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Case Report

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A CASE REPORT ON GABAPENTIN INDUCED DRESS SYNDROME

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ABSTRACT

Drug rash with Eosinophilia and systemic symptoms [DRESS] syndrome associated with anticonvulsant drugs is a rare but potentially life threatening adverse reaction characterized by skin rashes, fever, leukocytosis with Eosinophilia or atypical lymphocytosis, lymph node enlargement and liver or renal dysfunction. In this article a case report on GABAPENTIN induced DRESS is discussed. A 14 year old male patient admitted with complaints of fever, joint pains, itching and burning sensation of skin all over the body more over trunk and upper limbs and skin coloured papules over the palms. The patient is a known case of epilepsy since 1 year and is on Carbamazepine and later discontinued due to Steven Johnson syndrome. On previous hospital visit the patient was prescribed with Gabapentin 300 mg and used for 5 months and later develop above symptoms. All the physical examination and laboratory finding aid in supporting the diagnosis of Gabapentin induced DRESS. In this case causality assessment using Naranjo adverse drug reaction probability scaleshowed that Gabapentin was probable cause. [Score–5]. The patient was managed conservatively in a hospital setup using topical systemic corticosteroids and also managed appropriately. Patients on Gabapentin must be carefully monitored for ADRs including DRESS syndrome.

KEYWORDS: DRESS Syndrome, Gabapentin, Maculopapular Rash.

INTRODUCTION

Gabapentin is an Non aromatic anticonvulsant drug structurally related to the neurotransmitter GABA. The mechanism by which Gabapentin exerts its analgesic and anticonvulsant effects is unknown. Gabapentin is currently indicated for use in partial seizure, postherpetic neuralgia, postoperative pain, fibromyalgia and hemodialysis associated pruritis. Various adverse effects are repored for Gabapentin in which serious effects are Stevens Johnson syndrome [Dermatologic], hypoglycemia [Endocrine], Anaphylaxis, Drug reaction with Eosinophilia and systemic symptoms [Immunologic], Dizziness, Somnolence [Neurologic] and Mood swings [Psychiatric] and common adverse effects are nausea, edema, nystagmus, fever, ataxia,and fatigue.

DRESS Syndrome is defined as Drug Reaction with Eosinophilia and Systemic Symptoms is a severe, potentially life threatening acute adverse drug reaction typically characterized by a long latency period [2-6 weeks to 3 months] from drug exposure.[1] The syndrome is characterized by severe skin eruption, fever, lymphadenopathy, hematologic abnormalities [Eosinophilia, Atypical Lymphocytes] and internal organ involvement [liver, kidney, lungs, heart or pancreas]. The most common clinical presentation includes skin eruption, fever, lymphadenopathy and abnormal liver function tests.[2]

The estimated incidence of this syndrome ranges from 1 in 1000 to 1 in 10,000 drug exposures and it has a mortality rate of 10-20 %.[2] The exact pathogenesis of DRESS remains to be determined but, in cases related to anticonvulsant drugs, three components are considered: i} deficiency or abnormality of the epoxide hydroxylase enzyme that detoxifies the metabolites ii} associated sequential reactivation of herpesvirus family and iii} ethnic predisposition with certain human leukocyte antigen [HLA] alleles [immune respone].[3]

The diagnosis is confirmed by the presence of four of the following:

1. Maculopapular rash developing > 3 weeks after starting therapy with a limited number of drugs.
2. Lymphadenopathy

3. Eosinophilia
4. Hepatitis
5. Fever

Dress has no age sex predilection. It is an immune mediated idiosyncratic reaction.The causative drug is an important feature that can be used to distinguish it from other types of drug eruptions.[4]

Dress syndrome is most commonly induced by aromatic anticonvulsants [Phenytoin, Phenobarbitol, Carbamazepine] and antibiotis. Non aromatic anticonvulsants [Topiramate, tiagabine, Ethosuximide, Gabapentin and Valproic acid] are rarely encountered.[3]

Early recognition of the syndrome and withdrawl of offending drug are the most important and essential steps in the treatment of affected patients. Systemic Corticosteroids are the basis of the treatment of the syndrome.[3] It has been found to be represent the major cause of hospitalization for dermatologic complications in patients treated with anticonvulsants.

CASE REPORT

A 14 year old male patient was admitted in the hospital with the complaints of rash all over the body since 3 days his history of illness started as fever since 3 days, itchy skin lesions over the upper limbs and gradually extended to involve the trunk and lower limbs, sore throat, joint pains since 1 week and crusting over lips since 2 days. He is a known case of Epilepsy since 1 year and treated with Carbamazepine for seven months but ulterior discontinued due to adverse effect of Steven Johnson Syndrome and patient was refilled with Gabapentin 300 mg and used for 5 months and again developed symptoms like fever, maculopapular rash all over the body and diagnosed as DRESS Syndrome.

His Cutaneous examination revealed that skin coloured papules over the palms, maculopapular rash over body, Presence of facial puffiness, fissuring of lips and oral mucosa, hair, nails, soles are normal. His laboratory profile unveil that [Eosinophilia of moderate degree]. Hemoglobin 12.5 g/dl, WBC- 9200 cells/cumm, PLT – 3 lakhs, Hct 39%, MCH 37.5 pg, MCV 109.4 fL . Liver function test reveals normal. [AST 34 IU/L, ALT 16 IU/L, Direct Bilirubin 0.1 mg%, Total Bilirubin 0.8 mg % , Indirect Bilirubin 0.7mg %].

