

## CASE REPORT

# Anaphylaxis as a Rare Side Effect of Pantoprazole; a Case Report

Gholamreza Faridaalae<sup>1</sup>, Javad Ahmadian Heris<sup>2,3\*</sup>

1. Department of Emergency Medicine, Maragheh University of Medical Sciences, Maragheh, Iran.

2. Department of Allergy and Clinical Immunology, Pediatric Hospital, Tabriz University of Medical Sciences, Tabriz, Iran.

3. Department of Allergy and Clinical Immunology, Rasool-E-Akram Hospital, Iran University Of Medical Sciences, Tehran, Iran.

*Received: February 2018; Accepted: April 2018; Published online: 21 May 2018*

**Abstract:** Anaphylaxis is a serious life-threatening allergic reaction. Any medication may potentially trigger anaphylaxis, but reaction to pantoprazole is rare. Our case is a 21 year-old girl with anaphylactic reaction to pantoprazole a short time after prescription.

**Keywords:** pantoprazole; anaphylaxis; proton pump inhibitors; hypersensitivity

© Copyright (2018) Shahid Beheshti University of Medical Sciences

**Cite this article as:** Faridaalae Gh, Ahmadian Heris J. Anaphylaxis as a Rare Side Effect of Pantoprazole; a Case Report. *Emergency*. 2018; 6 (1): e34.

## 1. Introduction

Pantoprazole is one of the proton pump inhibitor agents, which was first introduced in 1994. Pantoprazole and other proton pump inhibitors (PPIs) reduce acid production and its indications are treatment of erosive gastritis, esophagitis, gastric ulcer, duodenal ulcer and Zollinger Ellison syndrome (1). Many side effects have been reported following pantoprazol usage but it has rarely been reported as a cause of anaphylaxis. Here, we present a case of anaphylactic reaction to intravenous pantoprazole in a young woman who had presented to emergency department following epigastric pain.

## 2. Case presentation:

The case is a 21-year-old woman who was brought to emergency department of Amiralmomenin Hospital, Maragheh, Iran, with epigastric pain, which had started 2 days before. The pain was localized, did not radiated to anywhere, and was slightly relieved with eating and exacerbated after half an hour. She did not have bloody vomit or Melena. She had loose defecation three times a day. Vital signs were as follow: blood pressure = 80/120 mmHg, heart rate = 72 beat/minute, respiratory rate = 14 beat/minute, and arterial

oxygen saturation =94% in room air.

After careful history taking and clinical examination, the patient was diagnosed as gastritis. Intravenous line was accessed and she was treated with 40 mg intravenous pantoprazole. 2 minutes after drug administration, the patient was symptomatic with hives, dyspnea and cyanosis and her blood pressure had decreased to 85/60 mmHg, heart rate increased to 101/minute, and oxygen saturation to 78% in room air. She was immediately treated as anaphylactic shock with normal saline (30cc/kg), intramuscular epinephrine (0.3 mg), intravenous hydrocortisone (100 mg) and chlorpheniramin (4 mg). 6 lit/minute oxygen was administered via an oxygen mask. Gradually, her general condition improved and after 2 hours, the general condition completely was recovered. She was discharged after 12 hours.

## 3. Discussion

Several complications such as headache, dizziness, joint pain, nausea, vomiting, abdominal pain, increased risk of stomach and pancreatic cancer, acute interstitial nephritis, diarrhea, risk of fractures, vitamin B 12 deficiency, hypomagnesaemia, fever, hypertensive pneumonitis, liver damage, severe acute hepatitis, Kounis syndrome and thrombocytopenia have been reported following usage of PPIs (1-10). Acute and delayed allergic reactions and systemic reactions have been reported in rare cases, even with oral doses of pump inhibitor drugs (11-14). There are occasional cross-reactions

\* **Corresponding Author:** Javad Ahmadian Heris; Department of Allergy and Clinical Immunology, Pediatric Hospital, Vahidi Street, Tabriz, Iran. Email: jahmadian76@yahoo.com Tel: 009841 35262280



between different drugs in this group (14). Our search in literature shows that a few cases of anaphylaxis to PPI have been reported (14-16), and our case is another report of anaphylaxis to pantoprazole. Anaphylactic reaction to PPIs is reported with both oral and IV routes of administration (17, 18). Hou-Chuan Lai et al. presented a case of anaphylaxis to IV pantoprazole in a 50 year-old male patient during general anesthesia, who was discharged after successful resuscitation (19).

V. Vovolis et al. in a study in 2008 showed that skin test with PPIs could be considered as an accurate and simple method of evaluating the cross reaction between drugs of this group (20).

Anaphylactic reaction to PPIs is rare but, like other causes of anaphylactic shock, it is life threatening. It seems that emergency physicians should be aware of this problem and take care of the patients in case of this reaction happening.

