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STEVEN JOHNSON SYNDROME (SJS) TRIGGERED BY ANTIBIOTICS: A CASE REPORT

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ABSTRACT

Background: Stevens-Johnson syndrome SJS is a very rare but serious and potentially life-threatening mucocutaneous reaction, and is usually drug-induced. It manifests as widespread skin detachment, erosions of mucosa, and systemic symptoms. Some of the drugs most commonly involved are antibiotics, especially beta-lactams. **Case Presentation:** This is a case of a 56-year-old female patient suffering from Stevens-Johnson syndrome after usage of amoxicillin-clavulanic acid for respiratory tract infection. The patient presented with very high fever and painful erythematous skin lesions that blistered with mucosal involvement of the oral and ocular surfaces, accompanied by Nikolsky's sign positive. The antibiotic was immediately stopped and the patient treated with IV corticosteroids, supportive care wound treatment and mucosal protection, to an improvement achieved with none suffered long-term consequences. **Conclusion:** This case emphasizes the importance of early detection and urgent removal of the offending drug when managing SJS. The case also stresses the need for alertness concerning severe ADRs with even the commonly used drugs and timely supportive multidisciplinary care, which is vital for recovery and preventing complications.

KEYWORDS: Stevens-Johnson Syndrome, Amoxicillin-Clavulanic Acid, Adverse Drug Reaction, Antibiotics, Skin Reaction, Case Report.

INTRODUCTION

SJS or Stevens-Johnson Syndrome is a rare and serious mucocutaneous condition, characterized by extensive detachment of skin, bullous eruptions, and the involvement of at least two mucous membranes. Any one of them is enough to classify the condition as a medical emergency due to the morbidity and mortality it can room.

Condition located on a string among severe cutaneous adverse reactions (SCARs), of which Toxic Epidermal Necrolysis (TEN) represents the high end: incidence is low, ranging between approximately 1 and 6 cases per million each year, but its mortality level can be as high as 10%. This underlines the need for prompt diagnosis and management.[1,2,3]

Medications remain the most common etiologic agents of SJS, and the majority are antibiotics (sulfonamides, penicillins, and cephalosporins), anticonvulsants, and nonsteroidal anti-inflammatory drugs (NSAIDs). Infections by organisms such as Mycoplasma pneumoniae and certain viruses may also induce SJS, more so in children.

The onset of symptoms is usually 1-3 weeks after drug exposure and is characterized by flu-like symptoms, after which painful erythematous macules, bullae, and mucosal erosions appear. Nikolsky's sign is positive, and rapid progression of lesions are all diagnostic indicators.[4,5,6]

Notwithstanding the developments in supportive treatment, SJS remains a diagnostic and therapeutic challenge. Timely identification of the offending agent and its immediate withdrawal have a notable impact on improved outcomes.

This report describes a case of SJS in a 56-year-old woman after the use of amoxicillin-clavulanic acid, a common beta-lactam antibiotic. The case illustrates the necessity of being aware of drug adverse effects in the elderly, especially when there is polypharmacy. Similarly, it leads to timely intervention to reduce complications and improve prognosis.[7,8,9]

CASE STUDY

Patient Information

- **Age:** 56 years
- **Gender:** Female
- **Ethnicity:** Indian

- **Marital Status:** Married
- **Occupation:** Housewife
- **Height:** 162 cm
- **Weight:** 68 kg
- **BMI:** 25.9 kg/m² (Overweight category)
- **Residence:** Urban area
- **Socioeconomic Status:** Middle-class
- **Education Level:** High school graduate
- **Family History:** No known history of dermatological conditions or drug hypersensitivity reactions in the family.

Presenting Complaint

The patient presented with

- High-grade fever (103°F)
- Generalized skin rash
- Painful oral ulcers
- Redness and burning sensation in the eyes

All symptoms began acutely over the last **3 days** before admission.

History of Present Illness

Approximately 10 days prior to presentation, the patient developed a sore throat and mild fever. She was diagnosed with acute bronchitis by her local physician and was prescribed.

