

Successful Management of a 31-Year-Old Woman with Toxic Epidermal Necrolysis

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Abstract

Toxic epidermal necrolysis (TEN) is a rare but life-threatening mucocutaneous reaction most commonly induced by medications. Early recognition and multidisciplinary supportive care are pivotal to reduce morbidity and mortality. A 31-year-old woman presented with widespread erythematous scaly patches and flaccid bullae involving approximately 62% body surface area, with oral and ocular mucosal involvement, four days after receiving multiple oral medications post-cesarean section. Laboratory workup revealed hypoalbuminemia, anemia, hyperkalemia, and acute kidney injury. SCORTEN at admission was 2. Management included withdrawal of suspected drugs, systemic corticosteroid (IV methylprednisolone), aggressive fluid and wound care (NaCl wet dressing, Cutimed Sorbact coverage), topical antimicrobials, ophthalmic care including autologous serum eye drops, and multidisciplinary consultations. The patient improved and was discharged after 23 days. In conclusions, early recognition and evidence-based multidisciplinary management are crucial to optimizing outcomes in TEN.

Keywords: Toxic epidermal necrolysis, drug reaction, corticosteroid, wound care, autologous serum eye drops

Abstrak

Keberhasilan Tatalaksana Pasien Wanita 31 Tahun dengan Toxic Epidermal Necrolysis. *Toxic epidermal necrolysis* (TEN) merupakan reaksi mukokutan berat yang mengancam jiwa, umumnya dipicu oleh obat. Pengenalan dini dan penatalaksanaan suportif multidisiplin merupakan aspek penting untuk mengurangi morbiditas dan mortalitas. Seorang wanita 31 tahun datang dengan bercak kemerahan bersisik dan lepuh kendur yang melibatkan sekitar 62% luas permukaan tubuh, disertai keterlibatan mukosa mulut dan mata, 4 hari setelah mengonsumsi beberapa obat oral pasca-sectio caesarea. Pemeriksaan laboratorium menunjukkan hypoalbuminemia, anemia, hiperkalemia, dan gagal ginjal akut. SCORTEN pada saat admisi adalah 2. Terapi mencakup penghentian obat pencetus, kortikosteroid sistemik (metilprednisolon IV), perawatan luka dan cairan agresif, antibiotik topikal, terapi okulistik termasuk autologous serum eye drops, serta konsultasi multidisiplin. Pasien membaik dan dipulangkan setelah 23 hari rawat. Sebagai kesimpulan, diagnosis awal dan penatalaksanaan multidisiplin yang tepat sangat penting untuk hasil klinis TEN.

Kata Kunci: Toxic epidermal necrolysis, reaksi obat, kortikosteroid, perawatan luka, autologous serum eye drops

Introduction

Toxic epidermal necrolysis (TEN) and Stevens–Johnson syndrome (SJS) are severe cutaneous adverse reactions characterized by widespread epidermal detachment and mucosal involvement. TEN carries high morbidity and mortality, and is most commonly drug-induced. Recent literature emphasizes early identification, prompt withdrawal of offending agents, and comprehensive supportive care—often in a multidisciplinary setting—as the cornerstone of management.¹⁻⁵

Case Report

Patient information

A 31-year-old female housewife presented widespread erythematous scaly patches and flaccid bullae that progressed to erosions. Lesions involved face, neck, trunk, extremities and genitalia, estimated BSA 62%.

Clinical findings

On examination the patient was alert but appeared ill. Vital signs: blood pressure 108/64 mmHg; pulse 112/min; respiratory rate 24/min; temperature 36.4°C; BMI 20.8 kg/m². Dermatologic exam revealed widespread lenticular to confluent erythematous patches with superficial desquamation and multiple erosions with brown crusts. Mucosal involvement included oral erosions, stomatitis, and erosive genital lesions. Ocular exam noted conjunctival hyperemia, bilateral ectropion, and corneal erosions. Nikolsky's sign and diascopy were positive.

Investigations

Laboratory findings on admission included hypoalbuminemia (albumin 2.4 g/dL), anemia, hyperkalemia, and evidence of acute kidney injury. Microbiology from urine culture identified *Escherichia coli* with variable antibiotic sensitivities.

Diagnosis

Toxic epidermal necrolysis suspected secondary to potassium diclofenac, metamizole, and erythromycin; with comorbid subclinical hyperthyroidism, AKI, hypoproteinemia and anemia. SCORTEN score was 2 (predicted mortality ~12.1%).

