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RESEARCH ARTICLE

A RARE CASE OF PANTOPRAZOLE INDUCED ANAPHYLACTIC SHOCK

***Dr. Annu Yadav, Dr. Dolly Yadav, Dr. Indranil Das and Dr. VGR Shastry**

Medeor Institute of Emergency Medicine, Medeor Hospital, Gurgaon, Haryana

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Corresponding author:* **Dr. Annu Yadav

ABSTRACT

A 40 year old female presented to the emergency department (ED) with complaints of loose motion, vomiting, spasmodic abdomen pain and rash all over the body after ingestion of 1 tablet of pantaprazole 40 mg, around two and half hours prior to arrival. In the ED, she was diagnosed with anaphylactic shock with gastrointestinal and skin involvement and hemodynamically instability. She was resuscitated with injections epinephrine, pheniramine, ranitidine, and hydrocortisone, along with intravenous fluid and oxygen, for management of anaphylactic shock. Thereafter, patient was shifted to the intensive care unit, and was discharged after uneventful 24 hour observation.

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INTRODUCTION

Pantoprazole is a drug from the proton pump inhibitor group (PPI) and is widely used in the treatment of gastro-esophageal and peptic ulcer diseases. Physiologically, PPI bind to H+/K+-ATP-ase pump and inhibit gastric acid secretion[1]. On the other hand, drug induced hypersensitivity, commonly encountered in clinical practice, is a type 1 IgE mediated immune reaction[1].

Objective: The objective of reporting this case is to illustrate that anaphylactic shock may occur with pantaprazole in tablet form as well.

Case Summary: A40 year old female reported to emergency department in hemodynamically unstable condition, with a history of loose stool, vomiting, spasmodic abdomen pain, redness all over the body after approximate 1 and half hour back after ingestion of tablet pantoprazole40mg.

Case: A 40 year old female presented to emergency department at 14:45 with continuous spasmodic abdomen pain along with 2-3 episodes of loose stool and vomiting, each. She gave history of consumption of tablet pantaprazole 40 mg that morning. On arrival in emergency, her airway was patent, breathing was On arrival in the ED, her airway was patent; breathing was not labored, clear chest on auscultation, respiratory rate 18 per minute, SPO2 88% on room air; blood pressure was not recordable, heart rate 100/min, peripheral pulses not palpable with cold and cyanosed peripheries; GCS E4 V5 M6, both pupils normal size and reactive, glucometer sugar 115mg/dL; and blanching rash all over the body. Thus, she was triaged as red category and resuscitated immediately with intramuscular injection of 0.5 mg adrenaline (1:1000), oxygen, normal saline bolus, for anaphylactic shock. Thereafter, her blood pressure improved to 90/50 mm Hg, pulse rate 110 per minute, respiratory rate 17 per minute, SPO2 98% on 4L per minute of oxygen. Since the abdomen pain was persisting, injection buscopan was administered slowly. Additionally, injections pheniramine 10mg and hydrocortisone 100mg were also administered and point of contact tests – arterial blood gas, electrocardiogram, were ordered. Upon further inquiring, she mentioned that her symptoms appeared around an hour after the ingestion of tablet pantaprazole 40 mg and that this was the first time she took this medication. She also confirmed that there was no co-ingestion of any other drug or new food or exposure to new chemical, clothes, history of any known allergy. Despite continued resuscitation and improving vital signs, her peripheries remained cold and she had low urine output. Hence, she was shifted to intensive care unit for continuation of care. Her stay in the hospital was uneventful, and was discharged after 24 hours.

DISCUSSION

Histamine receptor antagonists, such as cimetidine, ranitidine and famotidine, are some of the most commonly prescribed medications for gastric acid-related disorders. These compounds are generally well-tolerated orally and anaphylactic reactions to them are rare. To date, only a few reports addressing cross-reactivity among H2 receptor antagonists have been published[1]. A few case reports suggest that pantoprazole may lead to anaphylactic shock. A case report by Haeney[2]

mentions that a patient with cellulites, ulcerative erosive esophagitis, and gastric and duodenal ulcers developed several hypersensitivity reactions characterized by shortness of breath, wheezing, cough, mild angioedema, and total body urticaria with puritis immediately after consuming 20 mg of tablet omeprazole orally. It was also confirmed by the challenge test that the reaction was due to the drug by Bowlby and Dickens[3]. Moreover, in the two cases reported by PP Gupta[4], the patients developed acute episodes of urticaria, edema, and hypotension, in association with the ingestion of the tablets. In another case, a 50-year-old male in China experienced anaphylactic shock due to intravenous injection of pantoprazole during general anesthesia[5]. Acid suppressive drugs not only influence the sensitization capacity of orally ingested proteins, but also represent a risk factor for food allergy patients. Additionally, gastric acid suppression was reported to increase the risk for development of drug hypersensitivity reactions. These consequences of anti-ulcer drug intake might on the one hand be associated with direct influence of these drugs on immune responses[6]. On the other hand, reduction of gastric acidity leads to impaired gastrointestinal protein degradation. Nevertheless, disruption of the gastrointestinal barrier function, changes in micro-biome or lack of tolerogenic peptic digests might contribute to the connection between anti-ulcer drug intake and allergic reaction[7].

Conclusion

Although an unusual cause of anaphylactic shock, pantaprazole in tablet form must be prescribed with caution by healthcare providers.

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