International Journal of Basic & Clinical Pharmacology
Gowthaman S et al. Int J Basic Clin Pharmacol. 2025 Nov;14(6):1020-1022
http://www.ijbcp.com
pISSN 2319-2003 | eISSN 2279-0780

DOI: https://dx.doi.org/10.18203/2319-2003.ijbcp20253379

Case Report

Urticaria due to mefenamic acid intake – a case report

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Received: 01 August 2025
Revised: 12 September 2025
Accepted: 15 September 2025

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ABSTRACT

Urticaria, or hives, is a condition of the skin involving abnormality of redness and swelling caused by excess accumulation of fluid, and may happen because of infection, drugs, food, psychogenic causes or respiratory allergens, but is occasionally idiopathic. The following report concerns a case where urticaria was secondary to the consumption of mefenamic acid. A 44-year-old woman reported generalized itch, rashes of the skin, giddiness, and two instances of vomiting after taking mefenamic acid 250 mg during menstrual pain. Her medical history included irregular menstrual periods, adenomyosis, fibroid uterus which was treated with an Mirena device at the age of 8 months, and uncontrolled diabetes. Lab tests revealed that IgE (548.1 IU/ml) and glycated haemoglobin (HbA1C) (11.0) were high. She was diagnosed with urticaria and diabetes mellitus and treated with hydrocortisone, antihistamines, insulin and supportive therapy, which led to the disappearance of symptoms and discharge in stable conditions. The case also shows that unmonitored use of mefenamic acid can cause severe hypersensitivity and is more likely in patients with comorbidities and the use of pharmacovigilance, medical awareness, responsible prescribing, and patient education can be used to prevent adverse drug reactions and ensure safe medication practices with the vulnerable population.

Keywords: Urticaria, Mefenamic acid, DRESS syndrome, Adenomyosis

INTRODUCTION

Mefenamic acid is most commonly used to reduce menstrual pain during the menstruation of females. Mefenamic acid therapy is also suitable for dysmenorrhea and mild to moderate abdominal pain.[1] The physician prescribes it and it is available as an over-the-counter (OTC) drug. It is a non-steroidal anti-inflammatory drug (NSAID). It reversibly inhibits cyclooxygenase-1 and 2 (COX–1 and 2) enzymes, which results in decreased prostaglandin precursor' formation and has antipyretic, analgesic, and anti-inflammatory properties.[1]

It was reported that 10% of people taking NSAIDs were affected with eosinophilia and systemic syndrome, a severe allergic reaction that can be fatal.[2] The advice of self-medication for menstrual pain comes primarily from non-medical sources, mainly from peers or family members. Most of the adverse drug reaction occurs due to the fixed drug combinations.[3]

A similar presentation of oral mucosal lesions was documented in a previously reported case, where initial ulcers appeared on the buccal and labial mucosa, followed by complete healing and recurrence upon drug-provocation testing (Figure 1). This illustrates the diagnostic value of provocation testing in confirming drug-induced mucosal reactions.[2]

Here, we report the case as Urticaria, also known as hives. It is characterized by abnormal redness of the skin, swollen with excessive accumulation of fluids. The factors such as infections, medicines, food, psychogenic factors, and respiratory allergens are known etiologies; sometimes, it is idiopathic. Here, the urticaria is secondary to the intake of mefenamic acid.[4-6] Approximately 10% of individuals exposed to mefenamic acid experience Drug rash with

eosinophilia and systemic symptoms (DRESS) syndrome. So, here, the case report states that the anaphylaxis reaction was due to mefenamic acid intake.

CASE REPORT

A 44-year-old female patient presented to the emergency department with chief complaints of itching, widespread skin rashes, giddiness, and two episodes of vomiting following the intake of medication taken for menstrual pain. It was obtained without a prescription from the local pharmacy. The drug was identified as mefenamic acid 250 mg. The medical history revealed the patient had lower abdominal pain for the past 3 days followed by irregular menstrual cycles (60-70 days). They also had a history of outside food intake.

The patient had a present medical history of adenomyosis and fibroid uterus, also she was inserted with Mirena, 8 months prior for abnormal uterine bleeding (AUB). On laboratory investigation, it was noted that the patient's IgE level was elevated up to 548.1 IU/ml, and the HbA1C showed 11.0%, indicating uncontrolled diabetes mellitus. An ultrasonography (USG) abdomen pelvis was planned to identify the position of Mirena inserted, 8 months prior for abnormal uterine bleeding. Considering the symptoms of the patient, it was confirmed that she was diagnosed with drug-induced Anaphylaxis reaction and hyperglycaemia.

