

Amoxicillin-clavulanic Acid Induced Stevens Johnson Syndrome: A Pediatric Case Report

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ABSTRACT

Stevens Johnson Syndrome is an unlikely, lethal, severe skin and mucosal hypersensitive reaction of delayed type, identified by detachment of epidermis, necrosis of mucosa with stomatitis and purulent conjunctivitis requiring prompt medical intervention. Drugs like antibiotics, anticonvulsants and oxide inhibitors are the vital cause of developing Stevens Johnson syndrome. A 12 year old female patient was admitted in pediatric department with the chief complaints of oral lesions on the bilateral buccal mucosa and hard palate causing difficulty in opening mouth and swallowing since 10 days. Past medical history revealed that the patient had fever and sore throat and was prescribed tablet amoxyclav (amoxicillin – clavulanic acid) by a local medical practitioner, after that patient developed ulcer in the buccal cavity and around the lips. The patient was managed with cephalosporin antibiotic (ceftriaxone), betadine mouthwash, candid ointment, nutritional supplements and systemic steroids (dexamethasone). Naranjo causality assessment score was 6 in our patient and amoxicillin clavulanic acid induced Stevens Johnson syndrome was probable and moreover on severity assessment by Hartwigs Severity Assessment Scale

the severity level for the suspected adverse drug reactions was 5 therefore amoxicillin clavulanic acid induced Stevens johnson syndrome was a severe adverse drug reaction. Early detection of symptoms of Stevens johnson syndrome followed by prompt withdrawal of offending drug and timely management can improve the clinical condition of patients.

Key words: Amoxicillin - clavulanic acid, Hartwigs Severity Assessment Scale, Stevens Johnson Syndrome, Hypersensitivity reaction, Naranjo Causality Assessment.

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INTRODUCTION

Nowadays, drug usage is causing diverse adverse drug reactions, despite their positive therapeutic effects,¹ ADRs are one of the leading causes of morbidity and mortality among the patients hospitalized² and also leads to drug withdrawal from the market and cessation of drug usage increasing financial burden on the healthcare units.³ One such drug induced cutaneous reaction is Stevens Johnson Syndrome.

Stevens Johnson Syndrome is an unlikely, lethal, severe skin and mucosal hypersensitive reaction of delayed type,^{4,5} identified by detachment of epidermis, necrosis of mucosa with stomatitis and purulent conjunctivitis and severe other symptoms like malaise, headache, cough, rhinorrhea with polymorphic lesions of skin and mucous membranes requiring prompt medical intervention.^{6,7} Drugs like antibiotics (penicillins and sulfonamides), anticonvulsants (carbamazepine), NSAIDS (ibuprofen) and oxide inhibitors (allopurinol) are the vital cause of developing SJS.⁶⁻⁸ Hence early recognition, diagnosis, treatment of such adverse reactions are vital for improving clinical condition of patients.¹ Here is a case of amoxicillin clavulanic acid induced Stevens Johnson Syndrome.

CASE REPORT

A 12 year old female patient was admitted in pediatric department with the chief complaints of oral lesions on the bilateral buccal mucosa and hard palate causing difficulty in opening mouth and swallowing since 10 days. On physical examination it was found that the patient had coated tongue, increased salivation and watery discharge from the eyes.

Past medical history revealed that the patient was having fever and sore throat and was prescribed tablet amoxyclav (amoxicillin–clavulanic acid) by a local medical practitioner, after that patient developed ulcer in the buccal cavity and around the lips. (Figure 1)

On examination they were 2 to 3 vesicles with raw erosions around the nose along with profuse bleeding. The upper and the lower lips were swollen with white slough on the tongue. Laboratory investigation revealed anemia (Hb 8.7 g/dl, reference range 12-15 g/dl), increased



Figure 1: Initial presentation of case showing lesions around the lips, nose and coated tongue.

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C-reactive protein 24 mg/lit (reference range 0-6 mg/lit) and elevated ESR 1st hr 110mm, 2nd hr 140mm (reference range <20).

Based on the clinical findings, past medical history and physical examination our diagnosis was amoxicillin-clavulanic acid induced Stevens Johnson Syndrome. On causality assessment by Naranjo scale the score for the suspected ADR was 6 therefore Stevens Johnson syndrome was a probable ADR caused by the suspected drug amoxyclav.

The patient was managed with cephalosporin antibiotic (ceftriaxone), betadine mouthwash, candid ointment and nutritional supplements further the patient was referred to dermatologist where she was given systemic steroids (dexamethasone) and local application of mucopain oral gel (benzocaine). After 2 weeks of hospitalization significant improvement was observed and she was discharged with the advice not to take penicillin antibiotic in the future.

DISCUSSION

SJS is a life threatening disorder that commonly effects skin and mucous membrane and often occurs as a severe adverse reaction to either medication or more rarely an infection. This cutaneous disease is mostly characterized by the separation of epidermis from dermis by a process called apoptosis.^{3,9} The etiological factors of SJS are infections such as (HIV, Herpes), systemic diseases like collagen vascular diseases, genetic disorders and drugs like antimicrobials, anticonvulsants, NSAIDs.¹⁰ Eyes and oral mucosa are commonly affected in SJS. In the early stages of the disease, lesions are often present around the mouth and lips which are mostly neglected by the patients. Patient should seek immediate medical help at the earliest to avoid severe outcomes of SJS.¹⁰ Patel *et al.* documented that antibiotics like penicillins sometimes causes serious adverse cutaneous drug reactions in India. Generally these adverse drug reactions are minimized by early dechallenge of causative drug.³ In this case report Amoxicillin clavulanic acid combination therapy was identified as an offending drug causing SJS because of the temporal relationship between the administration of drug and onset of symptoms.^{3,4} Naranjo causality assessment score was 6 in our patient and amoxicillin clavulanic acid induced SJS was probable and moreover on severity assessment by Hartwigs Severity Assessment Scale the severity level for the suspected ADR was 5 therefore amoxicillin clavulanic acid induced Stevens Johnson Syndrome was a severe ADR.

CONCLUSION

Early detection of symptoms of SJS followed by prompt withdrawal of offending drug and appropriate management can improve the clinical

condition of patients. Prescribers and clinical pharmacist should be very careful while prescribing such drugs and moreover patients should to be educated regarding the adverse events associated with antibiotics and should be given instructions to avoid them in the future.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

ABBREVIATIONS

ADR: Adverse Drug Reaction; **NSAIDs:** Non-steroidal Anti-inflammatory Drugs; **Hb:** Hemoglobin; **ESR:** Erythrocyte Sedimentation Rate; **SJS:** Stevens Johnson Syndrome; **HIV:** Human Immunodeficiency Virus.

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