Mefenamic Acid Induced Fixed Drug Eruption – A Case Report

Jaidev Kumar*, Mahima Prakash[1], Himabindu[2], Jenitha[2], Mahima Krishna[3], Barkha Sarma[1]

[1,2,3] *Teaching & Research Faculty, Department of Pharmacy Practice, JSS College of Pharmacy, SS.Nagar, Mysuru -15*

***Corresponding Author:** Dr. Jaidev Kumar*
**Teaching & Research Faculty, Department of Pharmacy Practice, JSS College of Pharmacy, SS. Nagar, Mysuru -15, Email – brjayadevkumar@jssuni.edu.in*

Background: Fixed Drug Eruption (FDE) is a type of cutaneous adverse drug reaction characterized by the sudden onset of one or more skin lesions, typically occurring at the same site each time the offending drug is administered. FDE is a well-recognized condition, with a wide range of medications implicated in its development.

FDE is a relatively rare condition, with an estimated incidence of 1-3 cases per 100,000 persons per year. However, this condition is likely underreported, and the true incidence may be higher.

The exact mechanisms of FDE are not fully understood. However, it is thought that FDE occurs due to an immune-mediated reaction, involving the activation of T cells and the release of cytokines, which cause skin damage and the characteristic lesions.

FDE typically presents with:

- One or more well-defined, circular or oval skin lesions
- Lesions are often solitary, but may be multiple
- Lesions typically occur on the extremities, face, or genitalia
- Lesions may be accompanied by systemic symptoms, such as fever and malaise

Common Offending Drugs

Various medications have been implicated in FDE, including:

- Antibiotics (e.g., sulfonamides, penicillins)
- Nonsteroidal anti-inflammatory drugs (NSAIDs) (e.g., ibuprofen, naproxen)
- Anticonvulsants (e.g., phenytoin, carbamazepine)
- Anti-inflammatory agents (e.g., aspirin)

Early recognition of FDE is crucial to prevent long-term complications, such as scarring and post-inflammatory hyperpigmentation. A thorough medical history, physical examination, and laboratory tests are essential for diagnosis.

Discussion: A 35 year old male diagnosed with viral fever presented with fever, sore throat, headache, tiredness, fatigue , arthralgia and myalgia. The family history of this patient reflects that father is known case of asthma with hypertension for 10 years for which he had been treated with allopathic system of medications. While mother is known case of type II diabetes for 10 years for which she has been receiving oral hypoglycemic agents such as tablet glimepride 2 mg OD and tablet metformin 500 mg BD for the last 10 years. Family allergic history is nothing significant. The allergic history of this patient reflects that he is allergic to penicillin injection. His over-the-counter medication history reveals that he purchases antacids, antihistamines, decongestants from nearby community pharmacies depending upon existing symptoms whenever as necessary. The comprehensive medical history of this patient reveals that he had uncontrolled diarrhea for which he had been hospitalized for 2 years back and treated for the same. He was diagnosed with COVID-19 during first wave of COVID-19 in 2020 for which he had been treated for the same . Based on physical examination and complete medical history gathered by his medical consultant , he was diagnosed with viral fever. His medical consultant directed him to undergo following investigations such as skin biopsy and complete blood count. Skin biopsy result showed interface dermatitis in an early lesion with dermal oedema, superficial perivascular lympho eosinophilic infiltrate. Complete blood count revealed leukocytosis with normocytic normophillic anemia and lymphocytosis . Based on this objective evidence , his medical consultant prescribed tablet acetaminophen 500mg BD SoS , Tablet mefenamic acid 500mg BD SoS, Strepsils lozenges TID Sos, Syrup multivitamins two teaspoon SoS. His medical consultant

ruled out Steven Johnson Syndrome, TEN, erthymea multiforme based on physical examination and case history of this patient. This patient after receiving symptomatic management for viral fever had developed fixed drug eruption after 3 days which is most likely to be suspected with tablet mefanmic acid than tablet acetaminophen. He gives safe medication history for acetamoinophen for which he had been received for fever whenever as necessary.This patient experienced fixed drug eruption on trunk within span of six hours after receiving 500 mg mefanmic tablet on third day . There are lot of case reports to suggest that NSAIDs are common culprits for FDE, even mefanmic acid have got adequate clinical evidence human studies to suggest that it can cause FDE. Based on this clinical evidence it can be concluded that mefanmic acid is offending drug in this case .

Several case reports have documented the association between mefenamic acid and fixed drug eruption (FDE), with lesions resolving upon discontinuation of the medication and recurring upon rechallenge Lee, S., et al. (2018) . A study published in the Journal of Clinical and Aesthetic Dermatology reported a case of mefenamic acid-induced FDE, highlighting the importance of recognizing this adverse effect and discontinuing the offending medication to prevent further skin damage Patel, R. K., et al. (2020.

Conclusion: This patient was diagnosed with viral fever for which he has been treated for the same and the common cuprits for causing fixed drug eruption may be due to oral antibiotics , NSAIDs , oral antiepileptics etc. Since this patient did not present with fixed drug eruption during viral fever symptoms, it can be concluded that mefenamic acid was offending agent in this case. As this patient was rechallenge with mefanmic acid , where the fixed drug eruption occurred at the same location i.e trunk region. Based on this observation , this patient had been suggested to dechallenge the offending drug mefanmic acid immediately. After dechallenge , fixed drug eruption was completely subsided.

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