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Stevens - Johnson syndrome After Anti-Tubercular Therapy in a Patient with Tuberculosis of the Spine

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ABSTRACT

This case is of a 54-year-old female showing a rare and life-threatening steven johnson syndrome (Toxic epidermal necrolysis) as an adverse reaction after starting with Anti-tubercular therapy for tuberculosis of the spine (D8-D9). The patient developed a cutaneous reaction 10 days after starting treatment for Tuberculosis. The documentation of Steven Johnson syndrome after starting anti-tubercular drugs is sparse and Tuberculosis is a high-incidence and prevalence disease, the drugs used to treat the same are widely used.

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Introduction

Stevens-Johnson syndrome (SJS) is a rare, serious skin and mucous membranes disorder. It is usually a reaction to drugs for conditions like gout, seizures, or due to an infection. Stevens-Johnson syndrome is a delayed-type hypersensitivity reaction to drugs and represents a true medical emergency and early recognition and appropriate management is very important for the survival of the patient. Drug-related eruptions and cutaneous adverse reactions with antitubercular drugs are largely unknown except for a few case reports [1]. SJS/TEN manifest as an "influenza-like" prodromal phase with malaise and fever, after which the painful cutaneous and mucous membranes like ocular, oral, and genital mucous lesions occur, together with other systemic symptoms [2]. The different types of rashes observed are urticarial drug rash, maculopapular rash, lichenoid drug rash, acute generalized exanthematous pustulosis, exfoliative dermatitis, drug reaction with eosinophilia and systemic symptoms, Stevens-Johnson syndrome/toxic epidermal necrolysis [3]. Then the cells of the top layer of affected skin first die then sheds and begin to heal after a few days. Risk factors include family history, weakened immune system, and genetic history.

Case Presentation

A 54-year-old female came to our emergency department with a diagnosis of Koch's spine(tuberculosis of Spine) at D8-D9 level (figure 1) which started with pain in the back one month back. After which, she was started on antitubercular therapy.

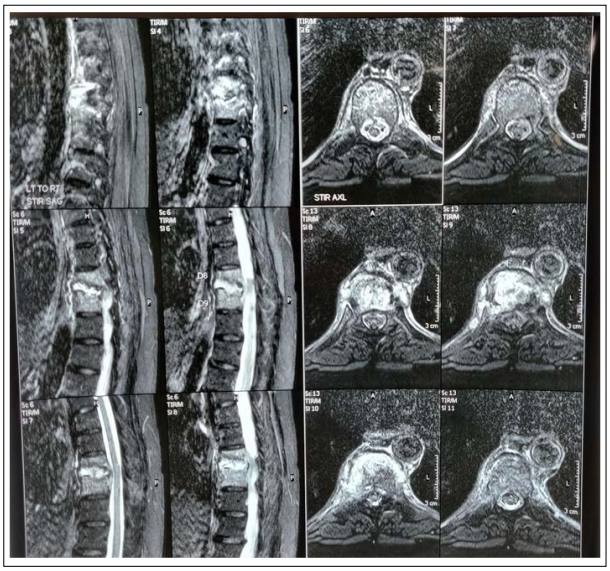

Figure 1: MRI Imaging Showing Tuberculosis of the Spine at D8-D9

The patient developed rashes all over the body (figure 2, figure 3, and figure 4) after 10 days of starting treatment. Along with rashes, the patient also developed dysphagia with mouth ulcers, lip lesions, and general weakness. There was no history of trauma, seizures, or diabetes mellitus.

Figure 2: Mucosal Ulcers of the Oral Cavity

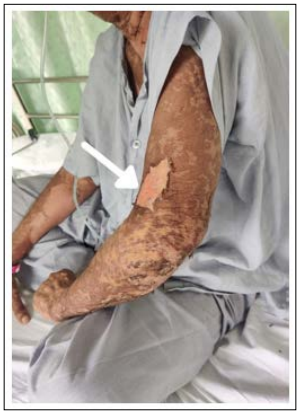

Figure 3: Blisters and Rashes of Upper Extremity- Left Elbow

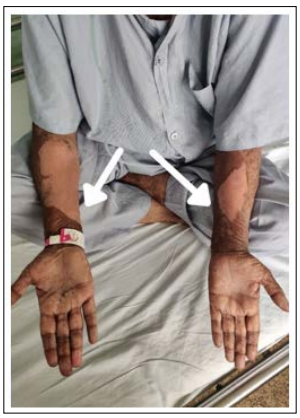

Figure 4: Blisters and Rashes of Upper Extremity, Hands

A history of high-grade fever for 10 days before the start of treatment was present which was relieved by taking medicines.

