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Case Report

Early Onset Dapsone-induced Photosensitive Dermatitis: A Rare Side Effect of a Common Drug

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Dapsone, a potent anti-inflammatory compound, is mainly used in the treatment of leprosy, dermatitis herpetiformis, erythema elevatum diutinum and other dermatoses. Cutaneous adverse reactions range from acneiform eruptions to toxic epidermal necrolysis. A 30-year-old, married women who was treated with paucibacillary multi drug therapy, developed itchy skin lesions over the both forearms, ' V 'area of the neck and upper back after one week of the drug administration which worsened on exposure to sunlights. A clinical diagnosis of dapsone-induced photosensitive dermatitis was confirmed by histopathology and recurrence of symptoms and signs after re-exposure to the drug. Photosensitivity due to dapsone is rare and very few reports are available in the literature. Our patient had an unusually early onset compared to the previously reported cases.

Keywords : Dapsone, Photosensitivity, Leprosy, Dermatitis

Introduction

Dapsone, a potent anti-inflammatory compound is useful for treating a variety of infectious, immunological and hypersensitivity disorders (Kosseifi et al 2006). The drug is still used as the first line of drug for cure of leprosy. It has been an indispensable drug in the management of Leprosy. Cutaneous adverse reactions include less severe pustular/acneiform eruptions, maculopapular rash, erythema multiforme, erythema nodosum, photosensitivity to severe life-threatening reactions like exfoliative dermatitis and toxic epidermal necrolysis. We report a case of dapsone-induced photosensitive dermatitis in a patient on paucibacillary multi-drug therapy (PB-MDT).

Case Report

A 30-year-old woman presented with an asymptomatic hypopigmented lesion over the right forearm for the last 3 months. It was

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insidious in onset and gradually progressive. A clinical diagnosis of borderline tuberculoid Hansen's disease was confirmed histologically. Patient was started on PB-MDT comprising of Rifampicin 600mg once monthly and tablet dapsone 100mg daily. One week after the initiation of PB-MDT, patient presented with a pruritic rash over both the forearms, 'V' area of the neck and upper back. Symptoms worsened on exposure to sunlight. There was no history of fever, joint pains, constitutional symptoms or other drug intake prior to the onset of photo-sensitivity.

General physical examination was unremarkable. Patient was afebrile, conscious, oriented and vitals were normal. Cutaneous examination showed a single hypopigmented, hypoaesthetic patch with irregular borders over the right forearm, bilateral symmetrical erythematous papules and a few eczematous plaques were present over the extensor aspects of both the forearms, upper back and 'V 'area of the neck. (Figs 1, 2 and 3) There was no significant nerve thickening and lymphadenopathy. Mucosae, nails and hairs were normal. Systemic examination was normal.

