

## ADVERSE REACTION DUE TO CLINDAMYCIN

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## ABSTRACT

A 43-year-old patient was diagnosed of left sided empyema. He was started on injectable piperacillin-tazobactam combination and clindamycin. After 11 days, he developed itchy red lesions over different parts of the body. Both the drugs were immediately stopped in view of drug allergy. However, oral clindamycin with a lower dose was restarted, and patient tolerated the drug without any skin related episodes. Postdischarge he was prescribed oral clindamycin for 2 more weeks. 2 days postdischarge he started developing rash. The patient continued the drug for next 10 days and as a severity of rashes increased he reported to the hospital. He had itchy red lesions throughout the body. Clindamycin was stopped, and he was prescribed clonate lotion and tablet cetirizine for 10 days. The lesions resolved. A patient was informed that he is allergic to beta-lactams and clindamycin.

**Keywords:** Clindamycin, Skin rashes, Beta-lactams.

## INTRODUCTION

Clindamycin is a lincosamide antibiotic that inhibits bacterial protein synthesis and is used for the treatment of anaerobic, streptococcal, and staphylococcal infections. The use of clindamycin is increasing in clinical practice due to its tolerability, efficacy and excellent tissue penetration various studies have shown the association between clindamycin and skin related problems. Here, we are reporting a case of skin lesions secondary to clindamycin.

## CASE REPORT

A 43 years male came with the chief complains of chest pain and dyspnea for 3 days. The chest pain increased on lying down, inspiration and more on the left side. On examination, there was right tracheal deviation and increased use of accessory muscles on respiration. He was diagnosed to have left sided empyema. He was started on injection tazocillin (piperacillin + tazobactam) 4.5 g and injection clindamycin 600 mg thrice a day. There was an intercostal drainage tube placed for 9 days to drain the empyema. After 11 days, he developed itchy red lesions which started over the trunk and spread over different parts of the body. The lesions were diffuse erythematous maculopapular rashes becoming confluent over trunk, chest, abdomen, shoulder and bilateral upper arm, and neck. Oral cavity showed geographic tongue and whitish papules over buccal mucosa. He was diagnosed to have drug allergy to beta-lactams. The above two drugs were stopped immediately and on next day patient was started on oral clindamycin 450 mg thrice a day (dose reduced). He tolerated drug for next 2 days without any skin lesions. He was later discharged and prescribed oral clindamycin for 2 weeks. 2 days postdischarge patient started developing reddish lesions over hands and legs. The patient continued the drug for 12 days and reported to the hospital as the skin lesions became worse. The lesions were present more in the cubital fossa and on the dorsum of hands. It was now confirmed as drug allergy to clindamycin as well. Lab parameters were within normal limits (mentioned below). Clindamycin was stopped; he was given clonate lotion and cetirizine tablet for 10 days. He was also advised not to take beta-lactams and clindamycin in future.

## Lab parameters of patient

Lab indicators	Values
Hemoglobin	13.0 g%
Total leukocyte count	9400 cells/mm <sup>3</sup>
Total bilirubin	0.3 mg/dl
Direct bilirubin	0.1 mg/dl
AST	15 IU/L
ALT	15 IU/L
ALP	129 U/L
Serum sodium	136 mmol/L
Serum potassium	4.3 mmol/L
Urea	37 mmol/L
Creatinine	1.3 mmol/L

AST: Aspartate aminotransferase, ALT: Alanine transaminase, ALP: Alkaline phosphatase

## DISCUSSION

Clindamycin can cause DRESS syndrome. A case reported that oral clindamycin at a dose of 900 mg/day was given as prophylactic antibiotic postoperatively. 23 days later, skin rash appeared and clindamycin was stopped, but the skin rash developed into a generalized maculopapular rash accompanied by edema. The patient had no previous exposure or any adverse reaction due clindamycin. It was the only drug given during the 1-month period [1]. Here, our patient received only clindamycin (1350 mg/day) postdischarge for empyema and the skin problems started on second day but became more severe on the 12<sup>th</sup> day. A similar case of DRESS syndrome associated with clindamycin was seen when patient was given clindamycin for 10 days along with methyl prednisolone. After the consumption of last dose patient developed rash mainly in antecubital fossa, neck, abdomen and bilaterally over neck, abdomen, thighs legs and face [2]. Our case also reported rash around the same period more in severity and similar areas of the body. Another interesting case report of fatal clindamycin-induced DRESS syndrome where a 63-year-old woman who initially presented with rash and acute kidney injury secondary to treatment with clindamycin for a methicillin-susceptible *Staphylococcus aureus* prosthetic hip infection. Her rash progressed to desquamation of over 90% of her body surface area. Her

renal functioned severely deteriorated. This case also shows the effect of adverse reaction of clindamycin [3]. Our patient did not develop DRESS syndrome as his laboratory values are within normal limits.

Patch tests help to confirm the etiology of the cutaneous adverse drug reactions involving delayed hypersensitivity mechanisms. A study showed that 30% of patients showed positive result for clindamycin [4]. In a study 5/33 patients showed allergic diagnostic tests was positive and showed delayed-type non-IgE-mediated allergic clindamycin hypersensitivity [5]. Acute generalized exanthematous pustulosis is a rare skin eruption most commonly caused by medications, and 4 cases have been reported [6-9]. This shows that clindamycin causes drug allergy. A study was carried out for the incidence of hospital-wide adverse drug reactions from clindamycin from 1995 to 1997 in a tertiary care center using pharmacy records. They concluded that adverse drug reactions to clindamycin are much lower than reported 25 years ago with an incidence of <1%. They also found that a patient who had previously experienced facial edema and a generalized rash after receiving clindamycin and a cephalosporin 6 years ago and who was allergic to cephalosporins found to be allergic to clindamycin also when she received a pre-operative dose of clindamycin. Our patient showed hypersensitivity reaction to clindamycin and subsequently showed hypersensitivity to clindamycin [10]. Causality assessment was done using the WHO-UMC causality assessment system and it was "probable" in this case [11].

#### CONCLUSION

It is imperative to keep in mind that drugs other than beta-lactams have a propensity to cause allergic reactions. Severe skin reactions secondary to clindamycin was seen on the 12<sup>th</sup> day of drug intake.

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