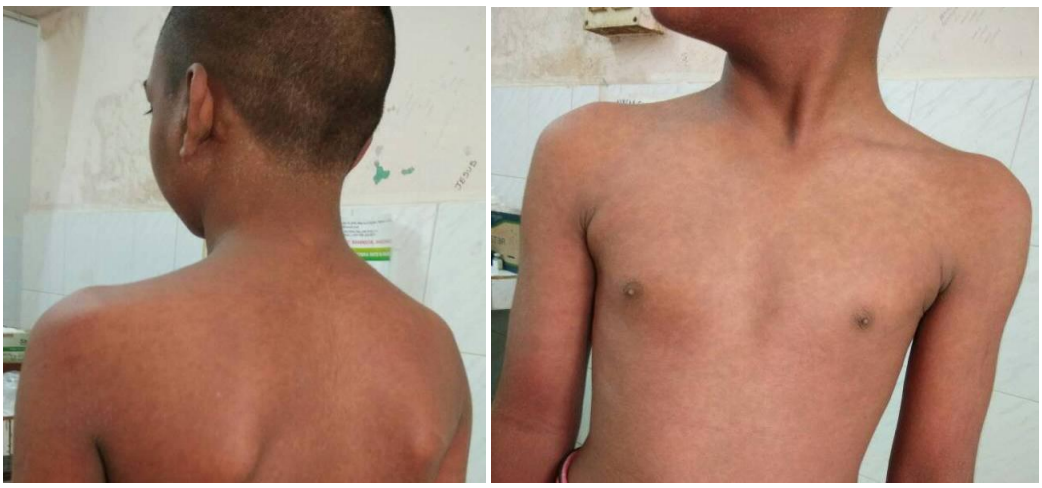

Fig: Presence of Maculopapular rash over trunk and limbs. [On day 5].

All the physical examination and laboratory finding subvention in supporting the diagnosis of Gabapentin induced DRESS Syndrome. Gabapentin was withdrawn and patient was substituted with Inj.Decadron1 CC IM OD, Tab.Cetrizine 10 mg BD, Tab.PCT 1/2 TID, Tab.Prednisolone 10 mg OD, Tab.Cefixime 200 mg BD, Calamine Lotion EA. The above mentioned therapy was continued until all the symptoms were resolved. The treatment was given for 15 days and the patient was discharged.

DISCUSSION

DRESS syndrome is an uncommon but potentially serious idiosyncratic ADR. The acronym designated by Bocquet et al.., describes a life threatening syndrome including a severe skin eruption, fever, hematological abnormalities [Eosinophilia or atypical lymphocytes] and internal organ involvement.[5] The other noteworthy features are a delayed onset, usually 2-6 weeks after the initiation of drug therapy, and the possible persistence or aggravation of symptoms despite the discontinuation of the culprit drug.[2] Its pathophysiology is unknown but it is associated with immunological and or genetic factors.

It reflects a serious hypersensitivity reaction, especially during therapy with antiepileptic drugs. Clinical features include Cutaneous eruption, fever, lymphadenopathy, skin rash suggestive of DRESS Syndrome, includes maculopapular rash or generalized erythematous rash is usually associated with facial edema.[6] Dress Syndrome is most commonly engender by aromatic anticonvulsants

and non aromatic anticonvulsants are rarely encountered as the cause of DRESS Syndrome.[5] The diagnosis of DRESS is challenging because the pattern of Cutaneous eruption and the types of organs involved are various and made by history of intake of suspected drugs, clinical manifestations and laboratory tests.[7]

In our case DRESS Syndrome developed after the introduction of Gabapentin and the patient had no known exposure to other medications that have been implicated in development of the Dress Syndrome. In this case causality assessment using Naranjo adverse drug reaction probability scale showed that Gabapentin was a probable cause for the adverse drug reaction. [score–5].[8] As Gabapentin is an non aromatic anticonvulsant, this is an interesting rare case report. The treatment consists of supportive therapy, oral or topical corticosteroids and antihistamines, maintenance of fluid and electrolyte balance. As in the management of adverse drug reactions, it mostly entangle discontinuing the suspected drug and treating the systemic manifestations and symptoms associated with the reaction. In this patient the drug was discontinued and the patient was managed conservatively for subsiding pruritis and also to reduce flaring up of the symptoms and discharged.[6] Patients on Gabapentin must be carefully monitored for ADRs including DRESS Syndrome.

CONCLUSION

DRESS is a severe Cutaneous drug reaction with high morbidity and mortality. Our patient showed typical manifestations of fever and maculopapular rash all over body. Although aromatic anticonvulsants are common cause for DRESS, but in this case emanated due to Gabapentin which is an non aromatic anticonvulsant. The patient was promptly treated, managed and showed dramatic improvement and he was discharged with strict advise to avoid Gabapentin in future. The suitable selection of antiepileptic treatment and doctors dexterity are the still the most important factors in the prevention of this syndrome.

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