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Case Report

A CASE REPORT OF PARACETAMOL-INDUCED TOXIC EPIDERMAL NECROLYSIS IN A FEMALE PATIENT AT A TERTIARY CARE HOSPITAL IN ASSAM

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ABSTRACT

Paracetamol is one of the most commonly available over the counter drug used for the treatment of fever. It is considered to be a relatively safe drug. However, some rare cases of Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN) have been reported in the past which are thought to be associated with paracetamol use. Both SJS and TEN are severe hypersensitivity reactions and require prolonged hospitalization and intensive treatment. Here, we present the case of a 24-year-old female who developed TEN after taking two doses of paracetamol for fever.

Keywords: Hypersensitivity, Paracetamol, Toxic epidermal necrolysis.

INTRODUCTION

Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN) are serious undesirable cutaneous drug reactions that mainly involve the skin and mucous membranes. They are immune-mediated hypersensitivity reactions [1] and are mostly related to drug exposure [2]. Paracetamol is one of the most widely used analgesic and antipyretic because of easy accessibility and cost-effectiveness. In spite of being considered as comparatively harmless, undesirable events including cutaneous hypersensitivity reactions have been reported [3]. A few cases of SJS and TEN have been previously reported to be associated with paracetamol use [4,5].

CASE REPORT

A 24-year-old female had developed a fever for which she was given two tablets of paracetamol (500 mg) by a local pharmacist as an over the counter medication which was not documented. She took one tablet each for 2 days, following which she complained of a stinging sensation in both the eyes and burning sensation in the mouth on the 2nd day. This was followed by the appearance of red spots over the whole body which turned into painful blisters the next day. The patient then consulted a local general practitioner who prescribed her a pheniramine maleate (45.5 mg) injection and referred the case to Silchar Medical College and Hospital (SMCH). Because of unavoidable circumstances, there was some delay in bringing the patient to SMCH.

The girl was directly brought to the emergency department of SMCH. On examination, it was seen that she had developed peeling of skin, edema and crusting of lips, erythematous purpuric lesions in the neck, back and limbs (Figs. 1-3) and genitalia, bilateral conjunctivitis, oral ulcerations, salivation, myalgia, and fever. The patient was alert, her pulse and blood pressure were normal; she had no pallor, no icterus, no lymphadenopathy; no clubbing, and no pedal edema. On systemic examination, her respiratory, central nervous, and cardiovascular systems were within normal limits. She received a single dose of intravenous (IV) pheniramine maleate (45.5 mg) and IV hydrocortisone (100 mg) each and a bottle of normal saline in the emergency department following which she was admitted to the dermatology department as an indoor patient. She was again examined in the ward and diagnosed as a case of TEN by consultant dermatologist based on history and clinical findings.

Baseline investigations revealed the following significant findings: (i) Low hemoglobin 9.7 g/dl, (ii) high erythrocyte sedimentation rate 50, (iii) reduced platelet count 110,000, (iv) low serum albumin 2.6 mg/dl, (v) low serum sodium 127.3 mg/dl. Other parameters were within normal limits.

She was advised the following medications: (i) Injection ceftriaxone (1 g) IV twice daily after negative skin test, (ii) injection pantoprazole 40 mg IV once daily, (iii) injection pheniramine maleate (45.5 mg) intramuscularly once daily, (iv) injection dexamethasone (8 mg) IV twice daily, (v) liquid paraffin and *Aloe vera* (Lozisoft) lotion to be applied locally twice daily, (vi) carboxymethyl cellulose (Lubrex) eye drops to be applied on both eyes 6 times daily, and (vii) IV drip with normal saline, ringers lactate, and 5% dextrose.

During her stay in the hospital, she complained of difficulty in swallowing which pointed toward esophageal involvement of TEN. She was advised to take a soft diet. She was followed up for a week and it was found that she was responding well to the treatment and was heading toward recovery.