Management

Immediate withdrawal of suspected drugs; IV methylprednisolone 125 mg daily (tapered to oral methylprednisolone 16 mg PO with taper); isotonic fluid therapy; topical NaCl 0.9% wet dressing; Cutimed Sorbact dressings changed every 72 hours; topical fusidic acid on erosions; oleum cocos for xerosis; compounded steroid-vaseline cream for dry areas; analgesia and nutritional support. Ophthalmology instituted autologous serum eye drops and lubricants. Cultures guided targeted antibiotics. Multidisciplinary consultations included Internal Medicine, Ophthalmology, ENT, Anesthesiology, and Nutrition.

Outcome

The patient demonstrated gradual re-epithelialization and resolution of new lesions. By day 23 erosions had largely healed with residual hyperpigmentation; a localized necrotic-infected ulcer on the right dorsum of the hand required targeted care. The patient was discharged with outpatient dermatology, internal medicine and ophthalmology follow-up.

Clinical Photographs



Figure 1. Initial clinical presentation showing widespread epidermal detachment and erosions on admission.

Region of facial, neck, anterior and posterior trunk, upper and lower extremities bilaterally: Erythematous patches (→), multiple, lenticular-to-plaque, discrete, partially confluent, some erosions and crusting, multiple (→) areas of desquamation (→), partially covered with scales, thin to moderate, single-layered, dry (→), partially covered with brownish crusts that are difficult to remove (→).

Region of the lips and labia majora and minora:

Multiple erosions and crusting (→), partially covered with brownish crusts that are difficult to remove (→).



Figure 2. Clinical improvement on day 23 showing re-epithelialization and residual post-inflammatory hyperpigmentation.

Discussion

Toxic epidermal necrolysis is a rare but severe drug-induced condition that carries high morbidity and mortality. It is characterized by widespread epidermal necrosis and detachment, often accompanied by mucosal involvement. The pathogenesis involves a T-cell mediated immune response, in which cytotoxic CD8⁺ T cells induce keratinocyte apoptosis through Fas-FasL interactions, granulysin, and other pathways, ultimately leading to extensive skin and mucosal damage.^{1,2} Clinical diagnosis relies on the extent of body surface area involvement, the presence of bullous lesions and epidermal detachment, and mucosal lesions. SCORTEN remains a validated prognostic scoring system, with scores of 2 indicating moderate risk of mortality.³

Immediate withdrawal of suspected drugs is essential to halt disease progression. Delays in stopping causative medications are associated with higher mortality rates.⁴ Supportive care in a multidisciplinary setting is critical for improving outcomes. This includes aggressive fluid and nutritional management to compensate for protein and fluid losses due to epidermal desquamation, and meticulous wound care using non-adherent dressings, gentle debridement, and regular monitoring for infection.^{5,6}

Systemic therapy remains a topic of debate, although studies suggest that early use of corticosteroids, cyclosporine, or TNF- α inhibitors such as etanercept may accelerate re-epithelialization without increasing mortality when applied appropriately.^{7,8} Ocular involvement requires early and intensive management to prevent chronic complications such as symblepharon, keratopathy, and xerophthalmia. Autologous serum eye drops (ASEDs) have been shown to promote corneal epithelial healing and reduce long-term ocular morbidity.⁹

Infection remains a leading cause of mortality in TEN; therefore, culture-guided antibiotic therapy is strongly recommended, especially in the presence of secondary infection or systemic signs of sepsis.¹⁰ In the present case, despite the extensive involvement of 62% BSA, the patient achieved favorable recovery due to early recognition, prompt drug withdrawal, systemic corticosteroid therapy, and coordinated multidisciplinary supportive care. This underscores that positive outcomes are possible even in severe TEN when evidence-based management principles are strictly applied.

Long-term follow-up is important to monitor for post-inflammatory hyperpigmentation, ocular surface complications, and nail dystrophy. Patient education regarding avoidance of offending medications is essential to prevent recurrence.

Conclusion

Early recognition, immediate withdrawal of suspected causative drugs, and organized multidisciplinary supportive care (including targeted ocular therapy and appropriate wound management) are essential to improve outcomes in patients with TEN. This case demonstrates that favorable recovery is possible even with extensive BSA involvement when care is timely and coordinated.

Conflict of Interest

The authors declare no conflict of interest.

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