North Clin Istanb 2019;6(3):315–316
doi: 10.14744/nci.2018.36539

Case Report Gastroenterology

Lansoprazole as an uncommon cause of anaphylaxis: What to give next?

Ali Attila Aydin,[1] Sedat Bilge,[2] Tolga Duzenli,[3] Harun Aslan,[4] Guclu Aydin[2]

[1]Department of Emergency Medicine, Acibadem Hospital, Istanbul, Turkey
[2]Department of Emergency Medicine, Gulhane Training and Research Hospital, Ankara, Turkey
[3]Department of Gastroenterology, Sultan Abdulhamid Han Training and Research Hospital, Istanbul, Turkey
[4]Department of Internal Medicine, Koc University Hospital, Istanbul, Turkey

ABSTRACT

Proton pump inhibitors (PPIs) are one of the most prescribed drugs worldwide. Anaphylactic reactions of PPIs are rare; however, several cases have been reported. Here, we report a rare case of anaphylaxis that occurred immediately following lansoprazole intake. Following the successful management in the emergency department, skin prick and oral controlled challenge tests were performed to evaluate cross-reactivity. Thereafter, lansoprazole was switched to pantoprazole, which was well tolerated. Skin prick and oral controlled challenge tests can be performed for determining the cross-reactivity of PPIs to prevent adverse reactions.

Keywords: Anaphylaxis; cross-reactivity; lansoprazole; proton pump inhibitors.

Cite this article as: *Aydin AA, Bilge S, Duzenli T, Aslan H, Aydin G. Lansoprazole as an uncommon cause of anaphylaxis: What to give next? North Clin Istanb 2019;6(3):315–316.*

Proton pump inhibitors (PPIs) are frequently prescribed drugs that are mainly used for acid peptic disorders. PPI use has shown a gradual increase; however, the incidence of adverse effects has remained constant. Although hypersensitivity reactions, such as skin rash or itching, are common, anaphylaxis caused by lansoprazole is rare and only a few cases have been reported. Here, we aimed to present a case of lansoprazole anaphylaxis that was successfully managed and to emphasize the life-threatening adverse effects of this relatively safe drug via a literature review.

CASE REPORT

A 42-year-old woman was admitted to our emergency department with the complaint of stomach ache lasting for 1 week. The patient was not allergic, did not have any chronic disease, or was not prescribed medications in her history. She had swallowed 30 mg of lansoprazole capsule 20 min before admission. During the physical examination, she developed difficulty in breathing and itching all over the skin. She was quickly shifted to reanimation room from triage. During this time, her physical examination results were as follows: arterial blood pressure, 70/40 mmHg; SpO_2, 92%; pulse, 117/min; and body temperature, 36°C. Further, edema in the uvula, mucous membranes, and lips and itchy erythematous plaques on her face and upper body were observed. Her breath sounds were decreased without rales and rhonchi. With the preliminary diagnosis of anaphylaxis, 0.5 mg of epinephrine was injected to the upper leg in the vastus lateralis muscle. She was monitorized and 6 L/min O_2 by mask was initiated. In addition, 1200 mL of bolus 0.9% NaCl, 120 mg of methylprednisolone, 50 mg of diphenhydramine, and 50 mg of ranitidine was rapidly administered via the intravenous route. Subsequently, the hypoperfusion findings decreased within 10 min after the initial treatment; her vitals were as follows: arterial blood pressure, 110/80 mmHg; SpO_2, 96%; pulse, 98/min; and body temperature, 36°C. No complications were noted throughout her follow-up period in the emergency department and she was discharged

Received: December 06, 2017 *Accepted:* May 28, 2018 *Online:* August 08, 2018

Correspondence: Dr. Tolga DUZENLI. Sultan Abdulhamid Han Egitim ve Arastirma Hastanesi, Gastroenteroloji Klinigi, Tıbbiye Caddesi, Uskudar, Istanbul Turkey.
Phone: +90 216 542 35 02 e-mail: tolgaduzenli@yahoo.com

after 24 h. Thereafter, skin prick tests and oral controlled challenge tests using lansoprazole, omeprazole, pantoprazole, esomeprazole, and rabeprazole were performed. An immediate positive reaction to lansoprazole was observed; however, the reaction to the remaining drugs was negative. We switched to pantoprazole, which was well tolerated. Moreover, we reported this adverse drug reaction to the Turkish Pharmacovigilance Center (TUFAM).

DISCUSSION

Anaphylaxis is a life-threatening systemic allergic reaction that affects respiratory and cardiovascular systems. Degranulation of the mast cells and basophiles leads to anaphylaxis. Foods, drugs, and insect bites are the most common causes of anaphylaxis. Delayed diagnosis and treatment may lead to hypoxic ischemic encephalopathy and death. In the literature, a few cases of PPI-associated anaphylaxis have been reported [1–3]. In case of our patient, she experienced anaphylaxis in the emergency department where the treatment could immediately be provided. This factor has probably contributed to the rapid improvement of the clinical condition.

