LETTER TO THE EDITOR

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Important Points in Toxic Epidermal Necrolysis Management

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Dear Editor,

I read with interest the case report of toxic epidermal necrolysis (TEN) reported by Al-Kathiri et al in the July 2018 issue of the *Oman Medical Journal*.[1]

There are several important points that the authors did not highlight which are critical and form the cornerstones in the care of patients with possible TEN. Firstly, the diagnosis, in this case, was delayed for 10 days from the onset of the prodromal fever and skin manifestations. This is below the standard of care internationally as almost all guidelines recommend early referral to dermatology services for patients who have skin rashes with a septic manner and unknown etiology to investigate for exfoliative skin conditions such as TEN.[2] Furthermore, the diagnosis was based on suspected TEN and never confirmed. A skin punch biopsy is the gold standard confirmatory test, which was not reported in this case.[2] Epidermal/dermal junction separation (as seen in dermatopathological biopsy examination) is the hallmark of this disease. After confirming the diagnosis, the severity of the case must be objectively assessed. This is done using a well-validated score called Score for Toxic Epidermal Necrolysis (SCORTEN).[3] This score uses seven independent variables to estimate the severity and likely mortality rate from TEN. The variables include age > 40 years, history of malignancy, total body surface area > 10%, tachycardia, elevated serum urea, elevated serum glucose, and elevated serum bicarbonate. The score is calculated on day one and three of admission.[3]

Finally, the management provided in this case is not up to the current recommendations. Below is updated evidence for the medications used for TEN management.

Systemic steroids

Even though there are several small studies to show that systemic steroids are beneficial in mortality reduction in TEN, all studies recommend initiation of steroids within two to three days of admission. Delayed steroid management could lead to a higher risk of sepsis and delayed epithelization of the denuded epidermis. A large meta-analysis in 2017 concluded that steroids are only beneficial when combined with other modalities in early management. Delayed steroid use is not recommended.[4]

Intravenous immunoglobulin (IVIG)

Historically, IVIG was used to treat TEN based on the theory that Fas Ligand (FasL) is the main mediator of keratinocyte apoptosis in which IVIG antagonizes the effect of FasL.[5] However, the current dogma in the pathophysiology of this disease highlights the role of granulysin (a protein released from cytotoxic T cells) as the main driver in this desquamating skin condition and, therefore, IVIG has minimal effect. A large systematic review in 2017 using data from 1209 patients showed no benefit of IVIG in TEN management.[4]

Cyclosporine

The case report discussion failed to mention the only drug that has been shown to reduce mortality and morbidity in TEN in randomized controlled trials, cyclosporine.

In 2018, a meta-analysis of all trials using cyclosporine showed that this treatment led to a 70% reduction in mortality compared to other modalities.[6] It is, therefore, imperative to consider cyclosporine as a first-line medication in the management of TEN.

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Finally, understanding the natural history of this disease is critical. TEN desquamating skin has three distinct phases: flare-up desquamating (day 0–5), stable healing (day 6–12), and healed (day 13–weeks). It is, therefore, very likely that the case presented in the journal has recovered not because of the management used but due to the natural trajectory of the disease. Deep dermal desquamating skin lesions require approximately two weeks to epithelize without treatment and is the time reported for healing in this case.

In summary, this letter to the editor highlights several points that have to be considered in the management of TEN.

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