### 3.1. Discussion

The patient gave us informed consent to publish this presentation.

## 4. Appendix

### 4.1. Acknowledgements

All the staff members of the emergency department of Imam Hospital are thanked for their cooperation throughout the study period.

### 4.2. Authors contribution

All authors meet the standard criteria of authorship based on the recommendations of the international committee of medical journal editors.

### 4.3. Conflict of interest

The authors declare that there is no conflict of interest.

### 4.4. Funding and support

None.

## References

- Richardson P, Hawkey CJ, Stack WA. Proton pump inhibitors. Pharmacology and rationale for use in gastrointestinal disorders. *Drugs*. 1998;56(3):307-35.
- Atkins C, Maheswaran T, Rushbrook S, Kamath A. Lansoprazole-induced acute lung and liver injury: a case report. *International journal of clinical pharmacology and therapeutics*. 2014;52(12):1102-4.
- Binnetoglu E, Akbal E, Sen H, Gunes F, Erbag G, Asik M, et al. Pantoprazole-induced thrombocytopenia in patients with upper gastrointestinal bleeding. *Platelets*. 2015;26(1):10-2.
- Canpolat U, Sahiner L, Aytemir K, Oto A. Allergic reaction to proton pump inhibitor: pantoprazole induced Kounis syndrome. *International journal of cardiology*. 2012;159(2):e27-8.
- Klassen S, Krepinsky JC, Prebtani AP. Pantoprazole-induced acute interstitial nephritis. *CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne*. 2013;185(1):56-9.
- Pirson F, Geubel A, Marot L. Late hypersensitivity to omeprazole and other proton pump inhibitors. *Acta clinica Belgica*. 2012;67(4):301-3.
- Quasdorff M, Mertens J, Dinter J, Steffen HM. Recurrent hypomagnesemia with proton-pump inhibitor challenge. *Annals of internal medicine*. 2011;155(6):405-7.
- Sandig C, Flechtenmacher C, Stremmel W, Eisenbach C. Pantoprazole induces severe acute hepatitis. *Zeitschrift fur Gastroenterologie*. 2011;49(2):207-10.
- Schiller D, Maieron A, Schofl R, Donnerer J. Drug fever due to a single dose of pantoprazole. *Pharmacology*. 2014;94(1-2):78-9.
- Torlot FJ, Whitehead DJ. Acute interstitial nephritis caused by two different proton pump inhibitors. *British journal of hospital medicine (London, England : 2005)*. 2016;77(1):50-1.
- Candar M, Gunes H, Boz BV, Kandis H, Kutlucan L, Saritas A. Asystole after the first dose of lansoprazole. *The American journal of emergency medicine*. 2014;32(10):1302.e3-. e4.
- Haeney M. Angio-edema and urticaria associated with omeprazole. *BMJ: British Medical Journal*. 1992;305(6858):870.
- Lamtha SC, Allam RN, Karthak C, Bhutia KD. Anaphylactic reaction to omeprazole. *Tropical gastroenterology : official journal of the Digestive Diseases Foundation*. 2015;36(2):136-7.
- Natsch S, Vinks MH, Voogt AK, Mees EB, Meyboom RH. Anaphylactic reactions to proton-pump inhibitors. *The Annals of pharmacotherapy*. 2000;34(4):474-6.
- Lai HC, Hsu SW, Lu CH, Ma HI, Cherng CH, Hung NK, et al. Anaphylaxis to pantoprazole during general anesthesia. *Journal of anesthesia*. 2011;25(4):606-8.
- Nand N, Dsouza S, Batra N, Chauhan V, Yadav M. Intravenous Pantoprazole-Induced Near Fatality. *The Journal of the Association of Physicians of India*. 2015;63(6):96.
- Gonzalez P, Soriano V, Lopez P, Niveiro E. Anaphylaxis to proton pump inhibitors. *Allergologia et immunopathologia*. 2002;30(6):342-3.
- Gratacos L, Soy D, Lluís M, Lopez B, Nicolas JM, Codina C, et al. Apparent anaphylaxis associated with pantoprazole. *American journal of health-system pharmacy*.



- 2005;62(13):1388-9.
19. Lai H-C, Hsu S-W, Lu C-H, Ma H-I, Cherng C-H, Hung N-K, et al. Anaphylaxis to pantoprazole during general anesthesia. *Journal of anesthesia*. 2011;25(4):606-8.
  20. Vovolis V, Koutsostathis N, Stefanaki E. IgE-mediated anaphylaxis to proton pump inhibitors–cross-reacting study. *Allergy*. 2008;63(9):1251-2.
  21. Natsch S, Vinks MH, Voogt AK, Mees EB, Meyboom RH. Anaphylactic reactions to proton-pump inhibitors. *Annals of Pharmacotherapy*. 2000;34(4):474-6.

