

CASE REPORT

Fixed drug eruption due to rifampin

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Summary A case of fixed drug eruption due to rifampin in a leprosy patient is described. Fixed drug eruption due to rifampin with the classical residual hyperpigmentation has not been described before.

Introduction

Rifampin is a semisynthetic broad spectrum antibiotic widely used in the treatment of leprosy and tuberculosis. A number of side effects have been reported with rifampin. However, cutaneous side effects due to rifampin are rare.¹ Though an urticarial form of fixed drug eruption has been described earlier,² the classical form of fixed drug eruption due to rifampin with residual hyperpigmentation has not been reported as yet. This is a report of a case of classical FDE due to rifampin occurring in a leprosy patient.

Case report

A 30-year-old woman presented with asymptomatic hypopigmented ill-defined and well-defined, flat, dry, anaesthetic patches over the posterior aspect of the right thigh, right leg, right arm and right interscapular area. The right lateral popliteal nerve was thickened but non-tender. Skin smear was negative for AFB. A diagnosis of borderline tuberculoid leprosy was made and the patient was put on once monthly rifampin 600 mg and once daily dapsone 100 mg.

The patient complained of a pruritic rash over the abdomen and thighs following the fourth dose of rifampin. On examination, 2–3 cm size well circumscribed, round, dusky red macules were seen, four on the abdomen and four on the right thigh (Figure 1). These lesions did not in any way involve the existing hypopigmented patches due to leprosy. A diagnosis of fixed drug eruption (FDE) was made. Since FDE is a well established side effect of dapsone, dapsone was thought to be the offending drug and this drug was stopped. Clofazimine was added to the regimen instead. The itching and the erythema subsided in 2 days, but the grey-black pigmentation remained at the site. Following the next monthly dose of rifampin, the patient developed itching over the original lesions and mild oedema was seen at these sites. This time, rifampin was suspected as the possible cause for the FDE, and dapsone was restarted. The symptoms did not recur. In the following month, the sixth and final dose of



Figure 1. Macules due to fixed drug eruption.

rifampin was given and the patient was kept under observation. She developed itching within 1 h of rifampin administration and one new lesion was seen on the chest the same evening. By next evening, the itching had subsided. The patient has since been released from treatment and is presently under surveillance.

Discussion

Fixed drug eruption was first described by Bourns in 1889. However, it was Brocq who introduced the term FDE.³ Since then, many drugs and various chemical substances have been reported to cause FDE.⁴⁻⁶

The cardinal morphological feature of FDE is pigmentation, varying from dusky slate to brownish black. The diagnostic hallmark is its recurrence at previously affected sites.⁷

The exact pathogenic mechanisms of FDE is not known. However, the studies reported so far⁸⁻¹¹ seem to incriminate the immune system.

The drug in circulation is thought to act as a hapten, and binds to some protein component in the lower epidermal cells. The Langerhan cells then process and present this drug-protein complex to lymphocytes in the dermis or regional lymph nodes. Subsequently, lymphocytes are stimulated, producing lymphokines and antibodies that eventually cause inflammation. Antibody-mediated cellular cytotoxicity has been implicated in inducing damage to keratinocytes.¹²

The exact reason for preferential localization of fixed lesions to certain skin sites is still not known.

Rifampin when given in the usual doses is well tolerated. However, adverse effects of

rifampin are well documented. Cutaneous side effects with rifampin have been reported in less than 5% of patients. Though some of the adverse effects, for example flu syndrome, shock, shortness of breath, haemolytic anaemia and renal failure, occur only with intermittent rifampin administration, cutaneous side effects may occur to either daily or intermittent rifampin administration.

The cutaneous side effects of rifampin described in the literature include: pemphigus^{13,14} exfoliative dermatitis,¹⁵ acneiform lesions,¹⁶ urticaria,¹⁷ maculopapular lesions,¹⁸ itching with or without rash,¹⁸ contact dermatitis,²⁰ anaphylaxis,²¹ anaphylactoid reactions²² and an urticarial form of fixed drug eruption.²

There has been only one report of FDE to rifampin, which was an urticarial form. The classical form of FDE with residual hyperpigmentation as seen in this patient has not been described as yet.

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