

## STEVEN JOHNSON SYNDROME, A CASE REPORT OF A MISDIAGNOSIS

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### Abstract

Steven Johnson syndrome is a rare, life threatening disorder that is clinically manifested with rash, bullous formation, oral and ocular lesions and genital and anal lesions. Usually this syndrome begins with influenza-like symptoms and continues with a red rash and blisters. Then the top layer of the affected skin dies and sheds.[1,2] This case report is about a 28 year old male patient who was referred to the Infectious Disease Hospital of University Hospital Center Mother Theresa Tirana with the suspected diagnosis of Hemorrhagic Fever. The patient referred 5 days of malaise, rash, fever, arthralgia, myalgia, headache, and nausea As soon as the patient was admitted; we immediately performed specific serologic tests, therapeutic regimen for hemorrhagic fever and complementary examination. Within the first 10 hours, we noticed that the rash became more intense and other skin lesion and bullous formation appeared. The patient was admitted in ICU and initial diagnosis of Steven Johnson Syndrome was made. This case report elaborates the particular clinical appearance and the misdiagnosis that was associated with Steven Johnson Syndrome. [3] Specific conditions as the prolonged prodromal phase of SJS, the strong epidemiological data for hemorrhagic fever, the absence of information for misuse of drugs led us towards a "sure diagnosis" in the first place. However, the close follow-up in the ICU revealed new clinical signs and rapid differential diagnosis was done. Due to the intensive care therapy, which was applied for Hemorrhagic fever at first place, we managed to overcome complications and safe the patient life. [4]

### Introduction

The Stevens-Johnson syndrome (SJS) is a rare immune complex-mediated hypersensitivity disorder which affects approximately 2 per million persons. The syndrome was initially described in 1922 and Alan Lyell provided an early description of TEN in 1956. Both, Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN) represent the spectrum of severe cutaneous adverse reactions

(SCAR) affecting skin and mucous membranes. Steven Johnson Syndrome, clinically appears in three different forms which reflect the same condition: a mild form, called erythema multiform (where < 10% TBSA is affected), the main form (between 10 and 30%), and the severe form, called toxic epidermal necrolysis) [5]. The most important clinical signs and symptoms of SJS are the following: [7, 8]

- prodromal signs: 2-3 days of malaise, rash, fever, cough, arthralgia, myalgia, rhinitis, headache, anorexia, and nausea and vomiting, with or without diarrhea
- conjunctivitis, usually occurring 1-3 days before the skin lesions appear
- intense erythema, progressing rapidly to epidermolysis and ceasing in 2-3 days
- blisters
- mucous membrane erosion
- hemorrhagic crusting of the lips
- epidermal detachment
- extreme pain
- dehydration, which may lead to hypovolemic shock and death

Stevens-Johnson etiology is mainly a reaction to medication. Several drugs have been identified during the last decade as a triggering cause: NSAIDs, especially ibuprofen, anticonvulsants (phenytoin, valproic acid, phenobarbital, and carbamazepine), antibiotics (sulphonamides, aminopenicillins, quinolones, cephalosporins, tetracyclines, imidazole antifungal agents and allopurinol. [9] Generally, when BSA sloughing is less than 10%, the mortality rate is approximately 1-5%. When more than 30% BSA is present, the mortality rate is between 25 and 35%. The severity score called SCORTEN relates to several variables of mortality. [10] The treatment of the syndrome follows the basic treatment criteria: [11]

- rapid detection and withdrawal of all potential causative agents
- early transfer of patients to a intensive care unit
- placement of a central intravenous line

- monitoring of fluids and electrolytes.
- parenteral nutrition by a nasogastric tube in patients
- placement of a Foley catheter
- irrigation of the eyes every hour
- mouth washes frequently, and topical anesthetic for buccal pain
- patient placed in a heated environment
- anticoagulant therapy - heparin for prophylaxis of thromboembolic events
- blood transfusions if anemia is present
- corticotherapy
- systemic antibiotics (either for documented infection or prophylactic)
- pain relief with analgesics

#### **MATERIAL AND METHOD**

A 28-yr-old male, was referred to the Infectious Disease Hospital, as a suspected Hemorrhagic fever, from the regional hospital of Kukes where he had been hospitalized for 2 days.



