KMJ

Case Series

Dermatologic emergencies: A case series

Shadia Sultana, Vigneshvarprashanth Umapathy, Dominic Rodriguez

Department of Internal Medicine, Kauvery Hospital, Tennur, Trichy, India
*Correspondence

Abstract: Dermatologic problems represent about 15–20% of visits to family physicians and emergency departments. Dermatologic emergencies are often a challenge for clinicians to diagnose and manage as they often resemble one another. Some of the dermatologic emergencies include Stevens-Johnson syndrome/toxic epidermal necrolysis, necrotising fasciitis, sweet syndrome, staphylococcal scalded skin syndrome, erythroderma, drug eruptions and acute angioedema. These conditions can potentially lead to acute skin failure making them emergencies. We report three successfully managed dermatologic emergencies that closely resembled each other, admitted in our internal medicine department within a span of a few days.

Keywords: Pediatric cardiology; cardiac management; cardiac arrhythmia; genetic disorders; congenital heart disease

Citation: Shadia Sultana, Vigneshvarprashanth Umapathy, Dominic Rodriguez. Dermatologic emergencies: A case series. Kauverian Med J., 2024;1(11):7-12.

Academic Editor: Dr. Venkita S. Suresh

ISSN: 2584-1572 (Online)

1. Introduction

Dermatologic problems constitute a significant portion of medical visits, accounting for approximately 15-20% of consultations in family practice and emergency departments [1]. These conditions pose a considerable challenge for clinicians due to their often similar presentations, making accurate diagnosis and management crucial. The complexity of dermatologic issues is further compounded by the vast array of potential causes, ranging from allergic reactions and infections to autoimmune disorders and malignancies. Several dermatologic emergencies, including Stevens-Johnson syndrome/toxic epidermal necrolysis, necrotizing fasciitis, Sweet syndrome, staphylococcal scalded skin syndrome, erythroderma, drug eruptions, and acute angioedema, can potentially progress to acute skin failure, necessitating immediate medical attention. These conditions are characterized by rapid onset and can lead to severe complications if not promptly recognized and treated. The skin, being the largest organ of the body, plays a vital role in maintaining homeostasis, and any compromise to its integrity can have far-reaching systemic effects. Dermatologic emergencies often present with a combination of cutaneous and systemic symptoms, making their identification challenging for non-dermatologists. For instance, Stevens-Johnson syndrome and toxic epidermal necrolysis, while primarily affecting the skin and mucous membranes, can also involve multiple organ systems, leading to potentially life-threatening complications. Similarly, necrotizing fasciitis, a rapidly progressing bacterial infection of the deep fascia, can initially mimic less severe skin conditions before rapidly deteriorating. The management of these conditions requires a multidisciplinary approach, often involving dermatologists, intensivists, and specialists from other relevant fields. Prompt recognition, early intervention, and appropriate supportive care are crucial in improving patient outcomes and reducing morbidity and mortality associated with these conditions. This report presents three successfully managed cases of dermatologic emergencies admitted to our internal medicine department within a short timeframe. These cases exhibited striking similarities in their clinical presentations, highlighting the importance of careful differential diagnosis and prompt intervention in managing such

critical dermatologic conditions. The cases serve as valuable learning opportunities, demonstrating the need for heightened awareness among healthcare providers about the potential severity of dermatologic emergencies and the importance of timely, appropriate management strategies. By analyzing these cases, we aim to contribute to the growing body of knowledge on dermatologic emergencies, potentially improving diagnostic accuracy and treatment outcomes in similar future cases. Furthermore, this report underscores the importance of continuous medical education and the need for healthcare providers to stay updated on the latest developments in managing acute dermatologic conditions.

2. Case Presentation

2.1. Case 1

Ciprofloxacin-induced Toxic Epidermal Necrolysis (TEN)

A 29- years-aged woman was referred from elsewhere for SJS/TEN for evaluation and management with worsening generalized body rash. She had a history of normal vaginal delivery 3 months back and was recently treated at a local hospital for a urinary tract infection and left eye infection. She received ciprofloxacin eye drops and oral capsules as part of treatment, following which she developed a maculopapular rash all over her body and face, with involvement of both eyes. She presented to us 72 h after drug intake.

