Scholars Journal of Medical Case Reports **ISSN 2347-6559 (Online)**
Sch J Med Case Rep 2016; 4(4):281-283 **ISSN 2347-9507 (Print)**
©Scholars Academic and Scientific Publishers (SAS Publishers)
(An International Publisher for Academic and Scientific Resources) DOI: 10.36347/sjmcr.2016.v04i04.029

Diclofenac induced DRESS syndrome

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Abstract: Drug rash with eosinophilia and systemic symptoms (DRESS) syndrome, also known as DIHS (Drug induced hypersensitivity Syndrome), is an under-recognized, and severe adverse drug reaction characterized by skin rash, fever, lymph node enlargement, eosinophilia, atypical lymphocytes, and any internal organ involvement. The aromatic anticonvulsants (phenytoin, Phenobarbital, carbamazepine), and sulphonamides are the most common cause of DRESS syndrome, but a variety of other drugs have been associated with this syndrome. Here, we would like to report a case of Diclofenac induced DRESS syndrome.
Keywords: DRESS syndrome, DIHS, Diclofenac.

INTRODUCTION:

Drug rash with eosinophilia and systemic sym ptoms (DRESS) syndrome, is an uncommon, and life- t hreatening hypersensitivity drug reaction, which occurs within 3 weeks to 3 month period of introduction of the offending drug. Prompt recognition of this condition is very important, since this is associated with the mortalit y rate of 10 % approximately. Here, we report a case of Diclofenac induced DRESS syndrome.

CASE REPORT:

A 24-year-old male was given 6 doses of intramuscular injection of diclofenac sodium for renal colic. After 2 weeks, he presented with high grade fever, myalgia, pruritic, erythematous maculopapular, rashes over face, neck, chest, extremities (Figure 1, 2, 3), and generalized lymphadenopathy. His systemic examination was normal.

