

## Allergic drug reaction to diclofenac [Voveran] in the management of pelvic inflammatory disease with moderate anemia

Fatima Sultana<sup>1</sup>, Shabnam Sajida<sup>1</sup>, Kandukuri Durga Mounika<sup>2</sup>

From <sup>1</sup>Student, <sup>2</sup>Assistant Professor; Department of Pharmacy Practice, Vision College of Pharmaceutical Sciences and Research, Secunderabad, Telangana, India

### ABSTRACT

The allergic drug reaction of diclofenac, examined in this case study, investigates and highlights the need for promptly identifying the signs and symptoms of an adverse drug reaction in the treatment of pelvic inflammatory disease (PID). Diclofenac (VOVERAN 1 mL twice daily) was administered intramuscularly to a 31-year-old female patient to treat PID. The patient was identified as having a documented history of allergic medication responses and was then evaluated for lowering allergic responses by a primary care physician's opinion. The patient was currently complaining of rashes all over the body, itching, and nausea. Together with clinical features and provisions of complete blood picture, complete urine examination, and urine culture sensitivity test revealed PID with moderate anemia. Diclofenac is a non-steroidal anti-inflammatory drug that helps to manage the pain and inflammation caused by PID.

**Key words:** Diclofenac, Inflammation, Symptoms, Physician

Pelvic inflammatory disease (PID) is an infectious inflammation of the upper genital tract in females. Its illness can influence the uterus, ovaries, and fallopian tubes. PID is usually a climbing infection, contagious from the lower genital tract, originally linked to sexually transmitted infections (STIs) [1]. PID happens most often in females aged 15–25 years. Cervical infections disintegrate the normal cervical barrier, involving the mucosal innate immune system, in the vagina and upper genital tract, leading to infection of these usually sterile organs [2]. Non-steroidal anti-inflammatory drugs (NSAID) involve agents with distinct chemical structures. Anti-pyretic effects, Anti-inflammatory, and analgesic are the three main effects. Arachidonic acid metabolism includes the cyclo-oxygenase (Cop) and lipo-oxygenase (Lop) pathways. Both pathways generate significant mediators of immunological and inflammatory reactions. Any blockade of the Cop deflects metabolism to the Lop, which may accelerate the system's negative effects by elevating cysteinyl leukotriene synthesis and unleashing. All of this is tied to NSAID'S principal influence, which restricts prostaglandins and thromboxane sequence by reducing cyclooxygenase [3,4]. Diclofenac is a non-opioid analgesic that is broadly used across the world; however, a limited anaphylactic reaction has been

reported. This case was reported in conformance with Surgical Case Report 2020 guidelines [5].

This case report emphasizes a rare, yet serious, instance where a patient with pre-existing PID and moderate anemia developed an allergic reaction to the commonly prescribed NSAID diclofenac (Voveran). While generally safe for pain and inflammation relief, this highlights that, although uncommon, hypersensitivity reactions to diclofenac can occur and pose significant risks.

### CASE REPORT

A 31-year-old female presented with chief complaints of severe white discharge, giddiness, body aches, and four episodes of vomiting that lasted 2 days. She also reported having abdominal pain in the suprapubic region for 4–5 days. She received Zofer IV/STAT and Pan 40 mg IV/STAT as treatment for these severe symptoms and was being observed in the medical department, where her treatment plan lasted for a week. The patient has no previous medical history of hypertension or diabetes mellitus.

On examination, the patient's pulse rate was 98 beats/min, blood pressure was 120/70 mmHg, and temperature was afebrile. The central venous system showed s1 and s2 positive, bilateral air entry was positive, and the saturation of peripheral oxygen was

Access this article online

Received - 30 August 2025  
Initial Review - 15 September 2025  
Accepted - 04 Decemebr 2025

Quick Response code



DOI: 10.32677/ijcr.v11i12.7839

**Correspondence to:** Fatima Sultana, Vision College of Pharmaceutical Sciences and Research, Secunderabad, Telangana, India. E-mail: fatimasultana0182@gmail.com

© 2025 Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC-ND 4.0).

100%. Per abdomen examination was soft, per speculum examination showed a healthy cervix and vagina with mucoid discharge, and per vaginal examination showed tenderness of vagina and cervix.

