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A CASE REPORT ON DRESS INDUCED BY SULFASALAZINE

Archana Suresh[1*], Sumeena Beevi S.[2], Dr. Arya M. S.[3] and Prof. Dr. Shaiju S. Dharan[4]

[1,2]Pharm D Intern (Department of Pharmacy Practice, Ezhuthachan College of PharmaceuticalSciences, Marayamuttom, Thiruvananthapuram, Kerala, India).
[3]Assistant Professor (Department of Pharmacy Practice, Ezhuthachan College of PharmaceuticalSciences, Marayamuttom, Thiruvananthapuram, Kerala, India).
[4]Principal/HOD (Department of Pharmacy Practice, Ezhuthachan College ofPharmaceutical Sciences, Marayamuttom, Thiruvananthapuram, Kerala, India).

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***Corresponding Author**
Archana Suresh
Pharm D Intern (Department of Pharmacy Practice, Ezhuthachan College of Pharmaceutical Sciences, Marayamuttom, Thiruvananthapuram, Kerala, India).

ABSTRACT

Drug Rash with Eosinophilia and Systemic Symptoms (DRESS) is a deadly adverse drug reaction with recognizable signs and symptoms such as skin rashes, fever, leukocytosis with eosinophilia or atypical lymphocytes, lymph node enlargement and liver or renal dysfunction. The pathogenesis of DRESS is related to an aberrant immunological response. Due to its uncommon nature and unusual clinical presentation, DRESS is frequently misdiagnosed. The most often used first line treatment is the use of systemic corticosteroids. Each physician who treats acute cases should be familiar with the clinical presentation and be able to begin the appropriate measurements due to the potentially fatal consequences. Here we describe the case of a patient admitted in our hospital for DRESS syndrome after administration of sulfasalazine.

KEYWORDS: DRESS syndrome, Sulfasalazine, Systemic corticosteroids.

INTRODUCTION

DRESS syndrome is a potential life-threatening ADR.[1] Sulfasalazine is a drug known as a Disease-Modifying Anti-Rheumatic Drug (DMARD). DRESS is a delayed type ⅣB hypersensitivity reaction to a medication or it's reactive metabolites, which may be associated with enzymatic defects in drug metabolism.[2,3] Although the exact pathogenesis of DRESS is unknown, it is believed that the offending drug causes an immune mediated hypersensitivity reaction by altering its metabolism. DRESS is characterized by exfoliative dermatitis, maculopapular rash, lymphadenopathy, fever, eosinophilia, leukocytosis and involvement of multiple internal organs such as liver, lung, heart and kidney.[4] It has been estimated that the overall population risk is between 1 in 1000 and 1 in 10,000 drug exposures.[5] The condition starts within 2–6 weeks after taking a drug. Dermatological manifestations of DRESS can be diverse, with morbilliform rash being the most common presentation. It may have a significant multisystem involvement including hematologic, hepatic, renal, pulmonary, cardiac, neurologic, gastrointestinal, and endocrine abnormalities. This syndrome has a 10% mortality rate; most commonly from fulminant hepatitis.[1] In DRESS syndrome, liver is the organ most frequently damaged. The results could be range from brief elevations in liver enzymes to liver necrosis with fulminant hepatitis which is thought to be caused by infiltration of eosinophils and could lead to liver transplantation or death.[6] In this report, a case of Sulfasalazine- Induced DRESS Syndrome is discussed.

CASE HISTORY

A 36-year-old female patient was presented to general medicine department with complaints of rashes, itching all over the body for 5 days and fever for 2 days. Patient initially went to a local hospital for fever.

The patient was diagnosed with Enthesitis Predominant SSA (HLA-B 27 +) 2 weeks ago and took T. SAZO (Sulfasalazine) 500 mg twice daily for 2 weeks. Later patient developed rashes all over the body. The patient had no other comorbid conditions. On examination, patient was afebrile with a heart rate of 80 beats/min, respiratory rate of 20 breaths/min and BP of 130/70 mmHg. Patient was alert and oriented. On physical examination, maculopapular exanthematous rashes were found all over the body and facial edema was present. The drug was discontinued on admission.

On admission, laboratory values showed anemia, leukocytosis, eosinophilia, elevated levels of ESR, CRP, bilirubin and liver transaminases.

Table 1: Laboratory investigations on admission.