On examination, she was noted to have redness and purulent discharge from both the eyes, peeling and detachment of skin with >30% BSA being detached, along with the presence of blisters in the forearm and neck. Erosions with involvement of oral mucosa and conjunctiva were present. Lesions were also present in the palms and soles. She also had a wet cough.

She was started on cyclosporine immediately to suppress the T cell-mediated activation. She had a SCORTEN score of 2.

The dermatologist advised to add soframycin cream for erosions, liquid paraffin for local application and triamcinolone for oral lesions. Lubricant eye drops were given every hour as per ophthalmologist's advice. She was monitored and meticulous care was given to prevent secondary infection through the eroded skin.

She then developed severe leukopenia and thrombocytopenia. Immune cytopenia was suspected; a haematologist opinion was sought who confirmed the same and advised strict aseptic care and broad-spectrum antimicrobials (meropenem and caspofungin). Cyclosporine was stopped. Her fever persisted but no reactions were noted for antibiotics.

Her total counts improved. Lesions progressed to multiple blisters in arms, forearms and legs with skin detachment over the back progressing to involve more than 50% BSA. Her vision was progressively affected and had complaints of photophobia/glare. Ophthalmologist reviewed, and made a diagnosis of exposure keratopathy of the left eye with symblepharon formation, advised aseptic eye care and symblepharon release was done by rodding.

After a few days of afebrile period and static lesions, she developed fever again with leucocytosis. Blood culture grew Acinetobacter species. An antibiotic was switched to Ampicillin/sulbactam to cover for Acenetobacter, after the test dose. She did not develop any reactions to Ampicillin. Her total counts came down and fever spikes subsided. She improved symptomatically with continual care. Her lesions were resolving and new skin formation started. She was clinically stable and was hence discharged with advice to follow up with an ophthalmologist for visual care.

On follow-up review, her skin lesions had healed well, with new skin formation. Vision was slightly better and required ophthalmological follow up.

