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Case Report Gastroenterology

UNCORRECTED PROOF

An uncommon cause of anaphylaxis: Lansoprazole

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ABSTRACT

Proton pump inhibitors (PPIs) are one of the most prescribed drugs among the world. Anaphylactic reactions of PPIs are very rare yet a remarkable number of cases have been reported. Herein we report a rare case of anaphylaxis which occurred just after lansoprazole intake. After the successfull management in the emergency department; skin prick tests and oral controlled challenge tests has performed to evaluate cross-reactivity. Thereafter; lansoprozole was switched to pantoprazole which was well tolerated. We can perform skin prick tests and oral provocation tests for cross-reactivity of PPIs in order to prevent adverse reactions.

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

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Proton pump inhibitors (PPI) are frequently prescribed drugs mainly used for acid-peptic disorders. PPI use has been increasing over time, yet adverse effects has remained steady. Despite hypersensitivity reactions as skin rash or itching are more common; anaphylaxis caused by lansoprazole is very rare and only a few cases have been reported. Herein we aimed to present a successfully managed case of lansoprazole anaphylaxis and emphasize the life-threatening side effects of this relatively safe drug by review of the literature.

CASE REPORT

Forty two years-old woman admitted to our emergency department with the complaint of stomach ache lasting for one week. She had no allergies, no chronic diseases or prescribed medications in her history. She had swallowed 30 miligrams of lansoprazole capsule just 20 minutes before. Difficulty in breathing and itching all over the skin emerged while examining her vitals. She was quickly removed to reanimation room from triage. By the time, her vitals were; arterial blood pressure 70/40 mmHg, SpO_2 92%, pulse 117/per minute and body temperature 36° C. At physical examination there was edema in the uvula, mucous membranes and lips; itchy erythematous plaques in her face and upper body. Her breath sounds were decreased but no rales and rhonchi. With the preliminary diagnosis of anaphylaxis; 0.5 milligrams of epinephrine was injected to the upper leg in vastus lateralis muscle. She was monitorized and initiated 6 liters/per minute O_2 by mask. 1200 ml of bolus 0,9 % NaCl, 120 mg of methylprednisolone, 50 mg of diphenhydramine and 50 mg ranitidine was rapidly administered intravenously. Subsequently hypoperfusion findings decreased in 10

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minutes after the initial treatment; vitals had been arterial blood pressure 110/80 mmHg, SpO2 96%, pulse 98/per minute and body temperature 36° C. There were no complications throughout her follow-up in the emergency department and she was discharged after 24 hours. Afterwords skin prick tests and oral controlled challenge tests with lansoprazole, omeprazole, pantoprazole, esomeprazole and rabeprazole were performed. An immediate positive reaction to lansoprazole has observed; however all the other drugs results were negative. We switched to pantoprazole which was very well tolerated. Also we delivered this adverse drug reaction to Turkish Pharmacovigilance Center (TUFAM).

DISCUSSION

Anaphylaxis is a life-threatening systemic allergic reaction which affects respiratory and cardiovascular systems. Degranulation of the mast cells and basophiles eventuates anaphylaxis. Foods, drugs and insect bites are the most common factors of anaphylaxis. Delayed diagnosis and treatment may lead to hypoxic ischemic encephalopathy and death. There are a few reports of PPI-associated anaphylaxis in the literature [1–3]. Our patient was ironically lucky for experiencing anaphylaxis in the emergency department where the treatment could be provided immediately. This factor has probably contributed to the improvement of the clinical condition.

All reports of PPI-associated anaphylaxis in the literature emphasize the potential of anaphylaxis by this reliable and safe drugs. The real challenging issue is cross-reactivity between PPIs. There is a conflict on this issue in the literature. At a recent case of pantoprazole anaphylaxis reported by Turedi O. et al. [4]; cross-reactivity to all other PPIs has been reported. However, Karabacak et al. [5] reported a case of anaphylaxis induced by lansoprazole that had good tolerance to other PPIs including rabeprazole. At another case report by Choi SW et al; the patient had taken esomeprazole 20 mg/day for one month without any side effects before experiencing anaphylaxis to lansoprazole [6]. Also at Aksu K.et al.'s report; there was anaphylaxis to lansoprazole with tolerance to omeprazole [7]. On the other hand; Lobero et al. reported 9 cases of omeprazole allergy that has no cross-reactivity with lansoprazole [8]. They claimed that lansoprozole was proved to be a good alternative treatment.

Our patient had no cross-reactivity to other PPIs likewise the most of the literature. Prospective large studies are needed to enlighten this subject. There has been a recent national multi center retrospective study by Kepil Ozdemir S et al. that evaluated the characteristics of the patients with suspected PPI hypersensitivity in Turkey. Their study consisted of 60 patients who had hypersensitivity reactions to PPIs at standardized skin-prick, intradermal, and oral-provocation tests. Fourty patients had anapylaxis and 17 patients had urticaria. Ten patients had at least 1 cross-reactivity and extensive cross-reactivity (between >2 PPIs) was reported in 4 patients [9]. Also in a large review reported in 2013 by Bose S.et al; 118 cases of immune-mediated hypersensitivity reactions to PPIs were investigated and omeprazole was the prominent drug for hypersensitivity reactions [10].

In conclusion, lansoprazole is a generally well tolerated drug which can be prescribed unhesitatingly. On the other hand, patients with risk factors should be identified before lansoprazole treatment and should be evaluated by skin prick tests and oral controlled challenge tests to prevent undesired adverse effects.

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