LABORATORY DATA	VALUES
Hb	10.7 g/dL
Total WBC	17550 cells/cumm
Eosinophils	16.1%
Absolute eosinophil count	2830 cells/cumm
ESR	30 mm/hr
CRP	38.4 mg/dL
Total bilirubin	1.87 mg/dL
Direct bilirubin	0.83 mg/dL
Indirect bilirubin	1.04 mg/dL
ALT	297 IU/L
AST	144 IU/L

Upon admission, the patient was treated under the expert guidance of general practitioner and dermatologist of the tertiary care hospital. The management was started with Inj. Betanasol (Betamethasone) 1 cc IV TDS, Inj. Avil (Pheniramine) 1 cc IV BD, Inj. Hydrocort (Hydrocortisone) 50 mg IV Q8H, T. Atarax (Hydroxyzine) 25 mg P/O HS for managing conditions like inflammation, allergic conditions and itching respectively. Momate cream L/A BD (Mometasone) was used for reducing redness and Dermadew Caloe Lotion L/A BD for its emollient and moisturizing properties.

On second day, Dermatology consultation was done. Upon receiving laboratory data, the Dermatologist advised T. Udiliv (Ursodeoxycholic acid) 300 mg OD for treating liver injury and Cap. Evion (Vitamin E) 400 mg OD for its antioxidant and anti-inflammatory properties and Mupirocin ointment L/A BD for neck lesions to avoid secondary infection and advised for daily monitoring of liver function test.

On third day, patient was better skin lesions and facial edema were decreased so Inj. Betanasol and Inj. Hydrocort were changed to BD, Inj. Avil was stopped and T. Dazit (Desolaratidine) 5 mg OD was started for further management. Laboratory findings shown improvement in liver function. [Total Bilirubin: 1.87→1.17 mg/dL, Direct Bilirubin:0.83→0.42 mg/dL, AST: 144→21 U/L, ALP: 142→74 U/L, Indirect Bilirubin: 1.04→0.75 mg/dL, ALT:297 →78U/L].

Patient was symptomatically better on day 5. Skin lesions were improved therefore, Inj. Betanasol, Inj. Hydrocort and T. Dazit was stopped. Liver function test became normal. As the vitals were stable, on day 5, the patient was discharged with the following medications.

Table 2: Treatment Recommendations At Discharge.

BRAND NAME	GENERIC NAME	DOSE	ROA	FREQ	DURATION
T. Defza	Deflazacort	6 mg	P/O	1-0-1 1-0-½ 1-0-0	For 1 week For 1 week For 1 week
T. Atarax	Hydroxyzine	25 mg	P/O	0-0-1	For 1 week
Cap. Evion	Vitamin E	400 mg	P/O	1-0-0	For 2 weeks
Mupirocin Ointment	Mupirocin	5 gm	L/A	BD (On neck)	For 1 week
Dermadew Caloe Lotion	Aloe vera gel, Light liquid paraffin, Calamine	100 ml	L/A	BD	For 1 week

The patient was advised to review on OPD after 1 week.

DISCUSSION

DRESS which is also termed as Drug-Induced Hypersensitivity Syndrome (DIHS) is a distinct severe adverse drug reaction to certain medications characterized by a long latent period.[7] The aromatic anticonvulsants (phenytoin, phenobarbital, carbamazepine) and sulphonamides are the most common causes of DRESS syndrome.[8,5] In this case, after taking sulfasalazine the patient began to experience rashes all over the body and fever. DRESS syndrome normally develops within two months after the offending drug's consumption, with symptoms appearing 2 to 6 weeks following the first usage. Re exposure, on the other hand, may cause symptoms to appear more quickly and to be more severe.[9] Here the patient develops symptoms after 2 weeks of taking sulfasalazine. The suspected drug should be discontinued immediately. Delaying this measure may be associated with worse prognosis. In our case the offending drug sulfasalazine was stopped. Glucocorticoids remain the most widely used agents, although the dosages vary widely across case reports. Favorable results have been reported with its use.[9] In this case, IV glucocorticoid steroids were administrated for the management and was tapered accordingly. Patient improved symptomatically after IV glucocorticoids and discharged with stable vitals.

CONCLUSION

DRESS syndrome is a severe drug-induced hypersensitivity reaction. Symptoms include fever, rash and eosinophilia with the involvement of systemic organs, mainly liver. Mortality rate of DRESS is more especially from fulminant hepatic failure. The useful clinical information that our case would suggest is that many drugs, often used by rheumatologists, may result in severe systemic reactions, potentially fatal, sometime

resembling sepsis. Due to the high morbidity of DRESS syndrome, which can be confused for viral infections, early diagnosis is crucial. We recommend cautions in interpreting minor symptoms, always keeping in mind the importance of having the drug history of patients taking chronic therapies and the temporal consequences associated with it. Therefore, in a variety of treatment scenarios, Physicians must take drug reactions into account.

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INFORMED CONSENT

Informed consent was acquired from patient, their families and concerned physician.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

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