

## Diclofenac Induced Fixed Drug Eruption

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### Abstract

**Background:** Diclofenac is the most commonly used non-steroidal anti-inflammatory drug (NSAID) for treating various inflammatory and painful conditions. It is generally well tolerated; gastric upset is the most common adverse effect. However very few cases of fixed drug eruptions were reported. Here we present a case of Diclofenac Induced Fixed Drug Eruption. A 62 year old male patient developed fixed drug eruptions with plaques on left thigh two days after receiving diclofenac for osteoarthritic pain. Other etiologies including insect bite, infections were ruled out. One week later after stopping the drug, the lesions were subsided. Diclofenac was strongly suspected as the causal drug. CD8<sup>+</sup> effector T-cells have shown to play an important role. However it seems to be a reversible and drug related event. Although it is not life-threatening, fixed drug eruption can have significant effect on the quality of life of patients.

**Conclusion:** Diclofenac is one of the most commonly prescribed NSAIDs by the Physicians. It is usually well tolerated, gastric upset is the most common adverse effect noted with this drug. This case is being reported to highlight a drug as safe as Diclofenac may also be associated with Fixed Drug Eruptions.

**Keywords:** Diclofenac, Fixed drug eruptions, CD8<sup>+</sup> effector T-cells.

### 1. Introduction

Fixed drug eruptions, first described by Brocq in 1894, is one of the commonest types of adverse cutaneous drug reaction [1]. FDE are responsible for 10% of all adverse drug reactions and occur in all ages, more common in young adults [2]. FDE consists of recurrent eruptions characterized by erythematous to violaceous macules that subsequently evoke into a plaque. The lesions vary in size and can occur on any part of the skin and mucus membranes [2]. Diclofenac is a most commonly used Non-Steroidal Anti-inflammatory drug (NSAIDs). Diclofenac is a Phenylacetic acid derivative. Diclofenac has got analgesic, antipyretic and anti-inflammatory activities [3].

### 2. Case Report

A 62 years old male suffering from Osteoarthritis pain was prescribed Diclofenac 50mg tablets twice daily orally. On 2<sup>nd</sup> day the patient developed sudden onset of violaceous round to oval erythematous plaques on antero-lateral aspect of left thigh, the lesions subsided after one week after stopping the drug. There was no significant past history of any adverse drug reaction in the family.



**Figure 1: Oval Erythematous Plaques on Antero-lateral aspect of left thigh**

### 3. Discussion

Fixed drug eruptions (FDE) are one of the commonest adverse drug reactions encountered by dermatologists in day to day practice. Though usually not fatal, FDE can cause cosmetic embarrassment especially when they recur on the previously affected sites leaving behind residual hyperpigmentation. Fixed drug eruption (FDE) is a clinical condition occurring in the same site/sites each time when the drug is administered [4].

The pathogenetic mechanism underlying FDE is still enigmatic. The patho-mechanism involves an antibody-dependent, cell-mediated cytotoxic response. The most commonly accepted hypothesis is the persistence of memory T cells in the affected skin [5]. CD8+ cells phenotypically resembling effector memory T cells have been shown to be greatly enhanced along the epidermal basal layer in FDE and these have the capacity to produce large amounts of IFN gamma which is likely to play a significant role in the development of FDE [6,7].

The most common drugs implicated for FDE are antimicrobials (sulfonamides, amoxicillin, tetracyclines, trimethoprim, quinolones, dapsone etc.) followed by anticonvulsants (phenobarbitone, phenytoin, lamotrigine, sodium valproate etc.) and non-steroidal anti-inflammatory drugs - Diclofenac, Salicylates, Ibuprofen.etc [8]. NSAIDs are the most common drugs used to treat inflammation, pain and fever. NSAIDs act by inhibiting the Cyclooxygenases (COX) enzyme. The inhibition of COX-2 is thought to mediate the antipyretic, analgesic and anti-inflammatory actions of NSAIDs, while the simultaneous inhibition of COX-1 enzyme accounts for unwanted adverse effects in the GI tract [9]. Diclofenac is used for long term symptomatic treatment of rheumatoid arthritis, osteoarthritis, ankylosing spondylitis, pain, dysmenorrheal and acute migraine [3].

A case of a patient, who developed aggravation of skin contact sites and generalized pruritic exanthem with constitutional symptoms following both topical and oral exposures to diclofenac, was also reported [10]. Confirmation of diagnosis requires re-challenge with the incriminated drug by oral and (or) topical provocation (in the form of patch test) of which oral provocation test is considered superior but unsafe especially in patients with generalized lesions <sup>[11]</sup>. In our case, the clinical findings and the temporal association with the drug intake and the patient's history established Diclofenac to be the culprit in causing the Fixed Drug Eruption.

### 4. Conclusion

Diclofenac is one of the most commonly prescribed NSAIDs by the Physicians. It is usually well tolerated, gastric upset is the most common adverse effect noted with this drug. This case is being reported to highlight a drug as safe as Diclofenac may also be associated with Fixed Drug Eruptions. However, it may be misdiagnosed and mistreated since many medical practitioners are unaware of this uncommon side effect. Therefore the case is presented to make the Physicians, Dermatologists, Orthopaedicians and Medical Practitioners Worldwide aware of this rare adverse effect of Diclofenac.

**References**

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