

## Dapsone induced exfoliative dermatitis: A case report

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### Abstract

One 11 year old female attended dermatology OPD of College of Medical Sciences, Bharatpur. She was undergoing treatment with Dapsone for one month for Borderline lepromatous leprosy. There was history of dry scales for 3 weeks over trunk, buttock, face, back and lower extremities suggestive of Exfoliative Dermatitis. The patient was treated with Prednisolone with supportive therapy for one month. Recovery is good.

**Key words:** Dermatology, lepromatous leprosy, exfoliative dermatitis.

### Introduction

Exfoliative dermatitis is an inflammatory dermatosis involving more than 90% of body surface area<sup>1</sup>. It is a life threatening condition if not treated in time. Dapsone is an integral part of multi drug therapy regimen instituted for treatment of leprosy patients. Dapsone is responsible for many cutaneous reactions. Exfoliative dermatitis is one of the cutaneous reactions which may occur independently or as a part of drug hypersensitivity syndrome (sulfone syndrome). This reaction is usually seen between 2 and 7 weeks of starting Multidrug therapy<sup>2</sup>. We report a case of dapsone induced exfoliative dermatitis which presented in out patient Department of Dermatology College of Medical Sciences, Bharatpur, Nepal

### Case report

An 11 years old girl, was diagnosed as a case of Boderline Lepromatous Leprosy After Multidrug

therapy regimen for last one month she came to dermatology OPD with history of dry scales all over the body since 3 weeks. There was history of fever with chills. It started exfoliating profusely, initially trunk and buttocks, gradually progressed and involved face, back and lower extremities. There was no history of evanescent skin lesions, weakness, joint pains or history of red eyes. There was no history of jaundice, vomiting or abdominal pain. Systemic review of symptoms was within normal limits. On examination patient was ill looking. There was no pallor, jaundice, clubbing or lymphadenopathy. Systemic examination was normal. On skin examination, there were dry scales involving trunk, buttocks, face, back and lower extremities involving more than 90% body surface area. Skin was shiny, thickened and erythematous. (Fig.)

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Scalp skin also showed exfoliation. Hair and mucous membranes were normal. On investigation, Complete blood count with peripheral blood smear, liver function test, chest X- ray, urine routine examination were within normal limits. Patient was admitted in Dermatology ward. Prednisolone 20mg per day was started along with other supportive measures. Dapsone was stopped. The dose was tapered slowly in a period of one month. However Rifampicin and clofazimine was continued. Patient started improving and she was discharged after 7 days of Hospitalization.

### Discussion

Multidrug therapy (MDT) in the treatment of leprosy was recommended by WHO study group in

1982<sup>3</sup>. Dapsone, which is a part of multidrug therapy, has many side effects like agranulocytosis, haemolytic anaemia, exfoliative dermatitis and rarely Dapsone syndrome. Exfoliative dermatitis can occur independently or as a part of Dapsone syndrome and is a rare side effect of Dapsone. Our case presented with exfoliative dermatitis one month after starting MDT; however, there was no involvement of internal organs and therefore it was not a part of Dapsone syndrome. On stopping Dapsone, while continuing with other drugs (Rifampicin and Clofazimine), the condition of the patient improved, thus suggesting that most likely culprit drug to be Dapsone.

Most of the cases of exfoliative dermatitis in Leprosy patients (on treatment) are reported to be a part of Dapsone syndrome. The syndrome consists of

triad of fever, rash and internal organ involvement. The prevalence is estimated to be around 0.2-3%. The condition is associated with significant mortality (10%) so needs to be diagnosed and treated in time<sup>4</sup>. Our case needs special mention as the exfoliation was not associated with internal organ involvement.

Exfoliation could be a part of type 1 reaction in borderline lepromatous leprosy; but in our case there was no nerve involvement which ruled out the possibility of Type 1 reaction<sup>5</sup>.

Dapsone therapy, although generally well tolerated, has pharmacologic and idiosyncratic side effects. The pharmacologic side effects include haemolysis and methemoglobinaemia and develop to some degree in all treated patients in a dose dependent fashion. The other adverse effects of Dapsone are idiosyncratic or allergic in nature. Dapsone syndrome is best classified within the clinical spectra of drug- induced hypersensitivity syndrome. The possible mechanism could be that the drug is metabolized to chemically reactive compound, which may act as a hapten and initiate an immune reaction, stimulate apoptosis, or cause cell necrosis directly. Another mechanism, which is postulated, is that it could be due to drug-allergy-induced immunosuppression, leading to a reactivation of human herpes 6 or other latent viruses. This syndrome usually develops between 2 and 7 weeks after starting dapsone. In our case the presentation could be an initial manifestation of Dapsone hypersensitivity or just a case of exfoliative dermatitis not associated with Dapsone syndrome.

The treatment of Drug hypersensitivity syndrome includes stopping of offending drugs, supportive treatment and glucocorticoids. Glucocorticoids should

be tapered over a period of more than one month as dapsone remains in the body for more than 35 days.

### **Conclusion**

It is a case report of common interest to general practitioners and specialists .A borderline lepromatous leprosy patient presenting with DAPSONE induced exfoliating dermatitis was taken into consideration because of its rare occurrence. The disease and current modalities of treatment are discussed.

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