Metronidazole-induced fixed drug eruption

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DESCRIPTION

A 67-year-old man presented with a history of an itchy, erythematous oval lesion over the right calf (figure 1). He was prescribed metronidazole for dysentery 1 day earlier. He mentioned history of a similar eruptive lesion in the same location, after he was prescribed metronidazole for an episode of diarrhoea about 4 months previously. At that time, the lesion appeared after 3 days of treatment. It was itchy and it healed after stopping the drug leaving a residual hyperpigmentation. Hence, we suspected it to be fixed drug eruption (FDE) due to metronidazole. As oral challenge test is risky and patch test is not available in our clinic, we assessed a causal relation between the drug and the adverse drug reaction (ADR) using Naranjo *et al*'s[1] algorithm. The patient presented with drug eruption immediately after oral administration of metronidazole (+2) and rapidly recovered after stopping the drug (+1). There was a history of similar episode to the same drug 4 months previously (+1). There was no alternative explanation for the reaction (+2). Moreover, cases of FDE due to metronidazole have been reported previously (+1).[2] According to the Naranjo ADR probability scale (score=7), we categorised it as a 'probable' reaction to the drug. In severity assessment it was a mild ADR (level 2) as per Hartwig *et al*[3] scale. We kept arthropod bite reaction and erythema multiforme as possible differentials. However, there was no history of insect bite. The lesions were not target shaped, which are typical of erythema multiforme; moreover, typical temporal association with drug and the fixed location also goes against it. Common causes of FDE are antibiotics (sulfonamides, tetracycline) and non-steroidal anti-inflammatory drugs.[2] The hallmark of this reaction is the occurrence of eruptions in the same location during each episode. The lesions usually occur on the lips, face, hands, feet and genitalia. They are dusky erythematous macule, often associated with a burning sensation and may present in multiple numbers. They can progress to the development of central vesicles and bullae, particularly after repeated use. Persistent hyperpigmentation at the site of the lesion can be seen after healing. Drugs with a similar structure can cause cross sensitivity. The offending drug is thought to function as a hapten that preferentially binds to basal keratinocytes, thereby releasing lymphokines and antibodies thus damaging the basal cell layer. If the patient is rechallenged with the offending drug, the eruption occurs repeatedly at the identical skin site (ie, fixed). The diagnosis of FDE is usually evident from the history and clinical examination. However, it can be confirmed using oral challenge test and patch test. The former can be risky as it can lead to reactivation with increased severity and anaphylactic reaction. Patch test has many advantages: it is safe, several drugs can be studied at the same time, and can study cross reaction between drugs also. The patient was advised not to take metronidazole in the future.

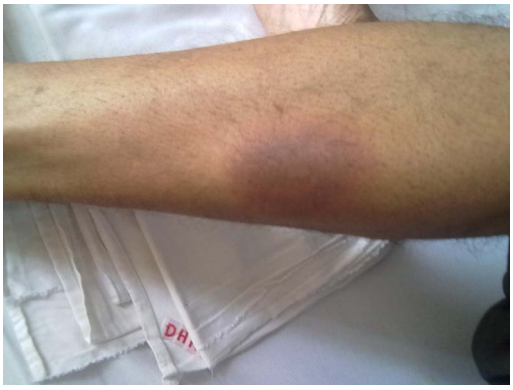

Figure 1 Well-defined erythematous macule over the right calf.

Learning points

- Importance of fixed drug eruption lies in the fact that they are caused by commonly used drugs. Antibiotics followed by non-steroidal anti-inflammatory drugs are most common culprits.
- If the drug is not avoided, recurrent episodes can be more severe and extensive with residual postinflammatory hyperpigmentation.
- · Diagnosis is based on fixed location of skin lesion and following intake of drug of the same group.

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Competing interests None.

Patient consent Obtained.

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