The laboratory investigations showed red blood cell (RBC) count of  $3.48 \times 10^{12}/L$ , hemoglobin of 6.9 g/DL, white blood cell count of  $5.81 \times 10^9/L$ , and platelets of  $337 \times 10^9/L$ . The complete urine examination was normal. Based on clinical symptoms and investigations (low RBC and hemoglobin count), the patient is diagnosed with PID with moderate anemia.

It is a known case of allergic drug reaction to diclofenac, which occurs rarely among people. After the administration of BD frequency of diclofenac dose (Voveran injection), which is used to treat pelvic pain, the patient was suffering from symptoms of diclofenac-inducing allergic drug reactions (ADR). The patient complains about rashes on the body, itching, and nausea (Fig. 1).

The patient's allergic reactions were treated with inj Avil IM STAT, which is an antihistamine to treat allergic skin conditions, tab Vectin 16 mg STAT used to prevent vertigo, and inj Hydrocortisone 100 mg IV STAT used to treat allergic reactions, mainly by the withdrawal of the next dose or the stop of Voveran dose. The duration of severity of ADR was for a few days, advising other medications like tab Montek-L BD for 2 days to reduce allergic symptoms, tab Atarax 10 mg, optical density (OD) used to prevent dermatitis, and liquid paraffin used to treat dry skin and rashes. There was a reduction in allergic symptoms after 2 days of stopping the medication, and healing of allergic reactions was noticed. The itching and rashes on the body or an ADR were treated with anti-allergic medications, while PID with moderate anemia is managed by advising antibiotics to decrease the infection caused in PID and multivitamins, iron injections to increase hemoglobin levels to eliminate anemia.

On discharge, Tab metrogyl, Tab orofer OD, Tab folvate 5 mg OD, Tab vit c OD are given, and she returned to her baseline after a week of discharge. The follow-up of the patient involves the subsiding of the allergic symptoms within 72 h with no recurrence



**Figure 1:** A clinical photograph depicts a widespread reddish rash on the forearm region, indicating an allergic reaction to the drug diclofenac, which was administered as part of the treatment plan for pelvic inflammatory disease

thereafter. The patient showed satisfactory recovery from PID with moderate anemia, and patient counseling was done regarding the avoidance of diclofenac in the future and was advised to report any hypersensitivity reactions promptly.

## DISCUSSION

A derivative of phenylacetic acid, diclofenac sodium, is classified as an NSAID which have routes of administration available by intravenous, intramuscular, rectal route, and transdermal. Our patient, who was given this anti-inflammatory drug to relieve low back pain, demonstrates how frequently it is used in medical settings to manage pain. There are possible local and systemic side effects when diclofenac is administered intramuscularly. After receiving an injection of diclofenac sodium, systemic side effects such as anaphylaxis, ischemic strokes, asthma attacks, hives, and Kuoni's syndrome may manifest [6]. Diclofenac side effects are comparable to those of other non-steroidal anti-inflammatory medications and are inevitable because the medications are prostaglandin inhibitors. Nevertheless, compared to some other NSAIDs and diclofenac may have fewer instances of these adverse effects. Since diclofenac has been used for more than 7.3 million patient years worldwide. We ought to offer the estimation of the frequency of extremely uncommon adverse reactions [7]. It has been estimated that the yearly incidence of PID in high-income nations can reach 10–20 cases/1000 women who are of reproductive age. In Scandinavia, public health initiatives aimed at lowering STI prevalence have had a significant impact on lowering PID incidence. The epidemiology of PID includes that there are no specific international data on the incidence of PID worldwide. However, according to a 2005 World Health Organization estimate, there are about 448 million new cases of curable STIs among people aged 15–49 each year. Based on the intensity of the infection, individuals with PID might exhibit few symptoms. In about 75% of cases, abnormal vaginal discharge was noted, and about 40% of cases report unexpected vaginal bleeding, which is frequently postcoital and late in the disease. Clinical progression symptoms such as nausea, vomiting, and temperatures above 38°C (found in 30% of cases) appear. Approximately one-third of patients have abnormal uterine bleeding [8].

