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Ornidazole induced fixed drug eruption affecting the mouth and the palms

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Abstract

Fixed drug eruptions (FDE) are common cutaneous adverse drug reaction observed in clinical practice. Ornidazole, a 5-nitroimidazole antiamoebic drug, is not a very well known cause of FDE. Few cases of ornidazole induced FDE had been reported so far. However, another nitroimidazole antiamoebic drug metronidazole is a common offender for causing FDE. We report a 37 year old female patient who developed severe pain and burning sensation within the mouth about 3 to 4 hours after the intake of the first dose of ornidazole. On examination it was found that the patient had developed FDE in the oral cavity and lips. Next day she developed FDE in the palm of both hands. Ornidazole was withdrawn and she was prescribed oral prednisolone 40 mg daily along with povidone iodine mouth wash. The lesions got resolved in next 6 to 7 days. We found a probable association between this FDE and ornidazole.

Introduction

Fixed drug eruption (FDE) is a type of allergic reaction to a medicine. FDE are sharply marginated, round or oval itchy plaques of erythema and edema becoming dusky violaceous or brown and sometimes vesicular or bullous. It usually appears 30 minutes to 8 hours after administration of the offending drug. The eruption may initially be morbilliform, scarlatiniform or erythema multiforme like. However, urticarial, nodular or eczematous lesions are uncommon.[1]

A fixed drug eruption characteristically occurs in the same site or sites each time the offending drug is administered. However, with each exposure the number of involved sites may gradually increase. Lesions are common on the limbs than on the trunk. The hand, feet, genitalia and perianal areas are the favoured sites. Perioral and periorbital lesions may occur also. Genitalia and oral mucus membrane may be involved in association with skin lesion, or alone. [1]

Usually, just one drug is involved, although independent lesions from more than one drug had been reported. Cross sensitivity to related drugs may occur. Different drugs have the adverse potential to cause FDE. Drugs that are notorious for causing FDE are sulphonamides including cotrimoxazole, oxyphenbutazone, metamezole, tetracyclines, piroxicam, aspirin, paracetamol, ibuprofen etc. [1] Though FDE with metronidazole is quite common, it is rarely noticed with ornidazole.

Although the exact pathophysiology of FDE is unknown, recent research suggests a cell mediated process that initiates both the active and quiescent lesions. The process may involve an antibody dependent cell mediated cytotoxic response. CD8+ effector memory T cells play an important role in reactivation of lesion with re-exposure to the offending drug. [2]

Ornidazole (C₇H₁₀C₁N₃O₃) is an orally active 5-nitroimidazole (1H-Imidazole-1-ethanol, α -(chloromethyl)-2-methyl-5-nitro-; α -(Chloromethyl)-2-methyl-5-nitroimidazole-1-ethanol [16773-42-5]) used for treatment of amoebiasis, giardiasis, trichomoniasis, anaerobic infection and bacterial vaginosis [3]. Activity of ornidazole is almost similar to metronidazole but ornidazole has longer plasma half life compared to metronidazole [4]. Here we report a case of FDE which developed about 3 to 4 hours after intake of the dose of ornidazole.

Case Report

A 37 year old female patient presented with complains of passage of loose motions several times along with lower abdominal pain for two days. She had moderate dehydration also. She was diagnosed as a case of amoebic dysentery. She was prescribed tablet ornidazole 500 mg orally twice daily for five days along with oral rehydration salt. About 3 to 4 hours after ingestion of the first dose of ornidazole she experienced severe pain and burning sensation within the mouth and in lips. She was unable to eat or drink anything properly. On examination it was found that she had developed erythematous and edematous well margined ulcers within the oral cavity especially on the distal part of the hard palate, angle of the mouth and on lips (**fig 1**). She was unable to open her mouth properly. She gave a past history of one episode of ulceration in the oral mucosa after taking some tablets for diarrhea but she was unable to specify that particular offending drug. Ornidazole was stopped immediately and she was prescribed prednisolone tablets in a dose of 40 mg daily orally along with povidone iodine mouth wash for 7 days. Next day she developed sharply margined erythematous blackish pigmented plaques in the both palms (**fig 2**). However, improvement of the lesions was observed within 24 hours after stopping the offending drug and starting remedial medicines. The lesions within the mouth, lips and in palms of hand get resolved in next 6 to 7 days.



Fig 1: Erythematous ulceration with edematous swelling on mouth.



Fig 2: Erythematous to hyperpigmented FDE in palms.

Discussion

Cutaneous adverse drug reactions are one of the major obstacles in successful pharmacotherapy. FDE are one of the most common cutaneous adverse reactions we experience in our day to day life. FDE though not fatal, can cause enough cosmetic embarrassment if present on the exposed part due to recurrence of the reaction on previously affected site and residual hyperpigmentation [5].

In the present case report the patient presented with FDE after intake of ornidazole. Considering the cause of FDE, the probabilities were analyzed. The patient was taking oral rehydration salt (ORS) along with ornidazole and ORS was very unlikely to cause this FDE.

Causal relationship between the offending drug and the adverse drug reaction mainly depends on the temporal association, dechallenge or rechallenge test and inability to explain the adverse effect by another drug or disease [6]. The patient was able to specify the time of onset of FDE and that was about 3 to 4 hours after the intake of the first dose of ornidazole. The patient showed positive response to dechallenge test as the lesions got resolved after withdrawal of ornidazole. Earlier published work have already highlights of ornidazole induced FDE worldwide [7], [8], [9], [10], [11] but none of the scholars has been observed drug eruption in palm area in hands. For the first time this study has reported drug eruption in both hands which is unique for our report. FDE in this case could not be explained by concomitant intake of ORS. The patient also stated that she had experienced similar type of cutaneous reaction after intake of a drug but she was unable to specify that particular offending drug.

The association between this FDE and ornidazole was evaluated using World Health Organization (WHO) Uppsala Monitoring Centre (UMC) Causality Assessment Criteria.[6] The WHO-UMC scale indicated a probable association.

In conclusion, we can say that this type of case report may help us in achieving desired therapeutic effect and to avoid unnecessary iatrogenic health hazards.

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