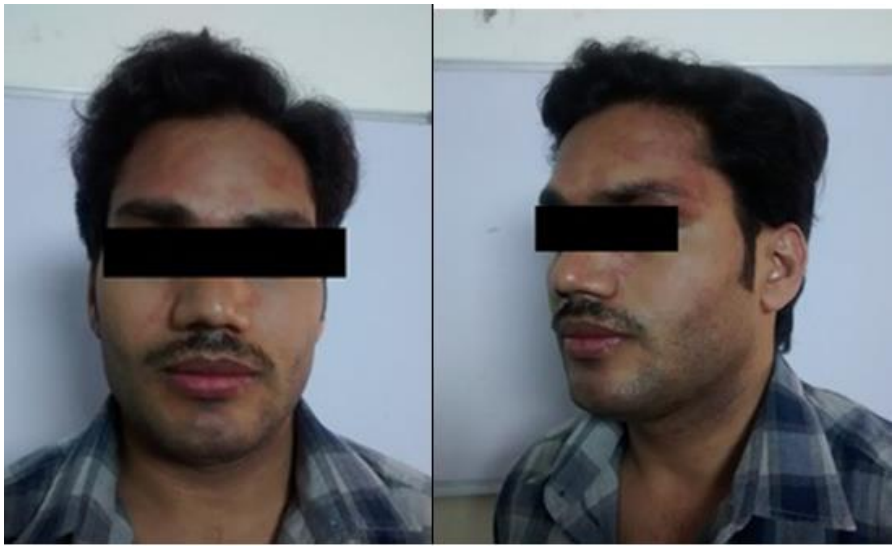

Fig 1 & 2: erythematous maculopapular rashes over face

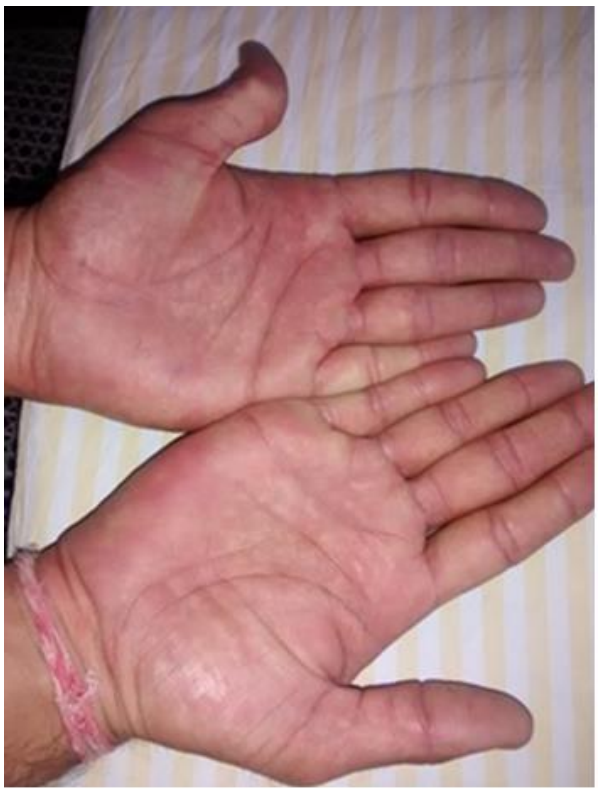

Fig 3: erythema of palms

His laboratory investigations revealed the following: Leucocytosis (11500/ mm^3), Eosinophilia (2000 / mm^3), atypical lymphocytes, raised liver enzymes (SGOT-`160 IU/ml, SGPT-170 IU/ml), and normal renal function. Serological tests for hepatitis (B, C), and HIV were negative, as were autoantibody tests, blood and urine cultures. Electrocardiogram, chest radiography, and ultrasonography of abdomen were normal.

Using Regi SCAR's criteria, DRESS syndrome was made, and he was given systemic steroid (oral Prednisolone 1 mg/kg) for 2 weeks with other supportive treatment. This led to gradual improvement in his condition, and laboratory parameters over a period of 2 weeks.

DISCUSSION:

Drug reaction with eosinophilia and systemic symptoms (DRESS) syndrome, previously known as drug-induced hypersensitivity syndrome (DIHS), was described for the first time in 1936, characterized by extensive mucocutaneous rash, fever, lymphadenopathy, hematologic abnormalities like leucocytosis, eosinophilia, and atypical lymphocytes, and with involvement of one or more internal organs, which usually occurs between 3 weeks to 3 month period of introduction of the offending drug [1].

The incidence ranges between 1 in 1000 and 1 in 10,000 exposures. Adults are more affected than children, and most cases are sporadic, with no gender predilection [2].

Although the pathogenesis of DRESS syndrome is not yet well understood, it is related to three potential causative factors have been identified among multiple cases: a) Deficiency or abnormality of the epoxide hydroxylase enzyme that detoxifies the metabolites of aromatic amine anticonvulsants (metabolic pathway), b) associated sequential reactivation of herpes virus family, and c) ethnic predisposition with certain human leukocyte antigen alleles (immune response)[3].

The aromatic anticonvulsants (phenytoin, phenobarbital, carbamazepine) and sulphonamides are the most common cause of DRESS syndrome, but a variety of other drugs, especially lamotrigine, allopurinol, non-steroidal anti-inflammatory drugs (piroxicam, naproxen, diclofenac, etc.,), captopril, calcium channel blockers, mexiletine, fluoxetine, dapsone, terbinafine, metronidazole, minocycline, and antiretroviral drugs, have been associated
With this clinical entity [4, 5].

To our knowledge, no case of DRESS syndrome associated with Diclofenac had ever been published, but it has been mentioned as one of the offending drugs for DRESS syndrome.

Kennebeck documented the frequency of clinical manifestations and laboratory data of the

DRESS syndrome: fever (90–100%), cutaneous eruption (87–90%), lymphadenopathy (70%), hepatitis (50–60%), hematologic abnormalities (23–50%), peri orbit and orofacial edema (25%), myalgia and arthritis (20%), nephritis (11%), pharyngitis (10%) and pulmonary manifestations (9%) [6]. Our patient had fever, skin rashes, lymphadenopathy, hepatitis, and haematological abnormalities.

Two groups have developed specific criteria for making the diagnosis of DRESS. (1) The Regi SCAR program was developed by an international study group investigating severe cutaneous adverse reactions (SCAR), (2) A Japanese group that investigated severe cutaneous adverse reactions to drugs (SCAR-J) adopted other criteria.

Our patient was classified as a definitive DRESS syndrome case according to the Regi SCAR scoring system. The early recognition of adverse drug reaction and withdrawal of the offending drug is an essential step toward clinical improvement. Corticosteroids (dose ≥ 1 to 1.5 mg/kg/day of prednisone or equivalent) are often used, but the evidence regarding their effectiveness is yet to be established.

CONCLUSION:

Our case resolved with systemic steroid, but the death rate in the setting of hepatic failure can reach upto 10%. Rapid diagnosis is crucial, as prompt withdrawal of the offending drug is the key for treatment. Although diclofenac is usually well tolerated, clinicians should be aware of the potential for it to cause DRESS syndrome.

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