

Case Report

NSAID-Induced Bullous Fixed Drug Eruption Presenting with Bilateral Lip Lesions: A Case Report

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ABSTRACT:

Background and Objectives: Fixed drug eruption (FDE) is a cutaneous Type IV hypersensitivity reaction characterized by recurrent lesions at the same anatomical site upon re-exposure to an offending drug. Nonsteroidal anti-inflammatory drugs (NSAIDs) are among the most frequently implicated agents. Bullous FDE with rapid onset and bilateral presentation is uncommon and rarely reported without concurrent mucosal involvement.

Presentation of case: We report a 60-year-old female with no significant comorbidities who developed painful, fluid-filled perioral bullae within 20 minutes of ingesting ibuprofen for musculoskeletal pain. Lesions progressed through erythema then bullous formation then crusting and lastly post-inflammatory hyperpigmentation over one week. Notably, lesions were bilaterally symmetrical and perioral, with no mucosal involvement, an atypical presentation. Histopathological examination confirmed

interface dermatitis with basal cell vacuolization and melanin incontinence, consistent with FDE.

Discussion: The patient was counselled to discontinue the offending NSAID and prescribed acetaminophen as an alternative analgesic. No recurrence was observed following drug cessation. Residual post-inflammatory hyperpigmentation resolved gradually over 3 months.

Conclusion: This case highlights a clinically distinctive presentation of NSAID-induced bullous FDE with bilateral symmetry and absence of mucosal involvement. Prompt recognition and drug withdrawal resulted in complete resolution without complications.

Keywords: Bullous fixed drug eruption; Drug-induced reaction; Ibuprofen; Nonsteroidal anti-inflammatory drugs; Perioral hyperpigmentation

INTRODUCTION

Fixed drug eruption (FDE) is a distinct type IV hypersensitivity reaction characterized by the reappearance of lesions at the same anatomical location after repeated exposure to a specific drug. These lesions are often well-demarcated, erythematous to violaceous macules or plaques, and may evolve into vesicular or bullous forms in certain cases [1]. The latency between drug ingestion and symptom onset typically ranges from 30 minutes to 8 hours, with faster reactions observed upon re-exposure. While cutaneous lesions often resolve within days to weeks, they commonly leave post-inflammatory hyperpigmentation, particularly when located on the lips or limbs [2]. Common triggers include antimicrobials (e.g., sulfonamides, tetracyclines), NSAIDs (e.g., diclofenac, ibuprofen), and anticonvulsants [3]. The most commonly affected sites are the lips, genitalia, trunk, and extremities [4]. Oral mucosal FDE

is less frequent and usually affects the labial mucosa, buccal mucosa, tongue, or hard palate.

We report a case of NSAID-induced bullous FDE presenting as bilaterally symmetrical hyperpigmentation of the lips, without mucosal extension—an unusual and localized presentation.

CASE PRESENTATION

A 60-year-old female presented to the dermatology outpatient department, Era Medical College and Hospital, Lucknow, India with a one-month history of persistent discoloration of the lips. She reported sudden onset of painful, fluid-filled lesions on both lips approximately 20 minutes after taking an over-the-counter NSAID (Ibuprofen) for musculoskeletal pain in her upper and lower limbs. The lesions resolved spontaneously



Fig 1: Diffuse well demarcated violaceous to brownish hyperpigmented macules present over both lips

within a week, leaving behind purplish-brown pigmentation. She denied taking any other medications during the episode and had no history of similar eruptions or systemic illness. Family and personal medical histories were non-contributory.

On examination, greyish-blue pigmentation was observed on both the upper and lower lips [Figure 1]. No lesions were noted on the buccal mucosa, tongue, or other mucosal sites. Systemic examination was unremarkable.

Laboratory investigations, including complete blood count and liver/renal function tests, were within normal limits. A skin biopsy from the lip revealed interface dermatitis with vacuolar degeneration of the basal layer and pigment incontinence, consistent with fixed drug eruption.

Due to the clear temporal association with NSAID use and characteristic clinical features, a diagnosis of NSAID-induced FDE was made. Patch testing was not performed due to patient refusal. The patient was advised to avoid NSAIDs and use acetaminophen for pain relief. No recurrence was observed during three months of follow-up.

DISCUSSION

FDE represents a localized immune-mediated reaction, most commonly triggered by NSAIDs and antimicrobials [3]. It is defined by its recurrence at the same site upon re-exposure to the causative agent [1]. With repeated exposure, lesions may increase in number or severity.

In this case, the patient presented with an unusual pattern: bilateral symmetrical involvement of the upper and lower lips with no oral mucosal lesions. Such presentations

are rarely documented in the literature. The lips are among the most commonly affected sites, while mucosal involvement occurs in roughly 38% of FDE cases [5].

Cutaneous FDEs often occur on the trunk, limbs, and face, while rare sites such as the eyelids, scalp, palms, soles, and perianal region have also been reported [6]. Recognition of both common and atypical sites is essential for timely diagnosis.

When patch testing or oral drug provocation is not feasible, diagnosis is primarily clinical—based on timing (Eruptions occurring shortly after drug exposure), morphology (Characteristic dusky-red macules or plaques), and exclusion of other causes like Stevens-Johnson syndrome [7]. Histopathology, as in this case, may support the diagnosis. Management focuses on identifying and discontinuing the offending drug, with symptomatic treatment for inflammation or blistering as needed, as well as cross-reacting substances, once it is recognized [6].

CONCLUSIONS

This case highlights a rare presentation of NSAID-induced fixed drug eruption involving bilaterally symmetrical hyperpigmentation of the lips without mucosal extension. Diagnosis was made clinically and supported by histopathology. The absence of patch testing or oral drug provocation, owing to patient refusal, was a limitation in establishing definitive causality. Clinicians should maintain a high index of suspicion for FDE, even in localized or atypical presentations, and thoroughly investigate medication histories including over-the-counter use to ensure timely recognition and prevention of recurrence.

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