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Dapsone Induced Hypersensitivity Syndrome

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***Abstract*:** *'Dapsone Hypersensitivity Syndrome' (DHS) is one of the most serious adverse reaction of Dapsone. DHS is characterized by exfoliative dermatitis, fever, internal organ involvement (Lungs, Liver, Spleen, and Kidney). The recorded incidence of DHS was 1.3 % among leprosy patients in India. The current case report is of 36 years old female patient who presented with high grade fever, exfoliative dermatitis and hepato-renal dysfunction. The patient was successfully managed by immediate withdrawal of Dapsone and administration of corticosteroids.*

Key Words: *Dapsone Hypersensitivity Syndrome, Exfoliative dermatitis, Corticosteroids.*

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I. Introduction

Dapsone Hypersensitivity Syndrome' (DHS) is a rare, but still one of a serious adverse drug reaction (ADR) of Dapsone. Synonymously known as 'Sulfone Syndrome', DHS appears as sudden onset of papular rashes, exfoliative dermatitis, high grade fever, malaise and weakness which is followed by jaundice, tenderness of liver, lymphadenopathy, mononucleosis. The laboratory findings show raised erythrocyte sedimentation rate (ESR), serum bilirubin and liver enzymes. In addition, hemolytic anemia and methemoglobinemia are also observed. [1] The symptoms of DHS can occur within 2-6 hours to as late as 6 months. [2] The reported incidence of DHS in India was found to be 1.3 % among leprosy patients treated with MDT. [3] However, a low incidence of 0.25 % has been observed among Dapsone users for various dermatological disorders including leprosy in an earlier study. [4]

II. Case Report

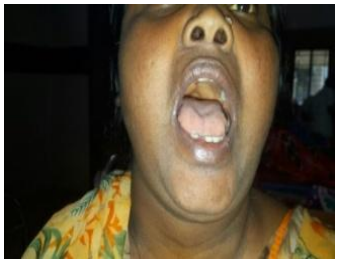
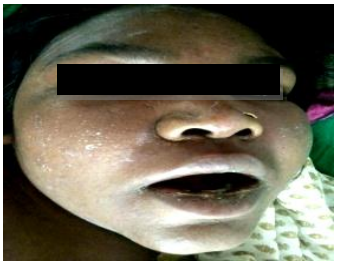
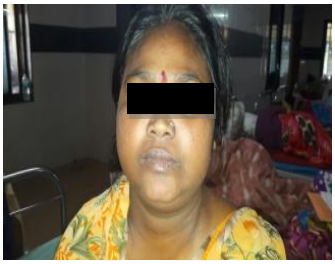
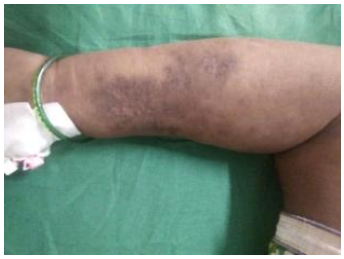
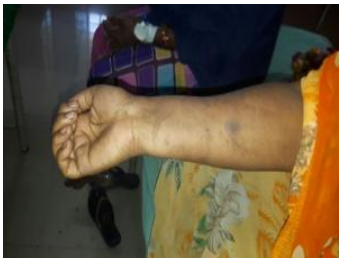
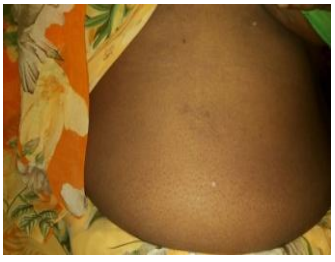
A 36 years old female patient was admitted at General Medicine department of District General Hospital, Amravati with the chief complaints of high grade fever and chest pain since 2- 3 days, puffiness all over the body, mouth ulcers, angular cheilitis with crusted lesions over lips, macular lesions all over body, scaling with exfoliative dermatitis, itching and icterus. After going through past medical history it was found as a known case of lichen planus and was on Tab. Dapsone 100 mg OD since last 15 days. Certain investigations were advised such as complete blood count, liver function test, kidney function test, electrocardiography and urine analysis. The reports of laboratory investigations and physical examination revealed hepato-renal dysfunction. Based on the clinical findings, the patient was diagnosed of Dapsone Hypersensitivity Syndrome. Patient was advised to stop Dapsone immediately and was treated with IVF Dextrose Normal Saline, Inj. Hydrocortisone, Inj. Pheniramine, Inj. Furosemide, Inj. Cefotaxime, Inj. Ranitidine, Inj. Diclofenac, Tab. Cetrizine, Tab. Paracetamol, Tab. Ursodeoxycholic acid, Syp. Mucaine gel (Aluminium Hydroxide + Oxetacaine + Magnesium) for two days and Paraffin lotion for external application.

The signs and symptoms of patient resolved gradually. The dose of Inj. Hydrocortisone was tapered every two days up to six days and patient was discharged on the seventh day. On discharge, patient was advised Tab. Prednisolone 60 mg/ day, tapered by 10 mg every week for seven weeks.

Table 1: Laboratory findings

Sr No.	Test	Observed value	Reference value
1	Hb	9.8 gm/dl	12.1 - 15.1 gm/dl
2	WBC	17 x 10^3/ul	4 – 11 x 10^3/ul
3	SGOT	142.5 U/I	5 - 40 U/I
4	SGPT	559.7 U/I	7 - 56 U/I
5	Bilirubin total	5.21 mg/dl	0.5 - 1.1 mg/dl
6	Bilirubin direct	2.99 mg/dl	Upto 3 mg/dl
7	Serum creatinine	1.07 mg/dl	0.5 - 1.0 mg/dl
8	Serum urea	121.9 mg/dl	20 - 40 mg/dl

Table 2: Clinical Manifestations Of Patient Before And After Treatment

Before treatment	**After treatment**
	
Mouth ulceration	
	
Puffiness and angular cheilitis	
	
Macular rashes	
	
Macular rashes	

III. Discussion

DHS is a rare but potentially fatal ADR of Dapsone. The drug hypersensitivity syndrome associated with drug rash, eosinophilia and systemic symptoms is termed as DRESS syndrome. DHS is a part of DRESS. [5] The cutaneous manifestations such as exfoliative dermatitis, papular erythematous, Stevens Johnson Syndrome and toxic epidermal necrolysis have been observed commonly in DHS cases. Also, acute pneumonitis with hypoxia and pleural effusion has been reported in DHS. [5, 6] However, out of the several reported manifestations, only exfoliative dermatitis was observed in current case and no pulmonary manifestations were observed. The patient was found to be slightly anaemic. Also, the patient's total bilirubin, SGPT and SGOT levels were found to be raised, which was in accordance with the fact that DHS is associated with hemolysis and hepatotoxicity. [2, 6, 7] Leucocytosis was also present in the current case and similar finding was present in few other case reports on DHS. [2, 5]

IV. Conclusion

DHS, although a rare condition, can prove fatal if treatment is delayed. The healthcare practitioners must be aware of this potentially fatal ADR of Dapsone. A high index of suspicion is needed for early diagnosis of DHS. Proper monitoring of patients initiated on Dapsone therapy is essential. Prompt withdrawal of Dapsone is an important aspect in management of Dapsone Hypersensitivity syndrome.

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