



# Pantoprazole induced angioedema - A Case Report

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## ABSTRACT

**Background:** Drug-induced hypersensitivity reactions are significant from a therapeutic perspective. This case report highlights pantoprazole as a potential cause of hypersensitivity reactions.

**Case Summary:** A 55-year-old female presented to the outpatient department with lip swelling 40 minutes after ingesting pantoprazole.

**Conclusion:** Healthcare professionals should be aware of the risk of anaphylaxis, a potentially life-threatening reaction, associated with pantoprazole and exercise caution in its administration.

**Keywords:** Angioedema, hypersensitivity, Anaphylaxis, Pantoprazole, proton pump inhibitor.

## Introduction

Proton pump inhibitors (PPIs) are pharmaceuticals that reduce stomach acid production by inhibiting the H,K-ATPase pump. They are commonly used to treat various gastrointestinal conditions characterized by altered pH levels, such as Barrett's esophagus, gastroesophageal reflux disease (GERD), and peptic ulcers. Common PPIs include esomeprazole, rabeprazole, pantoprazole, lansoprazole, and omeprazole. Although PPIs generally have a high safety profile, allergic reactions to these drugs can occur [1]. However, the true prevalence of hypersensitivity reactions to PPIs remains unclear. Hypersensitivity to drugs is a reaction mediated by the immune system. Drug therapy accounts for 15% of adverse drug events, and drug hypersensitivity reactions are frequently seen in clinical practice [2]. Given the widespread use of PPI therapy, angioedema resulting from its use is a condition that requires increased recognition. Since they are essential to the treatment of gastrointestinal bleeding, doctors should be aware of the possibility of deadly side effects. PPI-related allergic responses might occur immediately or later, and their form and intensity can vary. Skin prick and intradermal tests are used to make the diagnosis. Treatment involves the use of steroids, histamine blockers, and epinephrine, just like in other anaphylactic events. Another possibility is desensitization therapy. Healthcare providers should be aware that PPIs might cause anaphylaxis because they are frequently used drugs [3]. This case report addresses the patient's hypersensitivity reaction following pantoprazole ingestion.

## Case description

A 55-year-old female patient presented to outpatient department with complain of swelling on lips with no pruritus and rashes over the body 40 minutes following pantoprazole ingestion. On taking history of the patient, she revealed that she had self medicated with Pantoprazole 40 mg on an empty stomach in response to reflux following a late night snacking. Vitals were stable (BP:-110/80 mmHG, PR:-86BPM, spo2:-98% at room temperature) with no difficulty in breathing and hoarseness of voice. She was given tab avil (pheniramine maleate) 25 mg orally, cetirizine hydrochloride 10 mg, and hydrocortisone 200 mg. Then she was monitored. Within an hour, her symptoms subsided, she felt more at ease, her lips returned to normal and was discharged.

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## Discussion

One of the most popular proton-pump inhibitors (PPIs) for treating GERD, peptic ulcers, Zollinger-Ellison syndrome, and other related conditions is pantoprazole which exerts its effect by inhibiting H,K-ATPase pump located at the canaliculi of parietal cells of the stomach. PPIs have extremely little side effects which includes nausea, abdominal pain, constipation, diarrhea, headache, skin rashes.

Uppasala monitoring centre database reported Only 0.3% to 0.7% of people have experienced an allergic reaction to PPIs and H2 receptor antagonists together. Their extensive over-the-counter sales and overprescription have been facilitated by this. Their use might not be noted in medical records, which could lead to unreported adverse responses [4].

In this, we have reported a case of angioedema following pantoprazole oral ingestion. Both oral and intravenous use of pantoprazole have been linked in the literature to systemic symptoms, as well as acute and delayed allergic responses. (5)

According to a case report by Haeney et al, a patient who took 20 mg of omeprazole orally experienced recurrent episodes of urticaria and angioedema. After taking this medication, the patient experienced these symptoms right away. The challenge test further verified that the medication, not the capsule shell, was the cause of the allergy. According to Bowlby and Dickens, a challenge test was conducted using just the omeprazole granules and no capsule shell in order to confirm this finding. (6) Additionally, an intravenous infusion of pantoprazole during general anesthesia caused anaphylactic shock in a 50-year-old man reported by Lai HC et al [7], two instances of anaphylactic responses following oral administration of 40 mg of pantoprazole have been documented by Gupta *et al.* [2,8] Kakode *et al* reported that ten minutes after receiving 40 mg of pantoprazole intravenously, a 38-year-old male had symptoms and indications of anaphylaxis. Prior to it, the same individual experienced two adverse reactions following oral pantoprazole use [9]. According to Bahaguna et al, a 64-year-old lady experienced anaphylactic symptoms and signs following an

intravenous dose of 40 mg of pantoprazole. Her intravenous pantoprazole was promptly stopped, and she remained stable for a few hours [10]. Three minutes after receiving pantoprazole intravenously, Hesam Yousefi reported a case of anaphylactic shock reaction. Oxygen, injectable epinephrine, intravenous hydrocortisone, normal saline, and antihistamines were used to treat the anaphylactic shock. 24 hours later, she was sent home. (11) A 75-year-old woman experienced anaphylaxis shortly after receiving a pantoprazole intravenous infusion as reported by James J et al. [12] Despite being uncommon, anaphylactic reactions to PPIs are treatable, just like other types of anaphylactic shock. Emergency physicians ought to be cognizant of this issue and provide care for patients in the event that this reaction occurs.

### Conclusion

When prescribing pantoprazole and other PPIs, doctors should exercise extreme caution. Patients should get special education about the potential for side effects when using PPIs, whether orally or intravenously. It is crucial that physicians and other medical professionals understand the risk of anaphylaxis when taking pantoprazole and closely monitor the patient both during and after the injection because these reactions can be fatal. It is crucial to educate patients about identifying and avoiding the offending drug, and healthcare professionals should keep a close eye out for adverse drug reactions.

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### Author Contributions

Essra Ali Safdar and Nida Ali Safdar performed the surgical procedure on the patient. Nida Ali Safdar drafted the initial manuscript and led the data collection efforts, with contributions from Essra Ali Safdar and Ali Safdar. Nida Ali Safdar also revised the manuscript to incorporate feedback and ensure clarity. All authors reviewed and approved the final manuscript for publication.

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### Availability of Data and Materials

The data and materials used in this study are available from the corresponding author upon reasonable request.

### Ethics Approval and Consent to Participate

This study was conducted in accordance with the Declaration of AUC, Hyderabad, and received approval from the Department of Pharmacy Practice, Anwarul Uloom College of Pharmacy, New Mallepally, Hyderabad, Telangana, India (500001). The patient was fully informed about the study, and informed consent was obtained in their native language before publication decisions were made. Documentation of consent has been provided at the time of submission.

### Consent for Publication

Written informed consent was obtained from the patient for the publication of this case report and any accompanying images. A copy of the signed consent is available for review by the Editor-in-Chief of this journal.

### Competing Interests

The authors declare that they have no financial or non-financial competing interests.

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