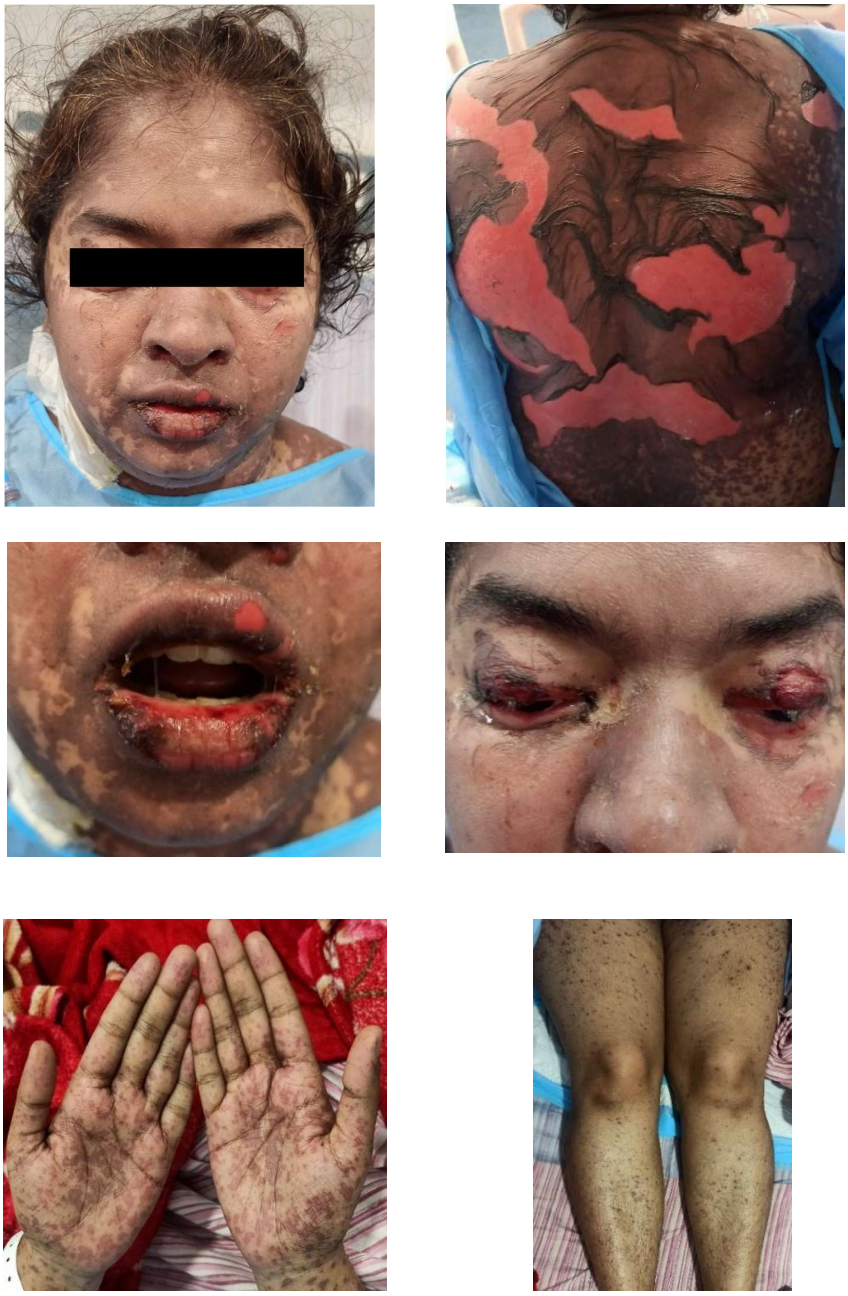

Fig. 1. Images were taken on admission with lesions occupying more than >30 % of BSA

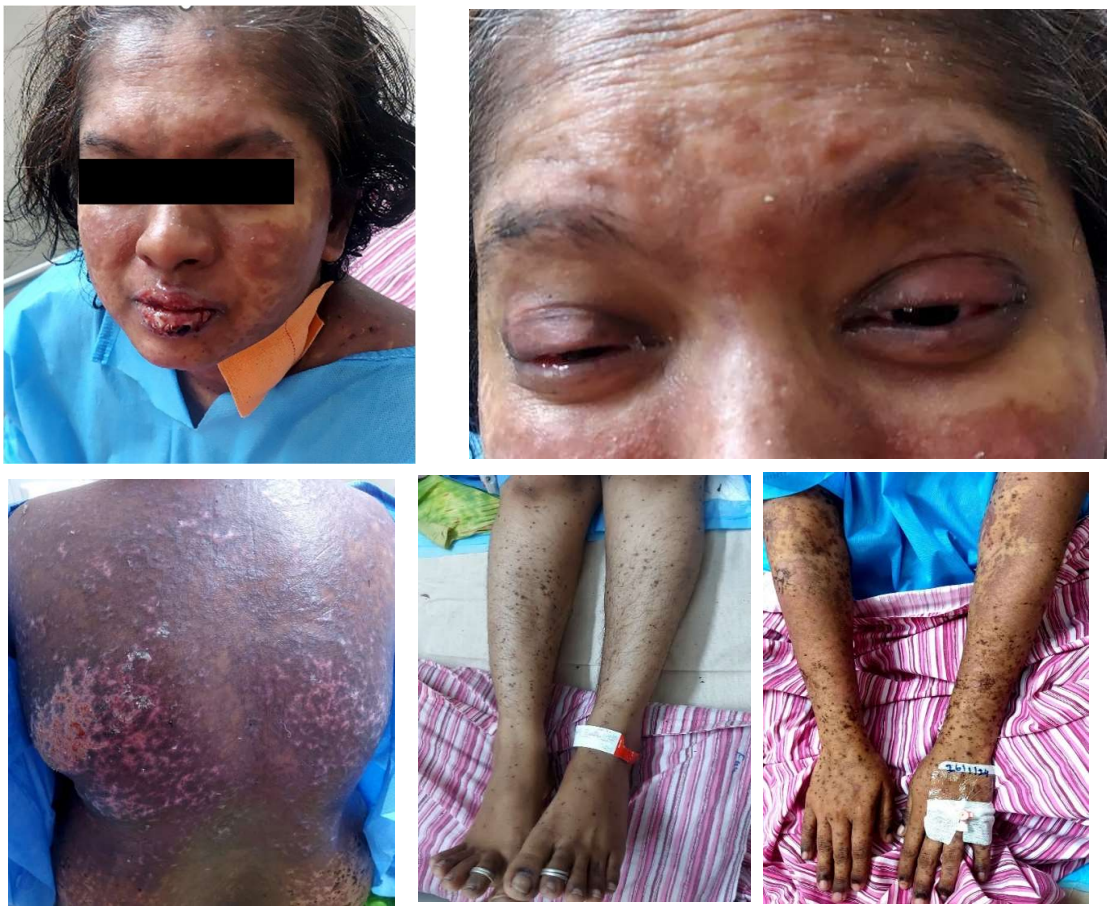

Fig. 2. Images taken on the day of discharge showing healed skin lesions.