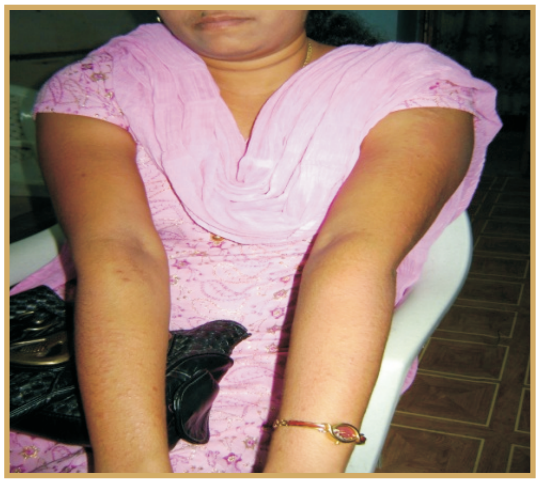

Fig 1 : Presentation of erythematous papules involving both forearms

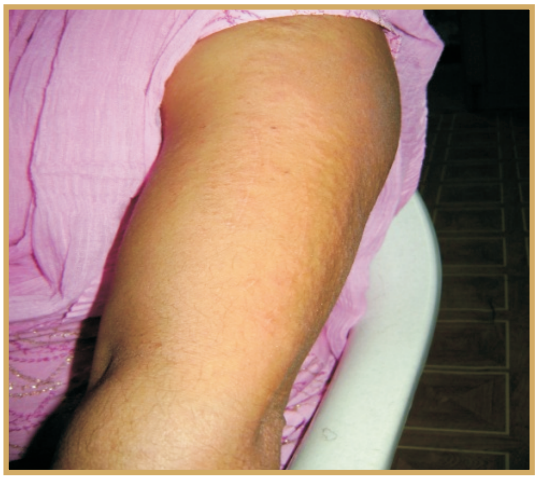

Fig 2 : Presentation of erythematous papules over left arm

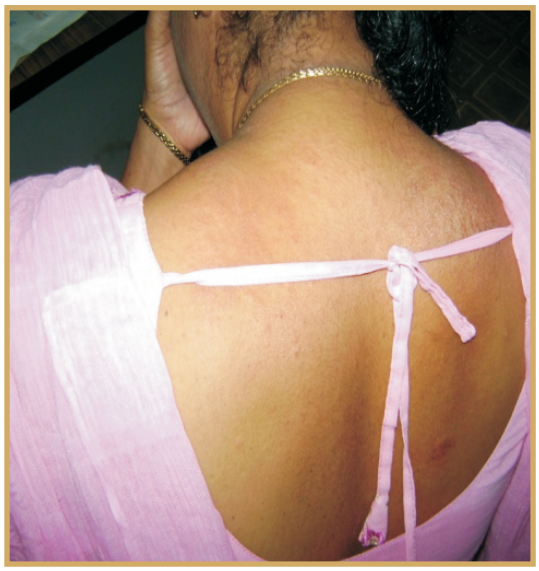

Fig 3 : Presentation of erythematous papules over upper back

Routine haematological investigations were normal except for mild eosinophilia. Urine, stool and biochemical examinations including

glucose 6 phosphate dehydrogenase levels were within normal limits. Venereal disease research laboratory test, Human Immuno-deficiency virus, hepatitis B surface antigen, anti-nuclear antibodies and porphyrins were negative. Histopathology from a lesion over back showed features consistent with spongiotic dermatitis. A clinicopathological diagnosis of dapsone-induced photosensitive eczema was made. Dapsone was withdrawn and patient was started on antihistamines, topical and systemic steroids. Complete resolution of the rash was seen in 2 weeks. After informed consent, patient was restarted on 25mg of dapsone and was exposed to sunlight. However, her symptoms recurred 2 days after starting dapsone and dapsone-induced photosensitivity was con-firmed. Patient was treated symptomatically with complete recovery. Further patient was continued with monthly Rifampicin and clofazimine (dapsone was substituted with clofazimine). Patient completed MDT un-eventfully.

Discussion

Photosensitivity is a rare complication of dapsone, despite of its extensive use for decades. In India dapsone has been used in more than 6-7 million cases of leprosy and other dermatoses. Very few cases(12 cases) have been reported and most are from Asian countries including India (De et al 2007, Joseph 1987, Dhanapaul 1989, Stockel et al 2001, Fumey 1988, Dogra et al 2002). The increased frequency in these countries may be due to high intensity of ultraviolet radiation exposure (Dhanapaul 1989).

Photosensitivity reaction may be phototoxic or photoallergic. Phototoxic reaction occurs by non-immunological mechanism while photoallergic reaction by immunological mechanism. Clinically phototoxic reaction is an exaggerated sunburn i.e. erythema, swelling and bullae may appear. while photoallergic reaction is characterised by erythematous papules and plaque (De et al 2007, Joseph 1987, Dhanapaul 1989). Absence of prior photosensitivity, onset after the drug intake, type of rash and recurrence after low dose dapsone suggested photoallergic reaction in our patient.

In the previously reported cases, all had leprosy except the one with linear IgA disease (Stockel et al 2001). Majority were females and were on multibacillary multidrug therapy (MB-MDT), with a mean age of 48.33 years. Photosensitivity was seen after a mean of 13 weeks (range 5-34 weeks), of intake of dapsone (De et al 2007). Our patient was on PB-MDT and developed an unusually early onset of photosensitivity. This could possibly be due to cross-sensitisation to sulphonamides, used earlier for other indications, in our patient.

Drug induced photosensitivity should be differ-entiated from polymorphous light eruption, chronic actinic dermatitis, pellagra, porphyria cutanea tarda, lupus erythematosus and dapsone syndrome. Management includes systemic steroids, antihistamines, sunscreens and with-drawl of drug in severe cases. In mild cases, drug may be continued with strict sun protective measures (De et al 2007 and Dhanapaul 1989).

Key Messages

Photosensitivity is a rare complication due to dapsone and clinician should be aware of this side effect. Although, most often photosensitivity occurs a few weeks after the start of the MDT but as seen in this study , it can occur as early as one week. Early recognition and prompt management reduces the associated morbidity.

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