

Case Report

A not so common cause for fever with rashes

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Received: 12 April 2019

Accepted: 06 June 2019

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ABSTRACT

Skin rashes that appear during febrile illnesses can be due to various infectious diseases and non-infectious conditions that can range from mild self-limiting diseases to potentially life threatening conditions. Hence a comprehensive knowledge of these diseases is required. A comprehensive history must be taken, including intake of any medications, contact with animals, recent travel, and trekking in various natural environments. Complete and thorough physical examination can provide clues to early diagnosis. Here we report a case which presented with high grade fever, generalized blanching maculopapular rashes, and headache. Close examination revealed a scrotal ulcer leading to the diagnosis of scrub typhus which was confirmed by ELISA and treated successfully with doxycycline.

Keywords: Maculopapular rash, Scrotal ulcer, Eschar

INTRODUCTION

There are large numbers of infectious and noninfectious conditions presenting as fever with rashes. Infectious exanthematous diseases can range from mild infections which will disappear spontaneously to serious infectious diseases with high morbidity and mortality. Morphology of rash could be maculopapular, generalized diffuse erythema, vesicular, pustular, nodular, petechial, and purpuric which can provide a clue to the diagnosis.¹ Early diagnosis based on complete history taking and physical examination can prevent morbidity and mortality in many cases such as scrub typhus.

CASE REPORT

A 45 year old man presented with one week history of high grade fever and headache and itchy red skin rashes of three days duration and occasional episodes of vomiting. Patient was apparently normal 1 week back after which he developed fever with headache and chills.

After 3 days he developed rashes all over back and abdomen sparing palms, soles and mucous membranes. History of itching present. There was no history of hematuria/bleeding from the gums, nose and throat, blood in stools/oral ulcers/joint pains or swelling/any drug intake. On examination, patient was Febrile -101 F. There was no pallor / icterus / cyanosis / clubbing / lymphadenopathy / edema. Systemic examination was normal. Dermatological examination showed blanching erythematous maculopapular rash present over back, abdomen and lower chest (Figure 1) sparing palms and soles, face, mucous membranes and scalp. An ulcerated lesion (healing eschar) of 0.5*0.5 cm was seen on scrotum (Figure 2). Non tender and no bleeding from ulcer on touching. There were no digital infarcts or gangrene of the finger tips and nose. Nails were normal. Following differential diagnosis were considered: viral hemorrhagic fevers, scrub typhus, malaria, spotted fevers, maculopapular drug reactions and syphilis. Investigations were done (Table 1). Serology for scrub typhus was found to be positive. Total count - 13600, LFT and RFT

were normal, smear for malarial parasite - negative, serology for dengue, HBsAg and HCV - negative and RPR - negative. Patient was diagnosed as a case of scrub typhus on clinical and serological grounds and treated with doxycycline 100 mg twice daily and supportive measures for two weeks and cured without any complications.

Table 1: Investigations.

Total count	13600
Differential count	P 65, L 29, E 1, M 5
LFT*, RFT*	normal
Smear for malarial parasite	Negative
Serology for HBsAg and HCV*	Negative
RPR*	Negative
Serology for scrub typhus	positive

*LFT- liver function tests, RFT- renal function tests, HBsAg- Hepatitis B surface antigen, HCV - Hepatitis C virus, RPR- rapid plasma reagin test.



Figure 1: Erythematous maculopapular rash present over back, abdomen and lower chest.



Figure 2: Eschar over scrotum.

DISCUSSION

Scrub typhus is an infectious disease caused by *Orientia tsutsugamushi* an intracellular gram negative bacterium, transmitted by the bite of Trombiculid mites (*Leptotrombidium deliense* and *L. akamushi*) which also act as reservoirs.^{2,3} In India, there are cases reported from Maharashtra, Tamil Nadu, Karnataka, Kerala, Himachal Pradesh, Jammu and Kashmir, Uttaranchal, Rajasthan, West Bengal, Bihar, Meghalaya, and Nagaland.^{4,5} The characteristic signs and symptoms of scrub typhus are eschar, fever, maculopapular rash starting from the trunk, and spreading to the limbs. Eschar starts as a vesicular lesion at the site of mite feeding. Later, an ulcer forms with black necrotic center and an erythematous border along with regional lymphadenopathy. *O. tsutsugamushi* invades endothelial cells to produce disseminated vasculitic and perivascular inflammatory lesions, which results in significant vascular leakage and ensuing end-organ injury of various organs such as lungs, heart, and kidney. Serious complication in the form of myocarditis, pneumonia, meningoencephalitis, acute renal failure, gastrointestinal bleeding, and even acute respiratory distress syndrome may develop. The presence of fever and eschar supports the diagnosis.⁶ Serology remains the mainstay of diagnosis.⁷ The gold standard is indirect immunofluorescence antibody (IFA).⁸ In dengue fever cutaneous and mucosal findings like confluent erythema, morbilliform eruptions and hemorrhagic manifestations such as petechiae, epistaxis and gingival bleeding can occur.⁹ In malaria cutaneous manifestations are non-specific and can present as petechiae, purpura, urticaria and angioedema.¹⁰ In secondary syphilis the most observed clinical presentation is a generalized papulosquamous eruption and condyloma lata of the moist areas.⁹ In maculopapular drug reactions, erythematous macules and papules become confluent in a symmetric, generalized distribution sparing face and involving mucous membranes, palms and soles.⁹

CONCLUSION

This case is reported for its rarity and for the importance of the typhus group of fevers as an important differential diagnosis in cases of fever with rash in patients with outdoor activities.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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Cite this article as: Narasimhan M, Sathar SA, Ramakrishnan R. A not so common cause for fever with rashes. *Int J Res Dermatol* 2019;5:907-9.