

AUGMENTIN INDUCED GENERALIZED EXFOLIATIVE DERMATITIS – A CASE REPORT**Priya Biji^{1*}, Infant Smily Alphonse¹, Santhoshini Dhevi Kathirvel¹, Sheik Haja Sherief² and Sivakumar Thangavel³**¹Pharm D, Interns, Nandha College of Pharmacy and Research Institute, The Tamil Nadu Dr. MGR Medical University Chennai, Erode, 638052, India.²Professor and Head, Department of Pharmacy Practice, Nandha College of Pharmacy and Research Institute, The Tamil Nadu Dr. MGR Medical University Chennai, Erode, 638052, India.³Principal, Nandha College of Pharmacy and Research Institute, The Tamil Nadu Dr. MGR Medical University Chennai, Erode, 638052, India.***Corresponding Author: Priya Biji**

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ABSTRACT

Drug induced Exfoliative Dermatitis (ED) is a rare form of drug hypersensitivity reaction (DHR) involving skin and mucous membranes, usually seen from days to several weeks after drug exposure.^[1,2] Augmentin (Amoxicillin and Clavulanic Acid) is a combination of a penicillin-type antibiotic and a beta-lactamase inhibitor, used to treat many bacterial infections. We present a case of 59 year old male patient who developed itching all over the body, erythema over the face, shoulder region along with non-follicular lesions indicating exfoliative dermatitis following the administration of Augmentin.

KEYWORDS: Exfoliative Dermatitis (ED); Augmentin (Amoxicillin and Clavulanic Acid).**INTRODUCTION**

Augmentin is a combination of Amoxicillin and Clavulanic Acid where Amoxicillin is an antibiotic belonging to a group of drugs called Penicillins. Amoxicillin fights bacteria in the body. Clavulanate Potassium is a Beta-Lactamase inhibitor that helps to prevent certain bacteria from becoming resistant to Amoxicillin. It is indicated for short-term treatment of bacterial infections, also indicated for prophylaxis against infection associated with major surgical procedures such as gastrointestinal, pelvic, head and neck, cardiac, renal, joint replacement and biliary tract. Penicillin mostly leads to allergic reactions and anaphylaxis. Hypersensitivity Reactions such as rashes, pruritus, urticaria, angioedema, and some rare skin reaction such as Erythema Multiforme, Stevens-Johnson syndrome, Acute Generalized Exanthematous Pustulosis, Hypersensitivity Vasculitis, and an occasional case of Exfoliative Dermatitis have been reported.

Cutaneous drug eruptions are one of the most common types of adverse reaction to medications, with an overall incidence of 2–3 % in hospitalized patients.^[3] Generalized exfoliative dermatitis, or erythroderma, is an inflammatory skin disorder with erythema and scaling of the entire cutaneous surface. Such reactions may be in response to certain medicines, a pre-existing skin

condition, and sometimes cancer. In approximately 25% of people, it is idiopathic. Drug-induced exfoliative dermatitis is a relatively rare, but potentially serious reaction that is characterized by erythema, pruritus and desquamation involving large areas of the skin.^[1,3] It often begins a few weeks following the administration of a responsible drug either progressing from a maculopapular eruption or developing as erythematous patches that progress to desquamation. Treatment consists of withdrawing the offending drug, provide supportive care, comprehensive wound and skin care, antihistamine and systemic corticosteroids for severe condition.

CASE REPORT

A 59 year old male patient was presented with a complaints of swelling and pain in right leg, had an alleged history of road traffic accident. He had past medical history of Hypertension and was on treatment with T. Amlodipine since 4 years. On examination, he was diagnosed with closed comminuted fracture both bone of right leg. Hence, Open Reduction and Internal Fixation with interlocking nail at right tibia done and was prescribed with T.Amlodipine 5mg OD, T. Aceclofenac 100mg BD, T.Pantoprazole 40mg OD, Inj.Paracetamol 500mg BD, Inj. Augmentin 1.2g TDS. On examination, patient was conscious, oriented and stable with pulse rate

of 90/minute Systemic examination, otherwise, did not reveal any other significant findings. Laboratory finding did not reveal any significant abnormality After administrating two doses of Augmentin, the patient developed itching all over the body, erythema over face, shoulder region along with non-follicular lesions indicating exfoliative dermatitis. Inj. Augmentin was stopped by the physician and advised Inj. Avil, Inj. Dexamethasone, T. Pantoprazole. After 5 days of treatment, his symptoms gradually reduced and the patient was discharged with the advise to avoid Augmentin administration in future.