The study of the physical and functional changes that occur during a PID process, the normal cervical barrier between the vagina and upper genital tract which includes the mucosal innate immune system is disrupted by cervical infections which causes infection of these normally sterile organs is claimed to be the pathophysiology of PID including, bacterial vaginosis-related organisms which are prevalent in patients with PID also disrupt the hosts defenses and introduce more harmful microbes that have the ability to climb into the upper tracts [9]. A delayed-type hypersensitivity reaction

(type IV reaction) is akin to allergic contact dermatitis, which is an immune-mediated antigen-specific skin reaction to an allergenic substance. Diclofenac is mostly used as an NSAID known to cause allergic contact dermatitis [10]. ADRs are a significant concern in the field of medicine and can have a negative impact on patient health and well-being. Its occurrence can lead to a higher utilization of healthcare resources and increased healthcare. Efforts to minimize the occurrence of ADRs should be a priority in healthcare systems globally [11]. Although diclofenac dosages varied from study to study, the most widely used dosage 75 mg, is used in clinical practice as a therapeutic dose [12].

In this case, the clinical observation requires careful consideration of conditions that overlap with symptoms. A broad differential diagnosis includes bacterial vaginosis, candidiasis, trichomoniasis, and cervicitis, which can all present with vaginal discharge, significantly seen in PID. The diclofenac administration caused an allergic rash and itching, confirmed a drug-induced allergic reaction rather than other dermatologic or infectious causes.

## CONCLUSION

This case study has brought to light the possibility of diclofenac allergic drug reactions even when PID is being managed, and moderate anemia is present. The use of diclofenac should be done with caution due to the risk of allergic reactions, including anaphylaxis. Diclofenac drug-induced allergic reaction, which is very rare and ranges from mild skin rashes to severe anaphylactic shock. The cause of allergic reactions can result in severe consequences if ignored. Hence, the risk is crucial that one has to be aware of it. These reactions are managed by early detection or prompt recognition and appropriate treatment, including the use of anti-allergic medication. It is very important to take a detailed medication history and past allergic history of the patient to avoid such allergic reactions. Therefore, the healthcare professionals

should be aware of such conditions while prescribing the drug, especially in elderly people. Alternative antibiotics are used to treat PID.

## REFERENCES

1. Curry A, Williams T, Penny ML. Pelvic inflammatory disease: Diagnosis, management, and prevention. *Am Fam Physician* 2019;100:357-64.
2. Soper DE. Pelvic inflammatory disease. *Obstet Gynecol* 2010;116:419-28.
3. Robinson DR, Skoskiewicz M, Bloch KJ, Castorena G, Hayes E, Lowenstein E, *et al.* Cyclooxygenase blockade elevates leukotriene E4 production during acute anaphylaxis in sheep. *J Exp Med* 1986;163:1509-17.
4. Jha AA, Bohra V, Behera V. Severe anaphylactic reaction to diclofenac. *Med J Armed Forces India* 2015;71 Suppl 1:S279-81.
5. Agha RA, Franchi T, Sohrabi C, Mathew G, Kerwan A, SCARE Group. The SCARE 2020 guideline: Updating consensus surgical case report (SCARE) guidelines. *Int J Surg* 2020;84:226-30.
6. Garcia-Malinis AJ, Agón-Banzo PJ, Linares DP, Marigil MA, Queipo F. Cutaneous reaction induced by intramuscular diclofenac showing epidermal dysmaturation. *Indian J Dermatol* 2022;67:65-6.
7. O'Brien WM. Adverse reactions to nonsteroidal antiinflammatory drugs. Diclofenac compared with other nonsteroidal anti-inflammatory drugs. *Am J Med* 1986;80:70-80.
8. DeSapri KA. Pelvic Inflammatory Disease Clinical Presentation. Available from: <https://emedicine.medscape.com/article/256448> [Last accessed on 2025 Oct 12].
9. Jenkins SM, Vadakekut ES. Pelvic inflammatory disease. In: StatPearls. Treasure Island, FL: StatPearls Publishing; 2025.
10. Gulin SJ, Chiriac A. Diclofenac-induced allergic contact dermatitis: A series of four patients. *Drug Saf Case Rep* 2016;3:15.
11. Deuri J, Aziz S, Deka D. A rare case report of diclofenac induced Steven Johnson syndrome. *Int J Basic Clin Pharmacol* 2024;13:910-4.
12. McNicol ED, Ferguson MC, Schumann R. Single-dose intravenous diclofenac for acute post-operative pain in adults. *Cochrane Database Syst Rev* 2018;8:CD012498.

*Funding: Nil; Conflicts of interest: Nil.*

**How to cite this article:** Fatima S, Sajida S, Mounika KD. Allergic drug reaction to diclofenac [Voveran] in the management of pelvic inflammatory disease with moderate anemia. *Indian J Case Reports*. 2025;11(12):672-674.