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Case Report

Carbamazepine Induced Steven Johnson Syndrome: A Case Report

Sree Nagavalli K*, Dinesh R, Moulya M.V, Yogananda R, Bharathi DR.

Department of Pharmacy Practice, SJM College of Pharmacy (BMCH&RC), Chitradurga, Karnataka – 577502.

ABSTRACT

Drugs are the most common cause that induces Steven Johnson syndrome (SJS) and includes antiepileptic drugs, antiretroviral drugs, anti-tuberculosis drugs, Sulphonamides, fluoroquinolones, penicillins, non-Steroidal anti-inflammatory drugs, Multivitamins. The genetic markers are also the cause for carbamazepine induced Steven Johnson Syndrome. In our study, the antiepileptic drug (Carbamazepine) is the cause for Steven Johnson Syndrome. A female patient aged 25 years came to the hospital with the complaints of bubbling over the skin and all over the body with papillary vesicles associated with pain and irritation, fever, myalgia, and nausea. The patient is known case of Phenytoin induced Steven Johnson Syndrome. In this case the patient developed the Steven Johnson Syndrome approximately after one month after starting the carbamazepine.By the withdrawal of the drug, the condition of the patient was improved. Recent publications and post- marketing data suggest that Carbamazepine (CBZ) associated SJS/TEN occurs at a higher rate (about 2.5 cases per 1,000 new exposures) in Asian populations.

Keywords: Carbamazepine, Steven Johnson Syndrome, Antiepileptic drugs.

INTRODUCTION

Serious allergic cutaneous reactions, especially Stevens- Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN), are among the most feared complications of antiepileptic drug (AED) therapy. SJS is characterized by a blistering exanthema with mucosal involvement and skin detachment[1]. SJS is almost drug-related and pathogenesis is multifactorial and is probably due to a dynamic interplay between acquired and constitutional factors in the presence of threshold amounts of the drug or its metabolites. An inability to detoxify intermediate drug metabolites which may serve as haptens when complexed with host epithelial tissue could initiate an immune reaction. SJS/TEN is a serious condition with reported mortality rates in the literature ranging between 10% and 75%[2].

The Pharmacovigilance Working Party (PhVWP) recommended key elements of warnings for the product information of carbamazepine, lamotrigine, phenobarbital, phenytoin, meloxicam, piroxicam, tenoxicam, regarding their rare risk of life-threatening Stevens-Johnson syndrome for early detection of these adverse reactions and subsequent permanent discontinuation of the medicine to improve their outcomes[3]. Certain human leukocyte antigen (HLA) types are sometimes associated with increased risk of SJS, including HLA B1502[4].

However, recent publications and post- marketing data suggest that CBZ associated SJS/TEN occurs at a much higher rate in some Asian populations, about 2.5 cases per 1,000 new exposures. The early symptoms of fever, malaise, cough, stinging eyes and a sore throat are often confused with an upper respiratory tract infection. This rapidly progresses to erythematous macules and targetoid lesions, epidermal detachment and mucositis. Early painful

*** Corresponding author: Sree Nagavalli.K**

E-mail address: **nagavalli.nagavalli@gmail.com**

erythema and blisters of the palms and soles are a hallmark of SJS.[5]Noel et al. 2004 reported that drugs such as anti-epileptics mainly phenytoin and carbamazepine were responsible for the majority (44%) of the ADR. Most of the studies say that cutaneous reaction induced by the drug are common, few might become fatal[6].Here we report a case of Stevens Johnson syndrome, which was induced by carbamazepine.

Case History

A 25 year old female patient visited to the hospital with the complaints of bubbling over the skin and all over the body with pain and irritation, fever, myalgia, nausea. The patient is known case of seizures from 5 years. The patient is treated with Phenytoin 100mg for which the patient has developed Steven Johnson Syndrome one year back. The patient was first admitted in Basaveswara medical college and research centre, later the patient referred to Shimoga where the patient prescribed with Carbin (Carbamazepine) 300 mg along with Clobazam 10 mg. The patient has skipped the dose and taken the double dose next day. The patient developed Steven Johnson Syndrome. (See figure 1) The patient is treated with Calosoft lotion, Cefotaxim, Pheneramine, Paracetamol, and Zinc supplement. The antiepileptic drug is changed from Carbamazepine to Levipil(Levetiracetam) for which the patient symptoms were found to be reduced.

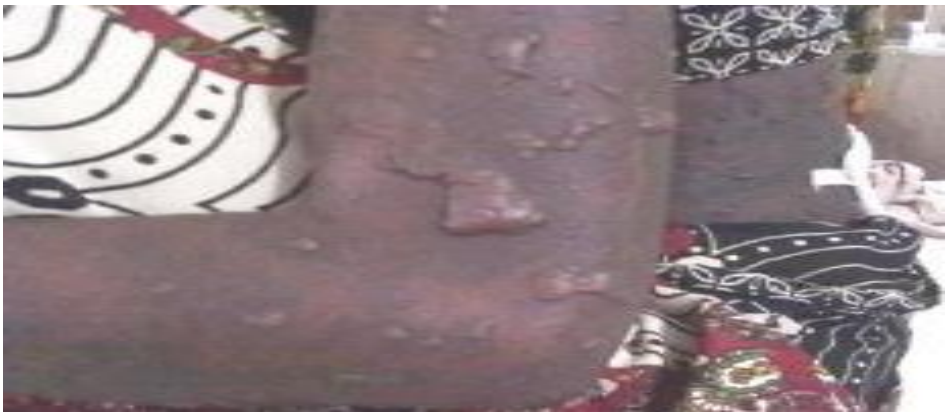

Figure 1: It displays the carbamazepine induced Stevens Johnson syndrome

DISCUSSION

The patient usually develops a hypersensitivity reaction to the drug carbamazepine between 2 and 12 weeks after starting the treatment[5]. In this case the patient developed the Steven Johnson Syndrome approximately one month after starting the carbamazepine. SJS is a form of immune system disorder, immune reaction can be triggered by many factors such as infections/illness and adverse effects of drugs. The pathogenesis of SJS remains unclear and there is considerable debate whether to treat SJS with systemic steroids. Many reports suggest that use of systemic steroids have reduced the SJS symptoms with minimal mortality rates[8].

The re-challenge of the drug was not done in the patient due to ethical constraints. In this case the patient is treated with Calosoft lotion, Cefotaxim, Pheneramine, Paracetamol, and Zinc supplement for 1 week. The patient was counselled regarding the management of the disease, and regarding the medications and diet. The condition of the patient was improved with reduced fever and bubbling over the skin and symptoms.

CONCLUSION

By the withdrawal of the drug, the condition of the patient was improved. So, the drug withdrawal is the first line for management of drug induced Steven Johnson Syndrome.

What's new?-Our findings suggest that reporting of ADR by health care professional should be encouraged.

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