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# Epididymo-orchitis Presenting Feature of Scrub Typhus in Young Elderly: A Rare Case Report

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## ABSTRACT

Humans are infected by scrub typhus when a human is bite by an infected mite occurring across the country especially after monsoon season. It commonly manifests as fever, headache, chills, and non-specific gastrointestinal problems. Epididymo-orchitis can be a rare occurrence. This case report highlights about Epididymo-orchitis in young elderly aged 60 years

***Key words:*** scrub typhus, infectious disease, epididymo-orchitis

## INTRODUCTION

Scrub typhus, a disease of infectious origin occurs commonly in tropical areas and sometimes manifests in unexpected fashion. Typically it presents with eschar and rare co-occurrence of gastro – intestinal, respiratory or neurological involvement. Certain signs and symptoms which are unusual and distracting are now correlated with scrub Typhus (Chogle A et al,2010; Vidya Hulkoti et al, 2020). Therefore, for febrile children residing in endemic areas, it should be highly suspected. Here, we present a rare case report of scrub typhus manifesting as bilateral epididymo-orchitis.it carries the essence of uniqueness as literature has just reported only one of such case till now among adults.

## CASE REPORT

A 60 year old man, from urban sector in Indian nation, presented with fever from past 8 days and cough with expectorant since 5 days along with bilateral groin pain. The patient was febrile and toxic minus any pallor, icterus or presence of bleeding. Lymph nodes were remarkably enlarged in the left groin region. Nodes were firm in nature, mobile, discrete and were tender with erythema and increased temperature in the overlying skin region. Systemic examination was essentially normal. External genital examination revealed inflammation of shaft of penis with scrotal inflammation at the admission time.

Total leukocyte count was 20700 cells/mm3 with a neutrophilic predominance (75%), and C-reactive protein (9.0 mg/ dl). Smear and antigen test kit for malarial parasite was also found negative. Urine analysis, dengue diagnosis and leptospira serology were also found to be negative. Liver function test, Serum electrolytes, ammonia, renal function and serum amylase were found to be within normal range. Radiographic examination of chest was normal. Cultures of blood and urine were sterile. Ultrasound of abdomen revealed moderate hepatomegaly with grade 1 fatty liver, non obstructive right renal calculus, bilateral kidney enlarged in size with raised cortical echogenicity suggestive of acute kidney injury.

Considering the acute condition of inguinal lymphadenitis, the case was put on piperacillin intravenously, without lymphadenitis being resolved or subsistence of fever, even when placed on antimicrobials for 5 days. On 6th day,

patient demonstrated bilateral tender, engorged testes with signs of inflammation on the overlying skin indicating epididymo-orchitis (Figure 1). The customary presentation of epididymo-orchitis in an adult case, like UTI, bacterial infection, TB, brucellosis, filariasis and leukemia were thought to be as differential diagnosis and eliminated by relevant history, accurate clinical evaluations and diagnostic checkups.

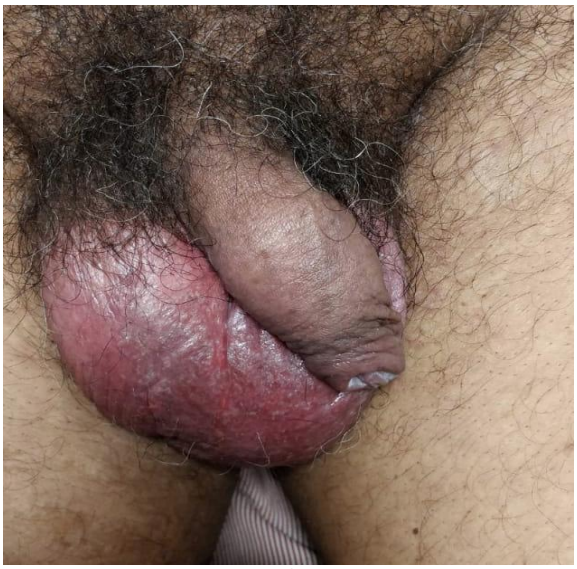

**Figure 1 showing red and inflamed Epididymo-orchitis.**

Scrub typhus diagnosis was contemplated, at this level, with the onset of moderate grade fever associated with lymph infection which was not responsive to antimicrobials. The confirmation was by positive IgM enzyme-linked immunosorbent assay (ELISA). Intervention with doxycycline was initiated and there was a prompt subsidence of fever, with total resolution of lymphadenitis and epididymo-orchitis, in the next 2 days.

