

## CASE REPORT



# Diclofenac-induced hypersensitivity reaction: A case report

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**Abstract**

Hypersensitivity reactions against nonsteroidal anti-inflammatory drugs such as diclofenac (DF) can elicit noticeable allergic reactions including systemic anaphylaxis and dermatological lesions.<sup>[1]</sup> Angioedema is an abrupt swelling of the skin, mucous membrane, or both involving respiratory and gastrointestinal tracts. This is a case report of a female who reported with swelling of the lips and bullous eruptions on the lower lip, after being treated with DF.<sup>[2]</sup> The patient was diagnosed with drug-induced angioedema of the lips and was asked to discontinue the drug. Complete remission was seen after 1 week of discontinuing the medication.

**Keywords:** Angioedema, hypersensitivity, nonsteroidal anti-inflammatory drugs

**Introduction**

Hypersensitivity diseases caused by nonsteroidal anti-inflammatory agents are relatively common in the population. The prevalence of these hypersensitivity reactions in the population varies between 0.1% and 0.3%.<sup>[1]</sup>

Several subtypes of nonsteroidal anti-inflammatory drug (NSAID) hypersensitivity have been described depending on symptoms (respiratory, cutaneous, and anaphylaxis), timing (immediate and delayed), underlying chronic diseases (asthma and chronic urticaria), or the possible mechanism of the reaction (allergic and non-allergic). However, until recently, no uniform definition or classification of NSAID hypersensitivity had been proposed. Angioedema is a form of hypersensitivity reaction that is associated with NSAIDs.<sup>[2]</sup>

Angioedema is an abrupt localized swelling of the skin and mucous membranes of the face, lips, mouth, throat, larynx, extremities, and genitalia.<sup>[2]</sup> It is a rather common form of edema occurring in both hereditary and non-hereditary forms and is a consequence of the local increase in permeability of subcutaneous or submucosal capillaries and postcapillary venules causing local plasma extravasation in response to mediators such as histamine and bradykinin.<sup>[3]</sup>

Diclofenac (DF) is one of the most popular drugs worldwide belonging to the family of NSAIDs.<sup>[4]</sup> Aspirin, ibuprofen, and DF are the most common NSAIDs drugs associated with angioedema.<sup>[5]</sup> Exacerbations of urticaria and/or angioedema induced by COX-1 inhibitors are observed in up to one-third

of patients with chronic urticaria, more often with drugs of the heteroaryl group (naproxen, DF, and ibuprofen).<sup>[6]</sup> Angioedema is not only triggered by pyrazolones but also reported for aspirin, paracetamol, ibuprofen, DF, and naproxen.<sup>[3]</sup>

**Case Report**

A 25-year-old female patient reported to our OPD block with swelling of the lips and bullous eruptions with serous discharge on the lips. On eliciting history, the patient reported that these lesions started the 2<sup>nd</sup> day of consuming the DF that is after two doses which was prescribed for pain associated with root canal treatment [Figures 1 and 2]. The bullous eruptions were present for 4 days after initiation of the drug reaction, but the discharge from the eruptions had regressed by the time she visited the OPD [Figure 3]. The patient had a history of consuming DF previously also, but no similar history of eruptions or discharge was reported. The patient neither had any history of allergy to any medications or any allergic disorders nor any positive history of drug allergy in the family.

The patient was moderately built and nourished.

On extraoral examination, bullous eruptions were noted on the left side of the lower lip and chin area with erythematous center measuring about 0.5 cm × 0.8 cm along with scaling of the lips. On palpation, it was non-tender and no discharge was noted from the eruptions. No such lesions were noted intraorally [Figure 3].



**Figure 1:** Picture of the lesion immediately after consuming diclofenac



**Figure 2:** Picture of the lesion immediately after consuming diclofenac



**Figure 3:** When the patient came to our OPD after 4 days of consuming diclofenac

DF usage was withdrawn and no other medications were prescribed as the lesions were in healing stage. The patient was recalled after 3 days. After 3 days, the lesion had healed [Figure 4].

## Discussion

Hypersensitivity reactions against NSAIDs such as DF can manifest as type I-like allergic reactions including systemic



**Figure 4:** After 3 days of cessation of diclofenac consumption

anaphylaxis.<sup>[4]</sup> However, except for isolated case studies, experimental evidence for an IgE-mediated pathomechanism of DF hypersensitivity is lacking.<sup>[7]</sup>

Angioedema is a known side effect of the drugs commonly used in day-to-day practice.<sup>[8]</sup> It is generally self-limited most of the times but sometimes may result in respiratory tract obstruction, which can prove fatal. If angioedema is associated with drugs, it is not associated with urticaria. In case of an emergency, it needs to be treated aggressively.<sup>[9]</sup>

Understanding the various possible causes is the first step in assessing angioedema.<sup>[7]</sup> Allergic and drug-induced angioedema responds to removal of cause. An antihistamine, such as diphenhydramine (Benadryl) or hydroxyzine (Atarax and Vistaril), may be given. Some authors suggest that, depending on clinical presentation, corticosteroid therapy (intravenous dexamethasone sodium phosphate or hydrocortisone) should be the first choice of treatment for angioedema.<sup>[4]</sup> Topical steroids have also been found to be effective in angioedema. In resistant cases, systemic corticosteroids should be recommended but should be tapered to avoid significant adverse effects.<sup>[9,10]</sup> In our case, the patient had developed angioedema because of DF and did not require any treatment other than withdrawal of the factor.

According to Jayamani *et al.* case report, a 29-year-old patient had to be hospitalized with rashes all over the body after being prescribed with DF.<sup>[11]</sup> The patient was prescribed with antihistamines and topical applications to reduce the severity of the reaction.<sup>[11]</sup>

## Conclusion

NSAIDs constitute a frequent cause of adverse reactions to drugs that can be clinically manifested in multiple forms.<sup>[4]</sup> Angioedema may manifest in patients without a previous history of any drug allergy.<sup>[4]</sup> According to Jayamani *et al.*, DF-induced hypersensitivity is more common among Indian population due to the lack of awareness and irrational drug usage. Therefore, proper follow-up for the patient needs to be scheduled, and the patient needs to be counseled about its side effects before prescribing DF.<sup>[11]</sup>

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