

Mild Cutaneous Adverse Reaction to Ciprofloxacin: A Case Report of Drug-Induced Hypersensitivity.

Jacintha Abisha Angel.S¹, G. Saipooja², *Dr. M.K. Sundar Sri*^{3*}, Dr. M. Dheenadhayalan⁴, Dr. K. Karthickeyan⁵, Dr. P. Shanmuga Sundaram⁶

¹Pharm-D Intern, School of Pharmaceutical Science, Vels Institute of Science, Technology and Advanced Studies, Chennai, Tamil Nadu, India. EMAIL ID: jacinthaangel285@gmail.com

²Pharm-D Intern, School of Pharmaceutical Science, Vels Institute of Science, Technology and Advanced Studies, Chennai, Tamil Nadu, India. EMAIL ID: saipoojagopinath54@gmail.com

³*Assistant Professor of the Department of Pharmacy Practice, School of Pharmaceutical Science, Vels Institute of Science, Technology and Advanced Studies, Chennai, Tamil Nadu, India. EMAIL ID: sundarsri.sps@velsuniv.ac.in

⁴Assistant Professor of the Department of Pharmacy Practice, School of Pharmaceutical Science, Vels Institute of Science, Technology and Advanced Studies, Chennai, Tamil Nadu, India. EMAIL ID: DHEENA56012@gmail.com

⁵Professor and Head of the Department of Pharmacy Practice, School of Pharmaceutical Science, Vels Institute of Science, Technology and Advanced Studies, Chennai, Tamil Nadu, India. Email ID: hodpppractice@velsuniv.ac.in

⁶Dean, School of Pharmaceutical Science, Vels Institute of Science, Technology and Advanced Studies, Chennai, Tamil Nadu, India. EMAIL ID: dean.sps@vistas.ac.in

***Corresponding Author:** Dr. M.K. Sundar Sri

*Assistant Professor of the Department of Pharmacy Practice, School of Pharmaceutical Science, Vels Institute of Science, Technology and Advanced Studies, Chennai, Tamil Nadu, India. EMAIL ID: sundarsri.sps@velsuniv.ac.in

ABSTRACT

This case report details a 52-year-old male patient with alcoholic gastritis, presenting with black-colored stools, dyspnea, and back pain. Following lab investigations indicating inflammation and nutritional deficits, the patient was diagnosed and treated with various medications, including ciprofloxacin. However, he developed mild hypersensitivity reactions characterized by rashes after ciprofloxacin administration. The report discusses mechanisms behind these rashes as immune-mediated reactions and contemplates alternative antibiotics, such as azithromycin, that pose a lower risk of allergic responses.

CASE REPORT

A 52-year-old male patient was admitted with chief complaints of black-colored stools for 1 month, frequent stools, dyspnea, and back pain. The patient has a history of recurrent hospitalization for alcoholic gastritis. He has been a known case of hypertension for 5 years. The patient was conscious and afebrile, and other general & systemic examinations were normal. Patient known case of alcoholism for 10 months. The patient's lab investigation causing inflammation of the stomach lining, particularly if it is persistent, alcoholic gastritis frequently coexists with liver dysfunction, nutritional deficits, and metabolic abnormalities. Lab results such as lipid profiles, electrolytes, bilirubin, and liver enzymes can all be dramatically changed by this combination. Numerous lab abnormalities in alcoholic gastritis arise because of malfunction of the liver, deficits in nutrition, GI losses such as bleeding, diarrhoea, and vomiting, and the harmful consequences of alcohol on the liver, pancreas, and bone marrow. Based on the above-mentioned syndromes, the patient was diagnosed with alcoholic gastritis. The patient was prescribed a proton pump inhibitor, antibiotics, a probiotic, an anticholinergic, multivitamins, calcium channel blockers, and anthelmintics (injection pantoprazole, injection emeset, injection ciprofloxacin, injection metronidazole, capsule doxycycline, capsule bifilac, tablet dicyclomine, tablet B-complex, tablet vitamin C, tablet amlodipine, and tablet albendazole). As mentioned above, the medications the patient was prescribed were injection ciprofloxacin 500mg IV twice a day. The patient had a mild hypersensitivity reaction (mild rashes) on the left hand. The patient was administered an injection of ciprofloxacin for 3 consecutive days. After the third day, the patient got mild rashes on their left hand.

MECHANISM OF MILD RASHES CAUSED BY INJECTION OF CIPROFLOXACIN:

The most common cause of mild ciprofloxacin injection-induced rashes is a hypersensitivity reaction, more precisely, an immune system-related drug-induced allergic reaction.

Below is a summary of the most likely mechanism:

1. Immune sensitization: The body may identify ciprofloxacin or its metabolites as foreign (antigenic) in sensitive people. Immune cells, especially mast cells or T lymphocytes, are activated as a result. 2. Histamine release: Prostaglandins, leukotrienes, and other inflammatory mediators, including histamine, may be released by mast cells. Vasodilation, increased capillary permeability, and the skin's recruitment of inflammatory cells result from this. . Clinical presentation: Usually without systemic symptoms, the outcome is a minor rash that may develop on the trunk or limbs and is frequently maculopapular (flat and raised red dots). Depending on timing and individual response, this form of rash is often categorized as a form IV (delayed-type) or occasionally type 1 (immediate, IgE-mediated) hypersensitivity reaction.

ALTERNATIVE ANTIBIOTICS TO CIPROFLOXACIN:

Azithromycin, whether administered intravenously or orally, is a macrolide antibiotic that targets specific gastrointestinal and respiratory infections. It is frequently chosen as a more secure option because it carries a reduced risk of allergic reactions, particularly in individuals with sensitivities to other classes of antibiotics.

CONCLUSION:

The patient, who has alcoholic gastritis and is being treated with various medications, had a mild allergic reaction (a rash with small bumps) three days after starting IV ciprofloxacin. This reaction is most likely due to a delayed-type (Type IV) hypersensitivity, involving immune sensitization and histamine release from mast cells. Given the adverse reaction, ciprofloxacin should be discontinued, and an alternative antibiotic such as azithromycin can be considered. Azithromycin is a macrolide antibiotic with a lower risk of allergic reactions, making it a safer and more effective choice for patients with antibiotic sensitivities. Ongoing care should focus on treating the gastritis, monitoring for further allergic responses, and managing comorbid conditions such as liver dysfunction and hypertension.

ACKNOWLEDGEMENT:

We would like to express our sincere gratitude to **Vels University** for their invaluable support and guidance in the successful completion of this case report. We are especially thankful to the faculty members for their constant motivation and insightful feedback, which greatly enriched the quality of this work.

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