

Case Study

A RARE INSTANCE OF DIASTASE/PEPSIN-INDUCED HYPERSENSITIVITY REACTION

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ABSTRACT

Diastase/Pepsin combination supplements are very commonly prescribed in clinical practice, mainly in the adult population. The chief indication for such use is indigestion or dyspepsia, wherein concomitant medication with proton pump inhibitors and antiemetics is also advised. Hypersensitivity reactions, though theoretically plausible with the use of digestive enzymes, there are no cases reported in the medical literature, to the best of our knowledge. This is one such case of hypersensitivity secondary to the administration of digestive enzymes in an adult Indian male.

Keywords: Digestive enzymes, Rash, Maculopapular, Allergy

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INTRODUCTION

About 30–40% of the population, at one point of time or another, suffers from upper abdominal discomfort or indigestion. When a cause cannot be identified clearly, the condition is termed as functional dyspepsia. The most common features include pain in the epigastrium, bloating and post-meal satiety. The most common modalities of management include proton pump inhibitors, antiemetics, and digestive enzyme supplements. If required, anti-*H. pylori* medication is initiated [1].

The food that is ingested by man is broken down in the gastrointestinal tract by various enzymes, which are collectively known as the digestive enzymes. The enzymes, which break down complex sugars into simple carbohydrates are called diastases, of which amylase is the most significant enzyme. Pepsin acts on large protein molecules, converting them into simple peptides. Similarly, fat is broken down into fatty acid and glycerol by lipases [2].

These digestive enzymes (normally found in the gastrointestinal tract) listed above are available as nutritional supplements in India and abroad, which are most frequently used in patients with indigestion. The authors report a case of diastase/pepsin-induced hypersensitivity reaction in Kasturba Hospital, a tertiary care center in South India.

CASE REPORT

(Ethics Committee approval was not obtained as it is a case report and not a retrospective/prospective clinical study)

A 67-year-old male patient (informed consent obtained from the patient; name withheld) who is a known case of hypertrophic cardiomyopathy and atrial fibrillation (with cardioverted rhythm) came into the cardiology OPD for review. He mentioned complaints of indigestion and occasional belching for the past few days. The physician started a course of diastase/pepsin (digestive enzymes) syrup thrice a day for a period of 7 d, along with oral pantoprazole 40 mg once daily for the same duration, and asked the patient to come back after the course was completed. However, the patient returned the very next day to the emergency OPD with complaints of erythematous rashes all over the body, accompanied by itching, a moderate degree of fever and nausea.

On examination, the rashes were maculopapular and erythematous in nature and spread all over the body, more intense over the lower limbs (as shown in the fig. 1, 2 and 3). The patient's vitals were well within normal limits, and he was afebrile at the time of admission. A systemic examination was done, which did not reveal any findings, other than his existing cardiac conditions. The patient did not have any history of

allergies in the past, nor did he take any other medication in the last week. A routine fever panel was done using his blood and urine.



Fig. 1: Erythematous maculopapular rashes around the neck



Fig. 2: Erythematous maculopapular rashes on the upper limb



Fig. 3: Erythematous maculopapular rashes over both the lower limbs

All laboratory investigations turned out to be normal. A skin biopsy was done, which revealed the absence of viral inclusion bodies, thereby eliminating viral causes for the rash. The cause for this hypersensitivity reaction was labeled to be due to the newly initiated diastase/pepsin syrup, and the medication was withdrawn.

The patient was started on IV hydrocortisone, IV pheniramine, IV pantoprazole, IV ondansetron and oral fexofenadine. The concomitant medications (warfarin, sotalol, and torsemide) were continued, as the patient had been taking them for a long duration without significant adverse events.

DISCUSSION

To the best of our knowledge, there are no case reports of hypersensitivity reaction to diastase/pepsin in the available literature. Hence, a comparison cannot be arrived at. However, the package insert mentions allergic reaction as an adverse effect to any of the constituents in the mixture [3, 4]. The reaction was treated in a similar way as any hypersensitivity reaction is managed. Based on the time of onset of symptoms and signs, we may presume the reaction to be an anaphylactic or anaphylactoid reaction. Since the patient is improved on initiating corticosteroids and antihistaminic, we can affirm the same [5]. However, further research is required to investigate the causes and risk factors for hypersensitivity of patients to this medication. Since this is a single case study, we could not analyze these factors.

CONCLUSION

Diastase/Pepsin combination is very commonly used in the clinical scenario for short-term or long-term indigestion and is sometimes taken as self-medication by the consumer, as the preparations are very easily available over the counter. Although hypersensitivity reactions are very rare with this combination product, it has to be brought into the diagnostic picture if and when required.

CONFLICT OF INTERESTS

Declared none

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