Fig 1. Day 1 of hospitalization (consecutive skin lesion in admission and 10 hours later)

In admission the patient referred 5 days of malaise, rash, fever, arthralgia, myalgia, headache, and nausea. The patient worked as a stockbreeder and he had had frequent contact with ticks. In the objective examination (performed in both hospitals during 48 hours) the patient presented fever, a generalized macular rash, conjunctivitis and oral mucous erosions. He referred no drug misuse of antipyretics; accept for paracetamol, which according to the patient information was not overdosed. Ten hours after the admission in our hospital the patient presented in the first place a more intense erythema and a bullous formation in the left hand which rapidly involved the entire body surface. Within few hours we encountered positive Nikolsky sign, hemorrhagic crusting of the lips and conjunctivitis. Considering the latest clinical manifestation, the allergologist was asked for a consult and the diagnosis of Steven Johnson Syndrome was established in the first place. The following figures demonstrate the characteristic erythema and skin lesions in different days of hospitalization.



Fig 2. Day 4- 13 of hospitalization



Fig3. Day of Dehospitalisation

As for the patient's clinical course, the fever continued with the profile continuous and high for 7 days after the appearance skin lesions and never dropped below 38 °C . At first he was tachypneic, with acid-base disorders, but hemodynamically stable. He needed no oxygen support. Lab tests during the first week produced the following findings:

- white blood cells : 3.400
- red blood cells:4.650.000
- hematocrit : 42.7%
- platelets 123.000
- C-reactive protein : 23.8 mg/dl
- Creatin kinase: 467Ui/L
- AST 123
- ALT 120
- lactic dehydrogenase : > 625 IU/l
- albumin 2.9 g/dl
- total protein :5.3 g/dl
- sodium : 126mmol/l

Serologic tests for Hemorrhagic fever (CCHF and HFRS) resulted negative. The blood cultures resulted negative. Chest x rays evidenced no respira-

tory tract infection. The patient was treated as a burn patient with 100% BSA, as follows:

- a central intravenous catheter was placed and the patient was given fluids according to the modified Parkland formula during the first day and hydro electrolytic balance in the following days
- vital signs were monitored every hour
- nasogastric tube was placed because during the first days
- a Foley catheter was placed to measure urine output
- a termostabel environment was provided
- fresh frozen plama (twice daily)
- antiseptic solution applied on affected areas every 2 h The response to therapy was immediate after resuscitation
- Corticosteroids were administered in high doses; 200mgx 2 /day
- Antibiotics were administered because of prolonged fever, not as a prophylactic measure but mainly as a therapeutic measure.

The patient fully recovered after 20 days of hospitalization and left the infectious disease hospital in a good clinical condition .

## CONCLUSIONS

Improved treatment techniques and critical burn care have decreased the mortality and morbidity of the Stevens Johnson syndrome. Prompt recognition of the disease and treatment of patient according to strict therapeutic regimens in the ICU contributed to the successful treatment of these patients.

## DISCUSSION

SJS and TEN have traditionally been known as drug-related systemic immune reactions. Stevens-Johnson syndrome can be preceded by a prodrome consisting of fever, malaise, sore throat, nausea, vomiting, arthralgias, and myalgias. In the following days this prodromal phase continues with conjunctivitis and blisters in different mucosal areas. Stevens-Johnson syndrome commonly affects multiple organs, and esophageal strictures develop in some patients. In 70% of SJS cases, drugs are found to be the causative agents and about 25% derive by bacterial and viral infections . Neoplasms and collagen diseases have also been pointed out as possible causes. In the end, the cause of SJS is unknown in one quarter to one half of cases.[12,13] Sometimes, here are no specific clues or enough evi-

dence to point out a possible causative agent. In our case there was no evidence of drug misuse or any precedent of drug reaction. Beside this, this syndrome has also been linked to herpes simplex virus, mycoplasma bacterial species, and measles vaccine. Given the fact that our patient had strong epidemiological data and clinical features that could be correlated with hemorrhagic fever, the Steven Johnson syndrome was not suspected in the first place. Ten hours after the hospital admission, specific cutaneous manifestations raised another suspected diagnosis; the Steven Johnson Syndrome.[14,15] The criteria for diagnosis of SJS in this case consisted in the: drug exposure to antipyretics (Paracetamol), even though there were no evidence of drug misuse and dynamic changes of cutaneous elements reaching the epithelial detachment within 24 hours. In many studies, the etiologies and clinical characteristics of non-drug-related and drug-related groups are reviewed. Hence, our results suggest that early steroid therapy should be performed along with other supportive management, preferably in an intensive care unit, the sooner possible.

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