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Case Study

A CASE REPORT ON CARBAMAZEPINE INDUCED STEVEN JOHNSON SYNDROME

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ABSTRACT

Drug induced Steven Johnson Syndrome is reported with barbiturates, antibiotics, anticonvulsants, and NSAIDs. Among anticonvulsants the incidence of carbamazepine induced SJS is very low (0.25%). Here we report a case of Steven Johnson Syndrome late onset, induced by carbamazepine.

Key words: Carbamazepine, Steven Johnson Syndrome, Anticonvulsants

INTRODUCTION

Steven Johnson Syndrome (SJS) is a type of hypersensitivity reaction. It occurs in response to medicines, infections, or illness. Medications that can cause this reaction include: barbiturates, penicillin's, phenytoin, and sulfonamides; infections include: herpes simplex and mycoplasma [1, 2]. Carbamazepine (CBZ) is an anticonvulsant and specific analgesic for trigeminal neuralgia. CBZ is an iminodibenzyl derivative, structurally similar to the tricyclic antidepressants. The mechanism of action remains unknown. The principle metabolite of carbamazepine, carbamazepine-10, 11-epoxide, has anticonvulsant activity as demonstrated in several in vivo animal models of seizures. South Asians, including Indians, appear to have intermediate prevalence of HLA-B*1502, averaging 2 to 4%, but higher in some groups. HLA-B*1502 is present in <1% of the population in Japan and Korea. HLA-B*1502 is largely absent in individuals not of Asian origin (e.g., Caucasians, African-Americans, Hispanics, and Native Americans) [3]. Retrospective case-control studies have found that in patients of Chinese ancestry there is a strong association between the risk of developing SJS/TEN with carbamazepine treatment and the presence of an inherited variant of the HLA-B gene, HLA-B*1502. The occurrence of higher rates of these reactions in countries with higher frequencies of this allele suggests that the risk may be increased in allele-positive individuals of any ethnicity. Across Asian populations, notable variation exists in the prevalence of HLA-B*1502. Greater than 15% of the population is reported positive in Hong Kong, Thailand, Malaysia, and parts of the Philippines, compared to about 10% in Taiwan and 4% in North China. 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 [4] Case reports on CBZ (100 mg) induced SJS late onset reported to be less. This report presents a case of CBZ induced SJS in an epileptic patient with type 2 diabetes mellitus.

Case History: A 56 year old female patient visited the outpatient department of hospital having signs and symptoms of malaise, rashes, pain in legs, mouth and face; increased frequency of urination for last one month. Her past medical history included type 2 diabetic since 1991 treated with metformin 500 mg, epileptic since 2004 treated with carbamazepine 100 mg and acetaminophen 500 mg SOS. Upon examination the patient was noted with skin lesions across the body, which described as an erythema oedematous patches in lower and upper limbs, and face (Figure 1). Carbamazepine induced SJS was suspected and the drug (CBZ) was withdrawn. Symptomatic treatment was initiated and the epileptic drug was changed. A skin biopsy was performed, which confirmed SJS by dermatology department. After few days of symptomatic treatment (antibiotics, prednisolone and ranitidine hydrochloride), the

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patient symptoms and skin lesions were observed to be reduced.

DISCUSSION

The patients usually develop a hypersensitivity reaction to this drug between 2 and 12 weeks after initiation of treatment [5]. In this case the patient had SJS approximately after 8 years after starting 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 [6, 7]. In this case the patient was treated with prednisolone and antibiotics for 2 weeks. The condition of the patient improved with reduced lesions. A recent study of Lonjou C describes 4 of 12 patients with CBZ-associated SJS/TEN in a case series from Europe were of Asian ancestry [8]. Drug withdrawal resulted in improvement which is the first line step for management of drug induced SJS. However re-challenge of drug was not done. The patient was counseled about the management of disease condition and medication use. Based on the available data the SJS could occur with long term use of carbamazepine at a dose of 100 mg.

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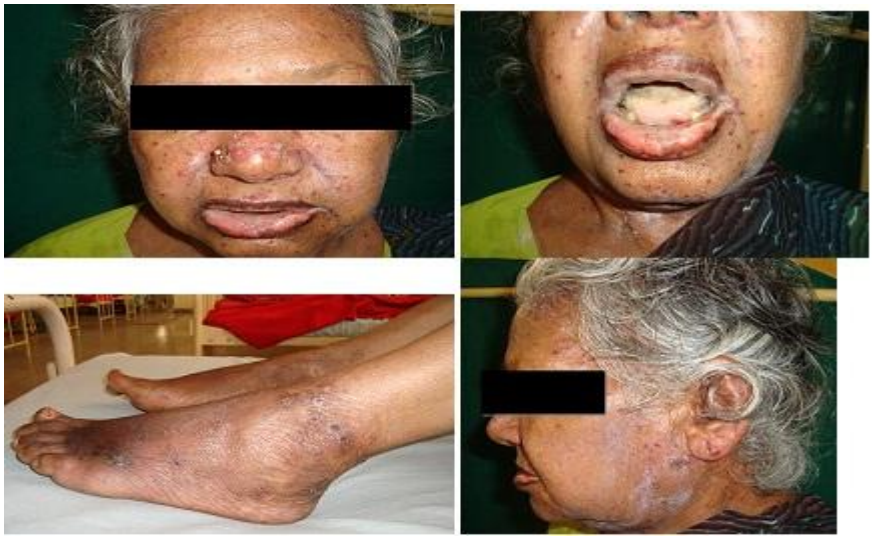

Figure 1: Showing the suspected carbamazepine induced Steven Johnson Syndrome.

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