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Antituberculous Therapy Induced Steven Johnson Syndrome-A Case Report

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Abstract: Steven Johnson Syndrome (SJS) is one of the severe forms of cutaneous adverse drug reactions (CADRs), also known as erythema multiforme majus, it is a potentially fatal condition that manifests widely on the skin and mucosal surfaces, but also other vital organ. In 95% of case reports, drugs were found to be an important cause for the development of SJS. In this case report, a female presented to the emergency with thready pulse, blood pressure not recordable, fever and skin erosions all over the body. She was transferred to the skin ward where she was diagnosed as a case of SJS due to antituberculous therapy (ATT). She was advised corticosteroids, third generation cephalosporin and to stop the offending drugs. She recovered well and was discharged after seven days. Causality assessment was done by Naranjo's scale. Scorten scale was used for severity assessment.

Keywords: SJS, CADR, ATT, Naranjo Probability scale, Scorten Severity scale.

INTRODUCTION

SJS was first described in 1922 by Steven and Johnson as a febrile illness with stomatitis, purulent conjunctivitis and skin lesions [1]. It is an immune mediated hypersensitivity reaction in which cytotoxic T-lymphocytes play a role [2], caused due to a medication or infection. The drugs commonly implicated are antimicrobials (sulphonamides, aminopenicillins, cephalosporins and quinolones), anticonvulsants (carbamazepine, phenytoin, phenobarbitone and valproic acid), NSAID s of the oxicam type and allopurinol [2].

Being potentially fatal, it is a medical emergency. The proportion of females has been estimated to be 33-62%.The mean age of patients with SJS was twenty five years in a large cohort but cases from three months to seventy eight years have been reported [3].

SJS can be preceded by a prodrome consisting of fever, malaise, sore throat, nausea, vomiting, arthralgia and myalgias followed by conjunctivitis and bullae on the skin and mucous membranes within 14 days. Systemic involvement may also occur and necrosis of the epidermis is common.

The importance of our case is that it is a case of SJS secondary to drug therapy instituted for tuberculosis. These drugs are the first line and constitute both bacteriostatic and bactericidal drugs and are considered safe. In the Indian scenario, where tuberculosis is rampant, antituberculous drugs are the causative agent of SJS in 5.65% of the cases [4]. Of late, there have been a number of cases with severe SJS on ATT invariably associated with seropositivity to human immunodeficiency virus (HIV), associated mostly with thioacetazone. In India, SJS has been reported infrequently due to rifampicin and ethambutol [5].

Microscopic appearance is acute interface dermatitis, with vacuolization and necrosis of basal keratinocytes. Normal keratin on surface suggests an acute event in contrast to toxic epidermal necrolysis (TEN) with more extensive epidermal necrosis.

CASE HISTORY

A twenty six year old female was brought to the skin OPD in a febrile state with rapid and thready pulse and unrecordable blood pressure. She was diagnosed pulmonary tuberculosis at her native place and was taking isoniazid, rifampicin, pyrazinamide and ethambutol for the same. One week after taking ATT, she developed fever and skin erosions, starting from the face, extending to the whole body except anogenital mucosa, palm and soles. She had mild pallor, seborrhea and dry skin.

Past history revealed that she had experienced similar CADR earlier while on ATT. She was diagnosed as a case of SJS. She was advised corticosteroids, third generation cephalosporin, antihistaminics and fusidic

acid cream for local application. ATT was immediately stopped.

Cartridge based nucleic acid amplification test (CBNAAT) showed mycobacterium. Complete haemogram revealed microcytic hypochromic anaemia. Other routine investigations were within normal limits.

After two weeks of treatment, she recovered well. She was referred to the chest and tuberculosis department where ATT was again started in a very low dose with an advice to increase the dose gradually. She was discharged with advice to hold ATT and review in case of any ADR.

Total score>9 showed the probability of the ADR due to the drug to be 'definite' on Naranjo's scale. Scorten scale assessment was 2 which means that risk of dying was approximately >12.1%.

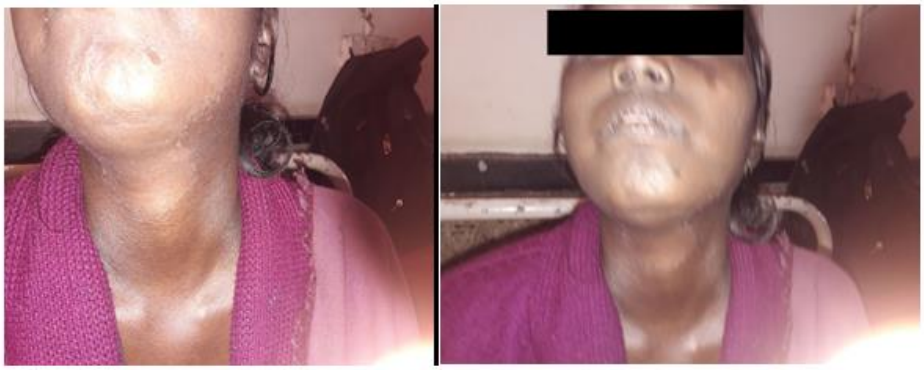

Fig-1 & 2: Sloughing of skin after erythematous rashes

DISCUSSIONS

EM, SJS and TEN are part of a clinical spectrum. TEN is the most severe form of drug induced skin reaction and is defined as epidermal detachment >30%of body surface area (BSA).SJS presents with <10% BSA involvement whereas 10-30 % is defined as SJS/TEN overlap[5].

The ATT drugs under study here are used by the patient for long term. SJS involvement of the GI may lead to stenosis or stricture with dysphagia and ileus. Epithelial necrosis of the bronchus may lead to pulmonary oedema and respiratory failure. Likewise, vaginal stenosis, conjunctivitis, ankyloblepharon, symblepharon, entropion with dry eye syndrome may ensue. Kidney, pancreas may be rarely involved. The mortality rate of SJS is 1-3% and TEN 30-50% [5].

Early diagnosis, prompt removal of the offending drug, meticulous asepsis and fluid balance are the vital ingredients for a positive outcome. Corticosteroids are the mainstay of treatment. Complications like thromboembolism can be fatal. Lid globe adhesion can be supportive.

Although rare, the first line ATT drugs can lead to hypersensitivity reactions leading to a spectrum of CADR with SJS and TEN as the most life threatening and public health issue. Therefore, caution and detailed history of past consumption of the drugs is very important for treating tuberculosis patients who are already immunogenically compromised. Given the association between HIV infection and a hypersensitivity reaction, all patients who develop SJS should be screened for HIV also.

Key Messages: Although rare, the first line ATT drugs can lead to hypersensitivity reactions leading to a spectrum of CADR with SJS and TEN as the most life threatening. Therefore, caution and detailed history of past consumption of the drugs is very important for treating tuberculosis patients who are already immunogenically compromised.

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