

Toxic Epidermal Necrolysis : A Case Report

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Introduction

Toxic Epidermal Necrolysis (TEN) is a rare life threatening disorder characterised by extensive necrolysis and detachment of full thickness epidermis, generally induced by drugs [1]. First described in 1939, the condition was named as TEN by Lyell in 1956. Separation of the dermal-epidermal junction causes Nikolsky's sign and gives skin the typical "wet dressing" appearance. The condition is self-limiting, with significant morbidity rate (10-70%) and numerous sequelae may develop due to scarring [2]. Controversy persists about its definition, aetiopathogenesis and treatment [3]. Corticosteroids have been the mainstay of therapy. Cyclosporin introduced into the treatment of TEN in 1986 has been recently used in India.

Case Report

A 20-year old girl presented with abnormal sensorium, low grade fever and headache. She was diagnosed as having tubercular meningitis and put on anti tubercular therapy (ATT)-EHRZ regime along with tab phenytoin. Prednisolone 30mg/day was added. She was apparently asymptomatic for the next 6 weeks. Drug compliance was satisfactory and no adverse effects to therapy were seen, till she developed fever and skin rash. It rapidly progressed into a generalised erythematous rash with facial puffiness, upper respiratory catarrh and conjunctivitis. The patient was toxic, febrile, had polyarthralgia and respiratory infection. At this time, she was thought to be suffering from a viral exanthematous illness under care of a general physician. In the next 48 hours, her condition deteriorated with extension of skin lesions, rise in body temperature and pulse rate. The skin lesions turned purpuric and tender. Dermatological examination revealed generalised skin involvement, affecting >95% body surface area sparing only the antecubital and popliteal fossa. The skin was markedly erythematous, oedematous, tender and peeling off in the body flexures. Nikolsky's sign was positive and few flaccid bullae were seen in the dependent areas. In addition, she had stomatitis with oral candidiasis and genital mucosal sloughing (Fig. 1).

A clinical diagnosis of toxic epidermal necrolysis was made and the patient shifted to Intensive Care Unit (ICU) with burns management setup. Investigations revealed mild anaemia, polymorphonuclear leucocytosis, hypoalbuminaemia with mild increase in transaminases. Pus swab grew staphylococcus aureus. Blood culture was negative. Histopathology showed confluent keratinocyte necrosis, hydropic degeneration of basal cells and a mononuclear infiltrate around degenerating keratinocytes. Mild perivascular lymphocytic infiltrate was seen in upper dermis.

Antitubercular therapy, phenytoin, steroids, non steroidal anti inflammatory drugs (NSAIDs) and all other drugs were stopped. She was started on injection augmentin and amikacin. Syrup cyclosporin in transplant rejection dose of 12.5mg/kg/day was administered in an attempt to suppress the body's severe response. Supportive therapy in the form of injection ranitidine, injection pethidine and injection phenergan to avoid gastrointestinal bleeding and pain was instituted. Tablet fluconazole 150mg/day and clotrimazole lotion was



Fig. 1 : TEN acute phase

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administered for oral candidiasis and otitis externa. 1:100 savlon wash and framycetin tulle dressing was carried out twice a day. Celemin 1mg/kg/day was given in view of the hypoalbuminemia.

Significant improvement was seen within 4 days, with stabilisation of vital parameters, absence of fresh bullae, reduction of erythema and exudation from the skin. Injection streptomycin and tablet ciprofloxacin was instituted as alternative ATT. She improved over the next week with subsidence of lesions over the trunk and extremities. Body flexures and genitalia were last to recover. Cyclosporin and intravenous antibiotics were stopped after 10 days of therapy. Hypopigmentation on the forearms was the only residual sequelae of the disease process.

This was followed over the next few weeks by reinstatement of ethambutol, INH and pyrazinamide. However, on attempting to re-introduce rifampicin, she developed an erythematous rash, fever and pruritis within hours of drug intake. We therefore proposed that rifampicin was the incriminating drug in this case and withdrawn. The patient was informed accordingly.

Discussion

A case of rifampicin induced toxic epidermal necrolysis, which responded satisfactorily to cyclosporin is presented. Patient developed TEN about 6 weeks after initiation of ATT which manifested in the classic form. A delayed onset could be attributed to a short course of systemic steroids on initiation of ATT [4]. Management in ICU with burns protocol of fluid and electrolyte replenishment and intravenous antibiotics was beneficial to the patient. A shortened acute phase could be attributed to early and specific administration of cyclosporin. Other authors have reported similar results with cyclosporin [5]. Cyclosporin inhibits the principal cellular population involved in the pathogenesis of TEN (activated T-lymphocytes, macrophages, keratinocytes), interferes with the metabolism of tumour necrosis factor (TNF), and possesses an anti-apoptosis property [6]. The effectiveness of cyclosporin could be due to its capacity to interrupt the disease evolution and allowing early re-epithelialisation of the cutaneous surfaces affected. Energetic topical therapy reduced the residual morbidity of scarring.

The causative drug, rifampicin identified on subsequent challenge, has been reported as a cause of TEN [7]. Other ATT drugs known to produce TEN are thiacetazone, isoniazid (INH) and ethambutol. More

commonly, sulphonamides, carbamazepine, phenytoin, oxicam NSAIDs and allopurinol are incriminated. The incubation period of TEN caused by antitubercular drugs (mean 19 days) was longer than with other drugs (mean 5 days) [8].

We present this case, for its rare occurrence, extensive skin involvement, good response to cyclosporin and supportive therapy. Systemic steroids are no longer recommended as mainstay of therapy [9]. Intravenous immunoglobulin or cyclosporin along with the availability of better antibiotics has improved the outcome of such patients [10].

Conflicts of Interest

None identified

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