Case Report

Rickettsial Fever with Cefixime Induced Rash: Case Report

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ABSTRACT

When a child has a fever and rashes, the diagnosis can frequently be determined with only one look, but it can also be difficult to make even after days of clinical observation and comprehensive laboratory testing. Cefixime has antibacterial properties because it inhibits the production of mucopeptides in the bacterial cell wall. Rickettsia is a category of vector-borne bacteria that causes acute fever diseases all around the world. While Rickettsial illness has a similar clinical presentation across the country, the causative species and epidemiology differ by region.

Keywords: Rickettsial Fever, Cefixime, Case report, Rash.

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INTRODUCTION

When a child has a fever and rashes, the diagnosis can frequently be determined with only one look, but it can also be difficult to make even after days of clinical observation and comprehensive laboratory testing. A skin rash is a transient skin outbreak. Scarlet fever, Dengue fever, staphylococcal infections, and other illnesses can cause diffuse erythematous rashes. [1]

Cefixime is a semisynthetic third-generation cephalosporin antibiotic with a broad antibacterial spectrum of action. It has antibacterial properties because it inhibits the production of mucopeptides in the bacterial cell wall. Diarrhoea, dyspepsia, nausea, and vomiting are the most commonly reported adverse medication responses. Skin, rashes, erythema multiforme, urticaria, Steven Johnson Syndrome (SJS), Toxic Epidermal Necrolysis (TEN), and prothrombin time prolongation are all hypersensitivity reactions. [2]

Maculopapular (centrally and peripherally dispersed) rashes, petechial rashes, diffusely erythematous with desquamation rashes, vesiculobullous spustular rashes, and nodular rashes are all types of rashes. Viral diseases are the most common cause of maculopapular eruptions. Drug responses and bacterial infections are among the possible causes of these eruptions. [3]

Rickettsia is a category of vector-borne bacteria that causes acute fever diseases all around the world. While rickettsial illness has a similar clinical presentation across the country, the causative species and epidemiology differ by region. [4]

Case presentation:

A 16 years old boy with a background of renal colic for 1 week and undergone Urethroscopic removal of stone done 3 years ago and on admission, he was suffering from fever since 1 week and consuming Tab Dolo 650, Tab.Taxim and had rashes all over body including palms and soles since 2 days before the admission, also had complaints on Myalgia since 2 days. He had complaints of high grade fever which relieved with medications, associated with rashes in the morning on the day of admission no aggravating factors, not associated with chills/rigors.

He had no history of complaints on CHD, TB, Epilepsy, Bronchial asthma in the family. Immunization was done as per NIS, and the last immunization was done when he was at the age of 1 ½ and no optional vaccines were given.

On physical examination, he was alert, oriented, and conscious. He had multiple firm, non tender, right and left cervical and inguinal lymph nodes as well as an erythematous maculopapular rash on his chest, abdomen, back, and upper limbs without palm and sole involvement that was highlighted with fever; the rash was inconspicuous when fever subsided.

His vital organ sign on the day of admission were, blood pressure (110/80 mmHg, pulse rate:80 bpm, body temperature was 103.5 F, respiratory rate:18cpm, CRT<2seconds.Blood Investigation immediately after admission showed sodium levels of 134mmol/L, CRP:38.2 mg/L, Albumin:3.0 g/dl, globulin: 2.3 g/dl, total

protein:5.3g/dl, SGOT:53U/L, Heamoglobin levels we 11.8gm/dl, and total count was decreased to 3760 cells/cumm, RBC red blood corpuscles of 3.9 and platelet count was 0.78 lakhs/cumm. Laboratory workup summarized in **Table 1.**

Figure 1: Erythmatous rash on the chest region

Figure 2: Rashes on hand

Table 1: Laboratory Investigations.

Laboratory findings	Day 1	Day 2	Day 3	Day 4
Haemoglobin	11.8 gm/dl	11.8gm/dl	12.4 gm/dl	12.3 gm/dl
Total WBC	3760 cells/mm3		3890 cells/mm3	
RBC	3.94		3.96	
PCV	34.7		34.9	
PLATELET	0.78		0.96	
RBS	104mg/dl		109 mg/dl	
BLOOD UREA	38 mg/dl		40 mg/dl	
Na +	134mmol/L		134 mmol/L	
K+	4.0 mmol/L		4.2 mmol/L	
Cl-	102 mmol/L		103 mmol/L	

Other tests:	Result
Rapid Malarial test	Negative
Malarial parasite smear	Negative
Weil –Felix	Negative

He was initially treated with Doxycycline 100 mg BD and the fever spikes was reduced on day 2and rash was reduced in the palm and trunk region, treatment continued for 3 days and there was no fresh complaints of fever and eruption of rashes. Patient improved clinically and was being discharged in a stable condition on advice.

DISCUSSION

We came across a case of maculopapular skin rashes all over the body of a 16 years old boy. The reason for the arise of rashes was due drug induced adverse reaction by cephalosporin (cefixim). Previous studies convey that rash occurred in 12.3%, 7.4%, 8.5 percent, and 2.6 percent of children who got cefaclor, penicillin, and cephalosporins, respectively. The majority of drug-induced adverse events

in children are caused by antibiotics, which are the most commonly prescribed paediatric outpatient medicines. [5]

Doxycycline is the first-line treatment for rickettsial illness. Chloramphenicol, on the other hand, can be utilised. Standard antirickettsial medications, such as tetracycline or doxycycline, are ineffective against some types of rickettsiae. Some experts recommend using doxycycline or a combination of antibiotics, including rifampicin, to treat resistant instances. Doxycycline worked well for our patient. [2]

CONCLUSION

As Rickettesial fever with rashes is linked to cephalosporin toxicity, patients who are taken cefixime or its combinations should be closely monitored. Patients should be informed if they are allergic to cefixime and given an ADR alert card to carry with them whenever they visit a doctor. Before completing the prescription, the doctor should inquire if the patient has a history of cephalosporin allergy. This study also demonstrates the importance of a clinical pharmacist on ward visits.

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