- **Amoxicillin-clavulanic acid 625 mg** (PO BID)
- **Paracetamol 500 mg** (as needed for fever)

She began to feel better for the first few days. However, malaise with the recurrence of low-grade fever and some eye discomfort occurred on Day 6. With the onset of Day 7, a rash developed on her trunk and in the limbs associated with oral ulceration, becoming difficult to take food. The rash worsened on Day 8 with blistering, desquamation, and crusting on her lips, which was associated with mucosal pain. She was then taken to the emergency department.

Medical History

- Hypertension (Diagnosed 5 years ago, controlled with amlodipine 5 mg daily)
- Osteoarthritis (Intermittent knee pain for 2 years; uses paracetamol PRN)
- No history of diabetes mellitus, thyroid dysfunction, asthma, tuberculosis, or autoimmune disorders

Family History

No known family history of drug allergies, autoimmune skin conditions, or dermatological diseases.

Medication History

- **Regular Medications**
  - Amlodipine 5 mg once daily
- **Recent Medications**
  - Amoxicillin-Clavulanic Acid 625 mg BID × 7 days (suspected trigger)
  - Paracetamol 500 mg as needed
- **OTC Use**
  - Paracetamol or diclofenac gel occasionally for knee pain

Clinical Examination on Admission

- **General Appearance:** Ill-looking, febrile (103.2°F), dehydrated, and unable to tolerate oral intake.
- **Vital Signs**
  - Pulse: 106 bpm (regular)
  - Blood Pressure: 132/84 mmHg
  - Respiratory Rate: 20 breaths/min
  - SpO_2: 98% on room air
- **Skin Examination**
  - Multiple erythematous maculopapular lesions coalescing into purpuric patches on the trunk, upper limbs, face, and thighs.
  - Several bullous lesions with epidermal detachment covering approximately 10% of total body surface area (TBSA).
  - Positive Nikolsky's sign (epidermal sloughing on gentle pressure).
  - Tenderness on affected areas.
- **Mucosal Involvement**
  - **Oral:** Hemorrhagic crusts on lips, extensive erosions on the buccal mucosa and tongue, odynophagia.
  - **Ocular:** Bilateral conjunctival injection, mild chemosis, photophobia.
  - **Genital:** Erythematous erosions on vulvar mucosa with mild discomfort on urination.
- **Other Systems**
  - Respiratory, cardiovascular, abdominal, and neurological systems were unremarkable.

Laboratory Investigations

Parameter	Value	Normal Range	Remarks
Hemoglobin	12.4 g/dL	12–16 g/dL	Normal
Total Leukocyte Count	14,500 /mm³	4,000–11,000 /mm³	**Elevated** (neutrophilia)
Platelet Count	235,000 /mm³	150,000–450,000 /mm³	Normal
CRP	42 mg/L	<5 mg/L	**Markedly elevated**
ESR	48 mm/hr	<20 mm/hr	Elevated
AST	58 U/L	<40 U/L	Mild elevation
ALT	65 U/L	<40 U/L	Mild elevation
Serum Creatinine	0.9 mg/dL	0.6–1.2 mg/dL	Normal
Blood Urea	18 mg/dL	7–20 mg/dL	Normal
HIV, HBsAg, HCV	Non-reactive		To rule out viral triggers

HSV-1/2 IgM	Negative		
Chest X-ray	Normal		No infection
ECG	Normal sinus rhythm		

Diagnosis

The patient was diagnosed with Stevens-Johnson Syndrome (SJS), a serious skin reaction likely caused by the antibiotic amoxicillin-clavulanic acid. She developed fever, painful skin rashes, blisters, and mouth and eye ulcers. The symptoms and recent drug use helped confirm the diagnosis of drug-induced SJS.