## DISCUSSION

Scrub typhus is a rickettsial infection resulting from Orientia tsutsugamushi a minute gram negative coccobacillus, which is an obligate intracellular parasite (T. Vishwa Teja et al, 2017). It is transmitted to human host via the bite of the larva (chiggers) of a trombiculid mite that acts as both as vector and reservoir. Humans are accidental hosts. The disease is not directly transmitted from person-to-person and only the infected larval stage can transmit the disease. Humans acquire the disease when an infected chigger bites them while feeding and inoculates Orientia tsutsugamushi pathogens. The bacteria reproduce at the inoculation site with the formation of a papule which ulcerates and becomes necrotic, evolving into an eschar. Regional lymphadenopathy appears which progresses to generalised lymphadenopathy within a few days. The target cells of Orientia tsutsugamushi, in humans, are endothelial cells throughout the body, macrophages and cardiac myocytes. Rickettsial infection occurs, resulting in focal or disseminated vasculitis and perivasculitis with remarkable vascular leakage and end-organ injury to lung, heart, liver, spleen and central nervous system, thereby justifying the different yet unexpected clinical presentations.

In the present case, the absence of any classical symptoms such as an ulcer or eschar resulted in delayed diagnosis. Although efforts must be made to look out for the presence of signs like eschar, particularly in unusual locations, the absence of it does not rule out the possibility of disease as it is detected in only 30-50 percent of cases. In this case, the condition was initially treated as bacterial adenitis as there was only regional painful, inguinal adenitis without any eschar presence. In addition, even when epididymo-orchitis developed, scrub typhus diagnosis was not made owing to its rare presentation.

The accurate pathogenicity of epididymo-orchitis is thought to be as vasculitis which is induced by infection in other organs. Our experience suggests that in almost every case of scrub typhus, signs and symptoms subside within 24 to 36 hours after doxycycline administration along with adverse effects such as massive consolidation, cholestatic hepatitis and epididymo-orchitis. Even though the patient showed complete recovery of epididymo-orchitis after doxycycline therapy, literature towards long-term effects are not available,

thereby, warranting a close follow-up to look for sequelae like testicular atrophy and infertility (V. Shanmugapriya et al, 2014).

It has now become evident that scrub typhus has to considered in lines of enteric fever, malaria, dengue and TB during differential diagnosis for every acute febrile diseases in pediatric patients irrespective of signs and symptoms and the presence or absence of eschar. The best way management technique was diagnosing at the earliest and prompt administration of antibiotics. Unnecessary delay in providing appropriate antimicrobials can result in potential adverse effects such as ARDS, acute renal failure, MI and sepsis consequent to shock. Therefore, scrub typhus diagnosis must be promptly entertained even in case or unusual or hitherto non reported presentations in a febrile adult, particularly those in endemic areas.

Scrub typhus though common in many parts of India, it is under diagnosed and neglected especially in rural setup, due to limited awareness and its frequent changes in symptoms and nonspecific varied presentation Neurological involvement is commonly seen in scrub typhus infection due to invasion of organism to the endothelial cells of blood vessels leading to cytokines release and fluid leakage. It causes localized platelet aggregation, polymorphs, and monocyte proliferation in the vessels. CNS complications may range from aseptic meningitis to meningoencephalitis (more common 40%), (Rana et al, 2017). In this patient orchitis can be due to all these factors, but exact pathogenesis is still unknown.

## CONCLUSION

General physicians should note in mind possibility of scrub typhus, search for the presence of "eschar" when patients presents with fever, myalgia, headache and genital inflammation. but one should never depend on finding eschar to conform a case of scrub typhus as there are many cases were eschar has not been seen and patient is scrub positive. Early diagnosis, and hence treatment with doxycycline or tetracycline can prevent further complication and mortality.

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