulcers due to shame or fear. Genital examination is not routinely performed in typhoid fever. We describe scrotal ulcers as the presenting symptom of typhoid fever, which subsided with appropriate therapy.

Keywords: Enteric fever, Genital ulcers, Scrotal ulcers

CASE REPORT

A 23-year-old unmarried male presented to the General Medicine OPD of Indira Gandhi Medical College and Research Institute, Puducherry with complaints of continuous high grade fever, headache and vomiting of two weeks' duration. He had noticed three painless scrotal ulcers with serosanguinous discharge, at the start of the febrile episode. There were no ocular symptoms. There was history of recent pilgrimage a week prior to onset of symptoms where he had consumed food from street vendors. There was no history of insect bites. He consumed two units of alcohol daily. He denied history of sexual contacts on repeated questioning. There was no family history of orogenital ulcerations. On examination, he was febrile (38.8°C) and had mild hepatosplenomegaly. The scrotal ulcers were circular and had punched out edges with yellowish slough [Table/Fig-1]. Rest of the general and systemic examination was non-contributory. Chest radiograph, electrocardiogram and renal parameters were normal. Haemogram revealed haemoglobin of 11.2g/dL (12-14), total counts of 6700/mm^3 (4000-11000) with 60% neutrophilia and platelet count of 170000/mm^3 (150000-450000). Except transaminases {aspartate aminotransferase (AST)-174U/L, alanine aminotransferase (ALT)-195U/L}, liver function tests were normal. Widal, HIV, HBsAg and VDRL were negative. Ophthalmology and Dermatology consultations were obtained for Behçet's disease. Uvea and retina were normal; Dermatology opinion suggested a Lipschütz ulcer. He refused consent for biopsy from the ulcer. A provisional diagnosis of rickettsioses was made considering its high prevalence in our locality and pending blood and urine cultures, he was initiated on doxycyline. He improved symptomatically and was discharged on the third day of admission. The patient returned to hospital two days later with complaints of intermittent fever and ulcers becoming painful. Liver enzymes (AST-94U/L and ALT-155) had decreased, while neutrophilia had increased to 79%. Blood culture sent during the previous admission had grown *S. typhi*; subsequently, he was treated with intravenous ceftriaxone 2g OD for seven days. All his ulcers and systemic symptoms had subsided by the time of his discharge on the seventh day. He was advised a further seven days' therapy with oral cefixime 200mg BD and follow-up thereafter. He did not return after completion of his antibiotic course.

[Table/Fig-1]: Scrotal ulcers, three in number with punched out margins and yellowish slough in the base

DISCUSSION

Enteric fever syndrome includes both typhoid and paratyphoid fever. Typhoid fever is caused by *Salmonella enterica* serotype *Typhimurium*; serotypes *paratyphi A, B* and *C* cause paratyphoid fever. Ingested organisms from contaminated food or water, depending upon the age, infectious dose of ingested bacilli, stomach acidity, intestinal integrity and immunological status may lead to systemic illness after an incubation period of 10-14 days. Skin manifestations are uncommon. "Rose spots" are faint salmon-colored macules over the trunk and abdomen that occur during the second week of illness. This is often missed in dark-skinned individuals [1]. Genital ulcers are common in viral (*herpes simplex*), rickettsial (scrub typhus) and bacterial sexually transmitted infections (STI) caused by *Chlamydia trachomatis* and *Haemophilus ducreyi*. Examination of genitalia is usually not performed in patients with enteric fever. Genital ulcers occur due to infectious, inflammatory or drug-related disorders. Among infections, viral, chlamydial, spirochetal, amebic and tubercular aetiologies are known [2,3]. Behcet's disease and pyoderma gangrenosum are inflammatory causes [4,5], while drugs (retinoids) and malignancies (leukaemia cutis) constitute rare aetiologies of such ulcers [6,7]. The viral groups encompasses herpes simplex viruses (HSV), human immunodeficiency virus (HIV), Ebstein-Barr virus (EBV), cytomegalovirus (CMV), mumps virus and rarely chikungunya virus [8]. Bacterial infections include organisms causing STIs. *Mycoplasma pneumoniae* and viruses such as

EBV, CMV, and mumps have all caused acute genital ulceration in young females. Behcet's disease, *Mycoplasma pneumoniae-related* mucositis, HSV, HIV and tuberculosis have been reported to cause either oral or genital ulcers or both [9]. Scrotal ulcers have been reported in tuberculosis, chikungunya, retinoids(topical/oral), pyoderma gangrenosum, juvenile gangrenous vasculitis of the scrotum and leukaemia cutis. Only two reports (in 1898 and 2015) of typhoid fever-related scrotal ulcers have been described previously in medical literature [10]. Twenty one other reports of enteric fever-related genital ulcers have all been reported in females.

Typhoid fever as a cause for genital ulceration is unusual. The pathogenesis is probably due to hematogenous spread of *S.typhi* or ulceration due to direct inoculation from infected urine or feces [10]. Since our patient refused an ulcer biopsy, whether bacteria could have been demonstrated is not known. Biopsies of ulcer in two other instances did not yield any bacilli [10]. Apart from STIs, parasitic, rickettsial and tubercular causes are to be considered in the aetiology of genital ulcers in the tropics. History did not favour STIs. He did not have respiratory symptoms/signs and chest radiograph was normal. Scrub typhus with eschars in the genitalia is commonly detected in our locality and hence empirical doxycycline was administered. We also erred in not collecting all reports prior to the patient's discharge and hence missed the diagnosis.

CONCLUSION

Genital ulcers are being reported in enteric fever but patients generally do not complain of them due to shame or fear. Living in a tropical country where enteric fever is endemic, genital examination also needs to be routinely considered by treating physicians. Though patients may improve before arrival of laboratory reports, test results must always be checked before discharging patients from hospital.

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