A Rare Case of Alternative Medicine Induced Toxic Epidermal Necrolysis without Mucosal Involvement

Sir,

A 23-year-old female with no known comorbidities presented to our department with the complaints of multiple blisters all over the body since 2 days. She gave history of ingestion and widespread application of some traditional/alternative medicine for an itchy skin rash for about 15 days which was administered by native healers following which she developed the blisters. She was diagnosed as a case of varicella in a peripheral hospital and referred to us. There was no history of ingestion/application of similar preparations in the past. The patient had discarded the remaining medicines and was not carrying them at the time of presentation to us. Hence, the constituents could not be ascertained.

On admission, she was afebrile and had pallor, tachycardia with a pulse rate of 106/min, blood pressure of 120/80 mm of Hg, and respiratory rate of 22 cycles/min. Systemic examination was essentially normal. Dermatological examination revealed multiple, discrete to confluent bullae and tender purpuric macules over face, abdomen, both upper and lower extremities, and a few erosions over abdomen [Figures 1 and 2]. Pseudo Nikolsky’s sign was positive. Urgent blood investigations revealed anemia and her total leukocyte count and blood urea nitrogen were raised (TLC-21,000/mm$^3$, BUN-35 mg/dL). Other biochemical parameters and serum electrolytes were within normal limits. Skin biopsy revealed vacuolar alteration of basal keratinocytes in the epidermis, subepidermal bullae comprising of neutrophilic infiltrate and foci of necrosis, confirming the diagnosis of toxic epidermal necrolysis (TEN) [Figure 3]. In due course, over the next few hours, denudation of skin in sheets was observed involving approximately 40% of body surface area, but all mucosae were spared. The severity-of-illness score, SCORTEN was 2 (BSA >30% and BUN >28 mg/dL). Subsequently, she developed hypotension and her total leukocyte count started dropping. She was diagnosed as a case of TEN and managed in the intensive care unit with barrier nursing care, high protein diet, intravenous fluids, and intravenous immunoglobulin (0.75 g/kg/day for 3 days). She was also administered systemic antibiotics (piperacillin 4 g/tazobactam 0.5 g 8th hourly) for 1 week as the peripheral blood smear was suggestive of sepsis. The erosions were covered with nanocrystalline silver dressings to fasten healing and to prevent infection. The patient gradually recovered and was discharged from hospital after 10 days.

TEN, a delayed type hypersensitivity reaction, is the most severe form of the spectrum of severe cutaneous adverse reactions (SCAR). It is characterized by extensive skin loss involving more than 30% of body surface area, mucosal involvement, and systemic inflammatory response.
Mucosal involvement is seen in 90-95% of patients and is preceded by a prodrome of fever, cough, rhinorrhea, general malaise, and loss of appetite. In up to 50% of them, mucositis starts before the onset of skin lesions which serves as a clue to early diagnosis. Mucosal sparing is rare in Stevens Johnson Syndrome (SJS)/TEN and can pose a diagnostic dilemma to the treating physician.

The most common drugs triggering TEN are nevirapine, phenytoin, carbamazepine, lamotrigine, phenobarbital, cotrimoxazole, sulfasalazine, allopurinol, and oxicam nonsteroidal anti-inflammatory agents. In India, use of alternative medicine is common and accounts for 2-6% of TEN. These medicines are known to contain heavy metals like lead, mercury, arsenic, cadmium, copper, thallium, and undeclared pharmaceuticals such as ephedrine, chlorpheniramine, methyltestosterone, and phenacetin. Most of the patients do not disclose the information about their consumption even on enquiry as they are under the misconception that these are safe. Temporal association with intake of these medicines is paramount in identifying the culprit drug.

The management of TEN begins with immediate withdrawal of offensive drug/s followed by supportive therapy in an ICU setting with monitoring of vital signs, fluid and electrolyte balance, strict barrier nursing, and temperature regulation. Various dressings have been used in TEN such as collagen sheets, amniotic membrane, and homograft skin. Nanosilver dressing is nonadhesive, prevents infection, requires less frequent change, and leads to faster wound healing. Specific therapy in TEN such as systemic corticosteroids, cyclosporine, intravenous immunoglobulin (IVIg), plasmapheresis, and others aim at halting the active disease process resulting in keratinocyte apoptosis.

Our case emphasizes the probability of SCAR such as TEN even with alternative medicines. At times, absence of mucosal involvement may mislead the diagnosis. A high index of suspicion is required in such cases for timely diagnosis and prompt management which can be life saving. Treatment in the form of IVIg in the background of sepsis is essential to control the disease activity and nanocrystalline silver wound dressings help in early reepithelialization.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and anonymity cannot be guaranteed.

Financial support and sponsorship
Nil.

Conflicts of interest

There are no conflicts of interest.

Rajeshwari Dabas, Navya Donaparthi, Radhakrishnan Subramaniyan1, Manasa Shettisara Janney2

Command Hospital AirForce, Bengaluru, Karnataka, 1Department of Dermatology, Venereology and Leprosy, 155 Base Hospital, Tezpur, Assam, 2Department of Dermatology, Venereology and Leprosy, Armed Forces Medical College, Pune, Maharashtra, India

Address for correspondence:
Dr. Rajeshwari Dabas,
Department of Dermatology, Venereology and Leprosy, Command Hospital Air Force, Old Airport Road, Bengaluru - 560 007, Karnataka, India.
E-mail: ajay13dabas@yahoo.co.in

References

1. Gupta L, Martin A, Agarwal N, D’Souza P, Das S, Kumar R, et al. Guidelines for the management of Stevens-Johnson syndrome/toxic epidermal necrolysis: An Indian perspective. Indian J Dermatol Venereol Leprol 2016;82:603-25.

2. Sanmarkan A, Sori T, Thappa DM, Jaisankar TJ. Retrospective analysis of Stevens-Johnson syndrome and toxic epidermal necrolysis over a period of 10 years. Indian J Dermatol 2011;56:25-9.
Letters to the Editor

3. Ernst E. Toxic heavy metals and undeclared drugs in Asian herbal medicines. Trends Pharmacol Sci 2002;23:136-9.
4. Neema S, Chatterjee M. Nano-silver dressing in toxic epidermal necrolysis. Indian J Dermatol Venereol Leprol 2017;83:121-4.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.