DISCUSSION

Amoxicillin combination seems to be associated with a higher risk of skin reactions than amoxicillin alone.^[4] Also, Clavulanic acid has been associated with very few allergic reactions, which may be explained by a very low allergenic potential.^[5] Several experimental data support that both the β -lactam core structure and its specific side chain are recognized by T-cell receptors in penicillin allergy.^[6,7] Augmentin is generally well tolerated. Most of the side effects observed were of a mild nature and less than 3% of patients discontinued the therapy because of drug-related side effects. The adverse reactions reported includes Gastrointestinal such as Diarrhea, nausea, vomiting, indigestion, gastritis, stomatitis, glossitis Hypersensitivity Reactions like skin rashes, pruritus, urticaria, angioedema/urticaria or skin rash accompanied by arthritis, arthralgia, myalgia, and fever, erythema multiforme, rarely Stevens-Johnson syndrome and toxic epidermal necrolysis. There is a trend toward an increase of late response to penicillins nowadays due to the increased consumption.^[8] Similarly in our case, we observed exfoliative dermatitis as a result of delayed type allergic reaction. In such reactions, the drug should be discontinued with physician's advice and managed with antihistamines and, if necessary, systemic corticosteroids. Hence, in such situation delayed readings of skin tests should be carried out to produce more accurate informations.^[9,10]

CONCLUSION

Augmentin is a widely prescribed drug. Physician should be cautious about its adverse effect profiles and should carefully evaluate such drug-associated reactions. Proper documentation and reporting are needed and patient should be advised regarding the culprit drug and its deleterious effect so as to avoid its recurrence in future. We also suggest that the assessment of allergic contact dermatitis to the widely used combination of amoxicillin and clavulanic acid should include separate testing of the two compounds. This procedure may help to detect further drug allergies to clavulanic acid otherwise assigned to amoxicillin.

REFERENCE

1. Schwartz RA, McDonough PH, Lee BW. Toxic epidermal necrolysis: Part I Introduction, history, classification, clinical features, systemic manifestations, etiology, and immunopathogenesis. *J Am Acad Dermatol*, 2013; 69(2): 173–174.
2. Yacoub. Drug induced exfoliative dermatitis: state of the art. *Clin Mol Allergy*, 2016; 14: 9.
3. Nayak S, Acharjya B. Adverse cutaneous drug reaction. *Indian J Dermatology*, 2008; 53(1): 2–8.
4. Karakayli G, Beckham G, Orengo I, Rosen T. Exfoliative dermatitis. *Am. Fam. Physician*, 1999; 59(3): 625–630.
5. Salvo F, Polimeni G, Moretti U, Conforti A, Leone R, Leoni O, et al. Adverse drug reactions related to amoxicillin alone and in association with clavulanic acid: data from spontaneous reporting in Italy. *J Antimicrob Chemotherapy*, 2007; 60: 121-126.
6. Padovan E. T-cell response in penicillin allergy. *Clin Exp Allergy*, 1998; 28: 33–36.
7. Weltzien H U, Padovan E. Molecular features of penicillin allergy. *J Invest Dermatol*, 1998; 110: 203–206.
8. Blanca M: Allergic reactions to penicillins. A changing world? *Allergy*, 1995; 50: 777-82.
9. Barbaud AM, Bene MC, Schmutz JL, et al.: Role of delayed cellular hypersensitivity and adhesion molecules in amoxicillin-induced morbilliform rashes. *Arch Dermatol*, 1997; 133: 481-86.
10. Romano A, Quarantino D, Di Fonso M, et al.: A diagnostic protocol for evaluating nonimmediate reactions to aminopenicillins. *J Allergy Clin Immunol*, 1999; 103: 1186-90.