2.2. Case 2

Staphylococcal Scalded Skin Syndrome (SSSS) in an adult

A 73-years- aged obese woman, known to have hypothyroidism, presented with chief complaints of fever, which was high grade, continuous, and associated with chills of 2 days duration and swelling with redness in bilateral lower limbs for 2 days. She has a history of recurrent cellulitis involving bilateral lower limbs with a surgical history of wide excision and skin grafting in her left lower limb.

On examination, she was conscious and oriented; noted to have generalized erythema; swelling, redness, and tenderness of both lower limbs up to thighs as well as both upper limbs; bullae over the left leg and facial swelling were also noted. However, there was no mucosal involvement. Her vitals were stable.

A diagnosis of Staphylococcal scalded skin syndrome (SSSS) was made, and she was started on intravenous Vancomycin and Clindamycin. Dermatologist's opinion was sought who confirmed the diagnosis and added topical antibacterial ointment.

She had atrial fibrillation with fast ventricular response during her stay which was reverted to sinus rhythm with amiodarone infusion. She responded well to the antibiotics and her skin lesions were healing with desquamation.

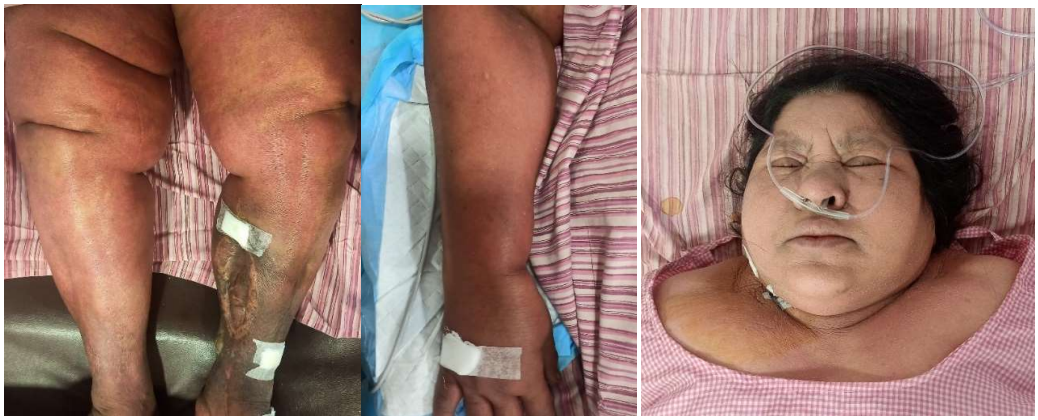

Fig. 3(a). Erythematous swelling over both lower limbs and (b) right upper limb; (c) facial edema.