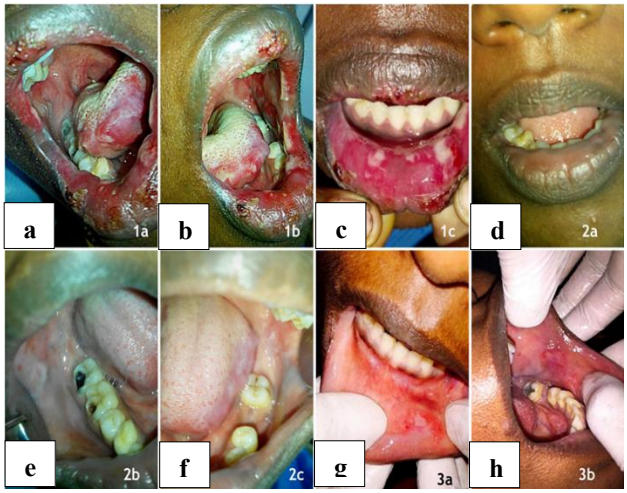

Figure 1: Example of a previously reported case with drug-induced oral mucosal lesions, (a–c) initial lesions on the right buccal mucosa, left buccal mucosa, and lower labial mucosa, respectively, (d-f) completely healed lesions of the upper and lower lips and oral mucosa, and (g and h) site-specific recurrence of oral ulcers during provocation tests.

The treatment was planned to administer insulin human Actrapid 6 units (IV), and hourly GRBS was scheduled to monitor and stop IV insulin if GRBS <200 mg/dl. After investigating the laboratory findings, 0.9% NS with 20 mEq of KCl @125 cc IV was given and continued with the general medicine with the obstetrician's orders for treating allergic reactions injection hydrocortisone 100 mg (TID), injection pheniramine maleate (OD) and ranitidine 150 mg (BD) were given.

After treatment, the rashes, itchiness, and other sensations were reduced. The patient got better and requested an early discharge. So, the patient was discharged at the request.

DISCUSSION

Mefenamic acid is commonly used for dysmenorrhea and is readily available OTC in many countries. However, it is also associated with hypersensitivity reactions, including urticaria, anaphylaxis, and fixed drug eruptions (FDE). In this case, the patient exhibited IgE-mediated urticaria and anaphylaxis following mefenamic acid intake, evidenced by elevated IgE levels and clinical symptoms.[7]

NSAID hypersensitivity is linked to COX inhibition, which disrupts the balance of inflammatory mediators. Additionally, hyperglycemia may have played a role in exacerbating the immune response, as diabetes mellitus is associated with impaired immune function and prolonged inflammation.

The practice of self-medication is prevalent in both rural and urban settings, often leading to unregulated NSAID use and an increased risk of ADRs. An Indian study reported an 18.72% prevalence of OTC NSAID use, with mefenamic acid and dicyclomine being the most common choices for dysmenorrhea.[8] Patients frequently lack awareness of drug safety, dosage, and potential side effects, contributing to increased adverse reactions.

In this case, a DPT was conducted to confirm the causative drug, as the patient refused a skin biopsy. DPT, the gold standard for confirming drug hypersensitivity, reproduces clinical symptoms under controlled conditions. The site-specific recurrence of lesions in this patient aligns with findings from past studies, which suggest persistent in situ CD8+ memory T cells as the underlying mechanism.[9,10] However, DPT carries a higher risk than skin prick tests (SPT) or histopathology, necessitating careful monitoring.

CONCLUSION

This case highlights a severe hypersensitivity reaction to mefenamic acid in a patient with uncontrolled diabetes, emphasizing the complexities of managing drug reactions in individuals with comorbidities. The widespread use and easy accessibility of NSAIDs increase the risk of adverse reactions, particularly with unsupervised self-medication.

Clinicians must remain alert to the potential for serious drug-induced hypersensitivity. Timely identification of the causative agent and prompt intervention are crucial for better outcomes. This case also underscores the need for patient education on the risks of over-the-counter drug use.

Strengthened pharmacovigilance and responsible prescribing are vital to enhancing drug safety.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Gowthaman S, Dhandapani C. Urticaria due to mefenamic acid intake – a case report. Int J Basic Clin Pharmacol 2025;14:1020-2.