Sir,

Toxic epidermal necrolysis (TEN) is a life-threatening dermatological disorder characterized by widespread erythema, necrosis, and detachment of the epidermis and mucosal membranes. There is also systemic involvement and it has a high rate of morbidity and mortality. Sepsis due to open wounds is common. TEN is most commonly drug induced, but infection, malignancy, or vaccination can be an etiological factor. Estimated mortality due to TEN varies from 10% to 70% and the outcome depends on quality of care and rapidity with which treatment is initiated. Septicemia and multisystem organ failure are primarily responsible for death. We report a case of TEN successfully treated by plasmapheresis, which enhances elimination of the drug and inflammatory mediators such as cytokines.

A 42-year-old male patient presented with a history of sudden onset of bullous lesions with peeling of skin [Figure 1]. It was progressive in nature. He had a past history of head injury 1 month back, for which he was advised to take phenytoin. He was admitted to the Intensive Care Unit due to his poor general condition. On examination, 70% of the body surface area was involved. There was also involvement of eyes, oral mucosa, and genitalia. He was febrile and stuporous. Systemic examination revealed tachycardia and bilateral crepitation. Blood investigations showed deranged liver and renal functions (blood urea level – 57 mg/dL, alanine aminotransferase – 238 Units/L aspartate aminotransferase – 530 Units/L). His SCORTEN score was 5, indicating mortality up to 90%. He was treated with intravenous dexamethasone 4 mg 8 hourly and broad-spectrum antimicrobials (vancomycin 1 g 12 hourly, amikacin 750 mg 12 hourly, metronidazole 500 mg 8 hourly, and fluconazole 400 mg/day). Supportive management in the form of intravenous fluids, Ryle's Tube feeds, barrier nursing, and eye and skin care was given. There was no clinical improvement till the 5th day of initiation of the above treatment along with worsening of laboratory parameters. Hence, plasmapheresis was started. Within three cycles, he showed rapid clinical as well as biochemical recovery. Plasmapheresis was done for a total of 5 days after which his renal as well as liver functions improved and he became conscious. On the 10th day of admission, he could sit in the bed and started accepting oral feeds. His skin and oral lesions also showed marked improvement [Figure 2]. He was discharged on the 14th day of admission and was asked to do follow-up in ophthalmology as well as skin outpatient departments. Dexamethasone was tapered and stopped in 2 weeks.

The patient recovered well after plasmapheresis even if the predicted mortality was very high. It is a good adjuvant therapy to standard care which includes meticulous wound care, fluid replacement, and nutritional support. In a Japanese study, plasmapheresis was found to be an effective treatment in patients who were unresponsive to corticosteroids or having severe clinical manifestations.[1] One has to be aggressive while treating patients suffering from TEN. Patients treated aggressively show less complications as compared to patients treated supportively. However, one should also be aware of potential complications and prevent or manage them appropriately. Antibiotics, hydration, and nutrition are also important for such patients. Several studies uniformly suggest that plasmapheresis does not remove phenytoin significantly.[2] This is possibly because of the fact that phenytoin has extensive volume of distribution in fatty tissue with less availability in the blood. There is evidence to suggest the mechanisms of action of plasmapheresis by investigating the correlation between disease intensity and serum cytokine levels before and after treatment in patients with TEN.[3] Hence, the efficacy of plasmapheresis in

Figure 1: The patient with phenytoin-induced toxic epidermal necrolysis

Figure 2: Resolving skin lesions after plasmapheresis
this case is mostly due to effective removal of cytokines rather than the drug, which was immediately withdrawn.

We suggest adjunctive role of plasmapheresis in the treatment of life-threatening disease such as TEN. More studies or case reports are required to establish the role of plasmapheresis in the treatment of drug reactions.

**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 due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**
There are no conflicts of interest.

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