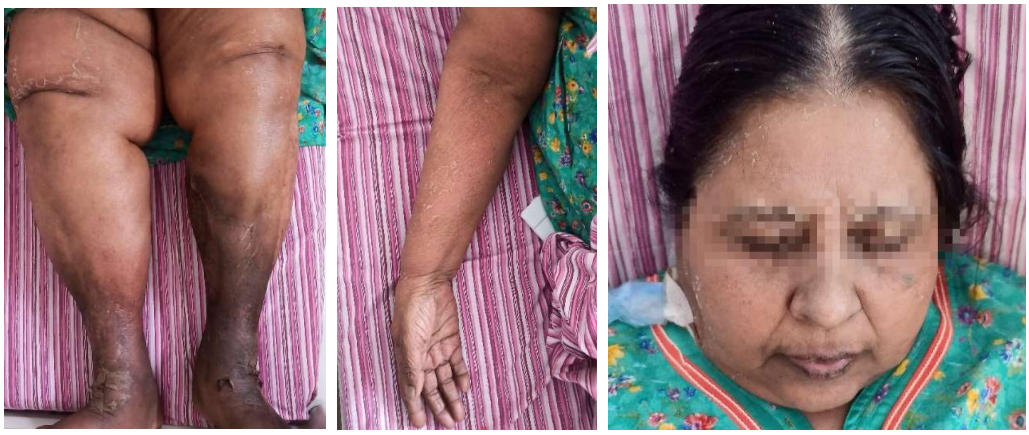

Fig. 4. Images show that the skin lesions are healing with desquamation and erythema has significantly reduced, and the facial edema has completely resolved.

2.3. Case 3

Drug Rash with Eosinophilia and Systemic Symptoms (DRESS) syndrome

A 45 years aged gentleman known to have diabetes mellitus and hypertension, with a history of left posterior triangle collection which was incised and drained and found to have melioidosis, had completed 2 weeks of Meropenem and Cotrimoxazole. He presented with swelling of the face with scaly lesions, itching and intermittent fever. On examination, he was noted to have swelling of his face with woody induration and erythematous lesions all over his trunk and upper limbs. He was also noted to have pharyngeal and penile erythema. His lab investigations showed Eosinophilia and elevated liver enzymes. The offending drug cotrimoxazole was immediately withheld and he was started on Dexamethasone and antihistamines. He recovered well and was discharged.

3. Discussion

These three patients presented at about the same time and their prompt differentiation led to successful management. If not identified earlier it could lead to acute skin failure. Acute skin failure is a dermatological emergency characterized by loss of thermoregulation and skin barrier leading to invasion by microorganisms causing sepsis and death.

Toxic epidermal necrolysis (TEN) is a severe drug reaction involving keratinocyte death. TEN is initially seen with SJS-like mucous membrane disease; progresses to diffuse, generalized detachment of the epidermis through the dermo-epidermal junction; and results in the formation of bullae and epidermal sloughing. This full-thickness loss of the epidermis results in a high death rate. Fluid loss is not a major problem; death is usually caused by overwhelming sepsis originating in denuded skin or lungs. TEN is rare, occurring in 1.3 cases per million persons per year. The death rate is 1% to 5% for SJS, and 34% to 40% for TEN.

Table 1. Usual drugs implicated in SJS/TEN

Drug classification	Culprit drug
Antibiotics	Sulfonamide, Sulfamethoxazole
Anticonvulsants	Carbamazepine, Lamotrigine, Oxcarbazepine, Phenytoin
Antiglaucoma drugs	Methazolamide
Antiretrovirals	Nevirapine
NSAIDs	Oxicam
Xanthine oxidase inhibitors	Allopurinol

Staphylococcal scalded skin syndrome (SSSS) is a skin disorder produced by a bacterial toxin that primarily affects children and rarely adults with immunodepression. The disease is less common in adults than in children, because most of adults have antibodies to the Staphylococcal exotoxin. The cutaneous lesions appear as flaccid bullae that progress to scaly and erythematous skin.

Drug reaction with eosinophilia and systemic symptoms (DRESS) is a severe adverse drug reaction characterized by an extensive skin rash in association with visceral organ involvement, lymphadenopathy, eosinophilia, and atypical lymphocytosis. The clinical presentation is heterogeneous, and the disease course is typically prolonged. Despite the cessation of the offending drug, flares of the disease may continue to occur. The latency between drug initiation and onset of disease is prolonged, typically between two to eight weeks. The reactivation of latent human herpesvirus infections is a commonly observed phenomenon.

5. Conclusion

Dermatological emergencies resemble each other and have similar differentials. As these conditions are similar, they have to be identified accurately as treatment for each varies.

Our first patient had mucosal involvement and was treated with cyclosporine and supportive care. While our second had no mucosal involvement and required antibiotic therapy and our third patient recovered after stopping the offending drug and starting on steroids. With early initiation of the right treatment, catastrophic events could be avoided.

References

1. Freiman A, Borsuk D, Sasseville D. Dermatologic emergencies. CMAJ. 2005 Nov 22;173(11):1317-9.
2. Habif's Clinical Dermatology 7th edition by JAMES G DINULOS MD.