All reports of PPI-associated anaphylaxis in the literature emphasize the potential of anaphylaxis cause by such reliable and safe drugs. The cross-reactivity between PPIs is a challenging issue that remains debatable. In a recent case of anaphylaxis due to pantoprazole reported by Turedi et al. [4], cross-reactivity to all other PPIs was reported. However, Karabacak et al. [5] reported a case of anaphylaxis induced by lansoprazole that showed good tolerance to other PPIs including rabeprazole. Another case report by Choi SW et al. described a patient who had consumed esomeprazole 20 mg/day for 1 month without any side effects before experiencing anaphylaxis to lansoprazole [6]. Moreover, in a report by Aksu et al., anaphylaxis to lansoprazole was observed with tolerance to omeprazole [7]. On the other hand, Lobera et al. reported 9 cases of omeprazole allergy that showed no cross-reactivity with lansoprazole [8]. They stated that lansoprozole is a good alternative treatment.

Our patient showed no cross-reactivity to other PPIs, which was consistent with most of the literature. Prospective large studies are required to further elucidate this incidence. A recent national multicenter retrospective study by Kepil Ozdemir S et al. evaluated the characteristics of patients with suspected PPI hypersensitivity in Turkey. Their study comprised 60 patients with PPI hypersensitivity reactions as observed using standardized skin prick, intradermal, and oral controlled challenge tests. They reported that 40 patients had anaphylaxis and 17 patients had urticaria; 10 patients showed cross-reactivity to at least, 4 patients showed extensive cross-reactivity (>2 PPIs) [9]. Furthermore, in a large review reported in 2013 by Bose et al., 118 cases of immune-mediated hypersensitivity reactions to PPIs were investigated and omeprazole was the prominent drug that caused hypersensitivity reactions [10].

In conclusion, lansoprazole is a typically well-tolerated drug that can readily be prescribed. On the other hand, patients with risk factors should be identified before administering lansoprazole treatment and should be evaluated using skin prick and oral controlled challenge tests to prevent the occurrence of undesired adverse effects.

Informed Consent: Written informed consent was obtained from the patient for the publication of the case report.

Conflict of Interest: We do not have conflict of interest.

Financial Disclosure: The authors declared that this study has received no financial support.

Authorship Contributions: Concept – AAT, SB, TD; Design – AAT, SB, TD; Supervision – AAT, SB, TD, HA, GA; Materials – AAT, SB, GA; Data collection and/or processing – AAT, SB, GA; Analysis and/or interpretation – AAT, SB, TD, HA, GA; Writing – AAT, TD, HA; Critical review – AAT, SB, TD, HA, GA.

REFERENCES

1. Candar M, Gunes H, Boz BV, Kandis H, Kutlucan L, Saritas A. Asystole after the first dose of lansoprazole. Am J Emerg Med 2014;32:1302.e3–4.
2. Demirkan K, Bozkurt B, Karakaya G, Kalyoncu AF. Anaphylactic reaction to drugs commonly used for gastrointestinal system diseases: 3 case reports and review of the literature. J Investig Allergol Clin Immunol 2006;16:203–9.
3. Kara M, Tanoglu A, Kutlu A, Sirkeci O, Kekilli M. Esomeprazole: a safe alternative to lansoprazole allergy? Iran J Allergy Asthma Immunol 2014;13:296–7.
4. Turedi O, Sozener ZC, Kendirlinan R, Bavbek S. A Case of Pantoprazole Anaphylaxis with Cross Reactivity to All Proton Pump Inhibitors: Finding a Safe Alternative. Curr Drug Saf 2017;12:198–200. [CrossRef]
5. Karabacak E, Kutlu A, Aydin E, Ozturk S. Hypersensitivity to lansoprazole with tolerance to other proton pump inhibitors: does cross-reactivity between proton pump inhibitors really exist? Allergol Immunopathol (Madr) 2013;41:136–7. [CrossRef]
6. Choi SW, Han JM, Bae YJ, Lee YS, Cho YS, Moon HB, et al. Lessons from two cases of anaphylaxis to proton pump inhibitors. J Clin Pharm Ther 2012;37:614–6. [CrossRef]
7. Aksu K, Kurt E. Anaphylaxis to lansoprazole with tolerance to omeprazole. Allergol Immunopathol (Madr) 2012;40:393–4. [CrossRef]
8. Lobera T, Navarro B, Del Pozo MD, González I, Blasco A, Escudero R, et al. Nine cases of omeprazole allergy: cross-reactivity between proton pump inhibitors. J Investig Allergol Clin Immunol 2009;19:57–60.
9. Kepil Özdemir S, Öner Erkekol F, Ünal D, Büyüköztürk S, Gelincik A, Dursun AB, et al. Management of Hypersensitivity Reactions to Proton Pump Inhibitors: A Retrospective Experience. Int Arch Allergy Immunol 2016;171:54–60. [CrossRef]
10. Bose S, Guyer A, Long A, Banerji A. Evaluation and management of hypersensitivity to proton pump inhibitors. Ann Allergy Asthma Immunol 2013;111:452–7. [CrossRef]