Treatment

Day	Intervention/Treatment	Medications & Support	Remarks
Day 1 (Admission)	Diagnosis confirmed, supportive care started	- Stopped amoxicillin-clavulanic acid - IV fluids (NS, RL) - IV Dexamethasone 8 mg - IV Paracetamol 1g - Levocetirizine 5 mg - Wound care with antiseptic dressing	Admitted to ICU; pain, fever, and mucosal lesions managed
Day 2	Continued supportive care	- IV Dexamethasone 8 mg - IV Paracetamol - Oral chlorhexidine mouthwash - Lubricant eye drops (Carboxymethylcellulose) - Topical lidocaine gel for oral ulcers	Blisters started to rupture; skin protection and hydration maintained
Day 3	Ophthalmology consulted	- Continued same medications - Topical moxifloxacin eye ointment - Non-adhesive dressing changed - Soft diet introduced	Eye discomfort improved; oral intake minimal
Day 4	Systemic infection ruled out	- IV Ceftriaxone 1g BID initiated prophylactically - Electrolytes monitored - Pain well controlled	No signs of secondary infection; mild improvement in ulcers
Day 5	Corticosteroid tapering started	- Dexamethasone reduced to 4 mg - Continued wound care and mouth care - Nutritional support continued	Re-epithelialization began in some areas
Day 6	Clinical improvement noted	- Oral intake improved - Reduced paracetamol to PRN - Continued eye and oral care	Skin lesions drying and crusting
Day 7	Continued healing	- Switched to oral prednisolone 30 mg - Antibiotics continued - Topical soothing lotion for itch	General condition stable; no fever
Day 8–10	Monitoring and weaning	- Gradual tapering of steroids - Oral antibiotics continued if required - Pain and wound care continued	Most lesions healing; patient able to eat normally
Day 11–13	Preparation for discharge	- Steroids tapered off - Dressing done on alternate days - Counseled for drug allergy alert	No new lesions; stable vitals
Day 14 (Discharge)	Final review and discharge	- Complete cessation of all systemic therapy - Discharged with topical moisturizers - Follow-up after 1 week	Marked improvement; advised to avoid amoxicillin-clavulanic acid permanently

DISCUSSION

Stevens-Johnson syndrome, otherwise known as SJS, is a very serious mucocutaneous hypersensitivity-response which occurs when an individual is exposed to a specific medication or infection. The associated symptoms are general epidermal necrosis, bullous detachment, and

mucosal involvement affecting less than 10% of the body's surface area. In this particular instance, a 56-year-old female presented with Stevens-Johnson syndrome after intake of amoxicillin-clavulanic acid, which is prescribed primarily for respiratory and urinary infection purposes, according to drug history. The onset of symptom development indeed strongly correlates with drug intake, further suggesting the proposed drug etiology.[10]

Antibiotics have been proved well to be causes of SJS, for instance sulfonamides, aminopenicillins, cephalosporins, and quinolones. Amoxicillin-clavulanic acid has not been one of the most frequently reported drugs linked to this adverse reaction but has been implicated in some well-documented cases. Our patient also presented with all the characteristic symptoms- a painful skin rash, blistering, oral and ocular ulcerations, fever, and a positive Nikolsky's sign- of SJS. The criteria for clinical diagnosis were thus fulfilled because a clear history of drug exposure plus laboratory work-up against the other possible causes, such as autoimmune diseases or viral infections, showed that SJS was the definite diagnosis.[11]

The management of SJS involves early recognition and stopping the offending drug immediately. After that, the most important aspect of treatment is supportive care i.e. wound care, fluid resuscitation, regulation of temperature, control of pain, and prevention of secondary infections. In this instance, systemic corticosteroids were initiated early and tapered as the patient's condition improved. The use of corticosteroids in SJS is controversial, owing to possible immunosuppressive effects, but there is some evidence and experience that suggests they may reduce severity when used early.[12]

This case emphasizes the need for clinical awareness and heightened suspicion when skin and mucosal symptoms emerge subsequent to recent medication use. Documentation of drug allergies with the education of patients about the avoidance of the offending agent is paramount to prevention of recurrence. Reporting cases of SJS not only helps with the awareness of clinicians around the world, but it also provides data to global pharmacovigilance databases for the early detection of adverse reactions and safe prescribing practice. Vigilance toward rare but severe adverse drug reactions remains a crucial component of patient safety.[13]

CONCLUSION

This case report emphasizes the critical importance of early recognition and prompt management of Stevens-Johnson Syndrome, a rare but life-threatening adverse drug reaction. In this patient, SJS was triggered by amoxicillin-clavulanic acid, a commonly prescribed antibiotic, underscoring that even widely used medications can pose serious risks. Timely discontinuation of the offending drug, initiation of supportive care, and appropriate use of corticosteroids led to a favorable outcome. This case highlights the need for increased awareness among healthcare professionals about drug-induced SJS and the importance of documenting and educating patients on drug allergies to prevent recurrence and enhance medication safety.

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