DISCUSSION

SJS and TEN are serious immune-mediated hypersensitivity reactions. SJS results in skin and mucosal eruptions that can be potentially lethal. It is considered to be a less severe form of TEN, the difference being

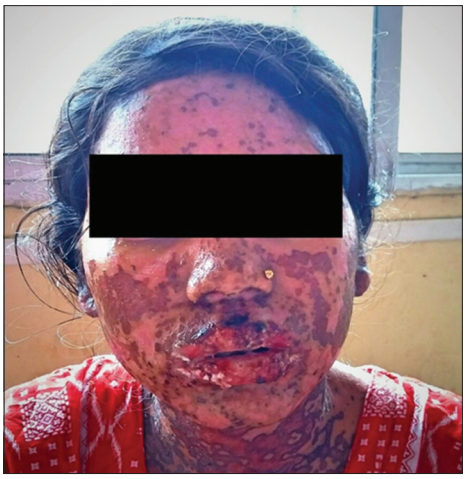

Fig. 1: Oedema and crusting of the lips

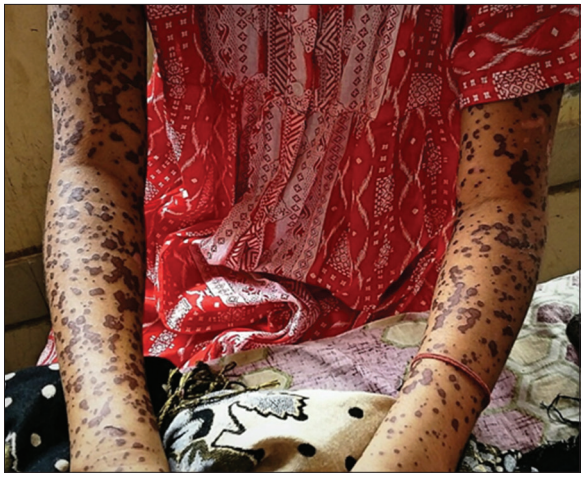

Fig. 2: Erythematous purpuric macular lesions with erythematous purpuric macular lesions involving the upper limbs involving the neck

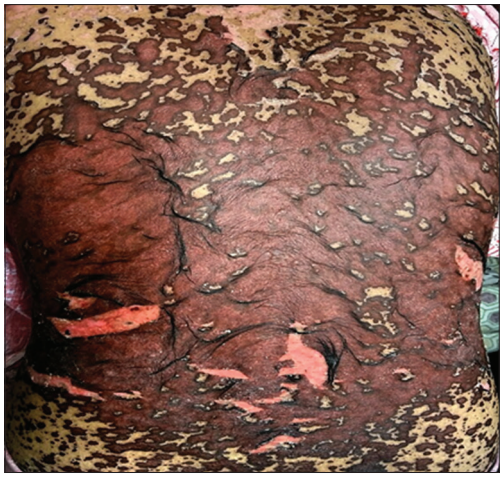

Fig. 3: Peeling of skin and erythematous lesions of skin involving the back

the extent of epidermal detachment; <10% and >30% of the total body surface area, respectively while 10-30% is known as SJS-TEN overlap [6]. The distinctive features in SJS are extensive erythematous or purpuric macules which appear as flat nonconforming target lesions as the disease advances to result in full thickness epithelial necrosis [7]. TEN is characterized by a quickly developing blistering exanthema of purpuric macules and targetoid lesions accompanied by mucosal involvement and variable skin detachment [6]. Our patient also showed similar features. The lesions were widespread and extensive epidermal detachment (>30%) was seen. Recently, the US Food and Drug Administration reported that paracetamol is associated with a risk of serious skin reactions, including TEN, they also stated that SJS/TEN can occur with even the first-time use of acetaminophen or at any time while it is being taken [8]. In addition, earlier case reports suggest that paracetamol is associated with the occurrence of SJS/TEN or SJS-TEN overlap syndromes [9].

In our study, according to the Naranjo probability scale, a causalty assessment of this adverse reaction due to paracetamol was probable (overall score-7) [10]. Oral provocation test to confirm paracetamol involvement was avoided due to associated risks.

CONCLUSION

Thus, from the above discussion, we can conclude that the causative agent is probably paracetamol as the patient did not give history of the use of any drug other than paracetamol before the incident and also that paracetamol is capable of causing such reactions as is evident from earlier reports. It is thus very essential for the clinicians to be aware and alert of severe undesirable hypersensitivity reactions that might occur even with drugs that are thought to be possibly safe such as paracetamol.

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