The patient noticed small red spots on the body 2 days after starting treatment, which progressed to itchy areas. They started first on the limbs, then onto the trunk and the rest of the body. A little relief was achieved when the patient used some lotion. Mouth ulceration also began at the same time progressing to dysphagia and weakness.

No History of Dry Eye or Any Burning Sensation in the Eyes

The patient was brought to the emergency department presenting with ecchymotic lesions on hands, body, face, and lips, oral ulcerations, and a history of reduced feeds so an intravenous line and a nasogastric(Ryle's tube) tube was placed in. Vitals measured were stable, and all anti-tubercular drugs were stopped. Methylprednisolone, Pheniramine was started with paraffin-soaked gauze on the lips. After further evaluation RT feeds were started with a high protein diet of 150cc started 2hourly, Fluconazole, fexofenadine, Hydroxyzine, and hydrocortisone were started. Special supervision and constant care were taken of all the drugs that were given to the patient and if any new reaction appeared. The ecchymotic lesions started healing all over the body and the ability to swallow increased gradually so Ryle's tube was removed. Slowly Methlyprednisolone was reduced and Ethambutol and Injection Amikacin was started. The patient was discharged after 14 days after the lesions were healed and feeding had resumed to normal. Further treatment was carried out from home. However, as the patient was on a combination pill of four anti-tubercular drugs we could not recognize the exact drug responsible for this reaction in this patient.

Discussion

WHO defines adverse drug reaction as"a response to a drug that is noxious and unintended and occurs at doses normally used in humans for the prophylaxis, diagnosis or therapy of disease, or modification of physiological function." [3]. Tuberculosis is a widely spread disease in India and all patients are started on anti-tubercular drugs on a clinical diagnosis until the sputum results or other diagnostic tests are reported. The development of severe reactions like Steven Johnson syndrome is unpredictable. Penicillin, sulfonamides, phenytoin, and gold have common adverse effects like maculopapular eruptions [4]. Pyrazinamide has been associated with adverse reactions of erythema multiforme [5]. Other articles show the occurrence of Steven Johnson syndrome with cotrimoxazole, Oseltamivir, and Toxic epidermal necrolysis with Tigecycline [6-8].

A fixed-dose combination of anti-tubercular drugs was started in India in 2016 when a daily regimen replaced the intermittent therapy and dosage was changed to per body weight of the patient, after which there was a slight increase in the rate of drug reaction after this, however, this is possibly due to an increased rate of TB detection or possibly due to increased dosage of drugs given in daily than thrice weekly regimen. Most of the adverse drug reactions are minor and can be managed with continued treatment. Some adverse drug reactions can be severe which may cause life-threatening reactions leading to either reduction or discontinuation of regimen and even death if not recognized and treated [9].

The latent period of appearance of rash after intake of the drug varied between 3 days to 150 days with the mean duration being 33 days [10]. A better watch should be kept on any reactions that develop and should be well taken care of by the doctor.

Conclusion

Anti-tubercular drugs are a double-edged sword as they are used to treat Tuberculosis and at the same time, they can be dangerous to the patient by causing adverse reactions. Steroid addition to anti-tubercular drugs can lead to multidrug-resistant tuberculosis. Early recognition of adverse drug reactions by active surveillance and carrying out appropriate and timely management of these adverse drug reactions can improve adherence and treatment success. The patient and their relatives should take any adverse reaction seriously, and the doctor should immediately stop all drugs. Re-challenging the patient with anti-tubercular drugs can decrease the risk of anti-tubercular therapy interruption or stoppage. The drug causing the adverse drug reactions can be found by re-challenging, and a safer anti-tubercular regimen can be restarted and monitored closely.

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