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Case Report

Omeprazole induced Vomiting- Treatment Indication and Side Effects are Same

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ABSTRACT

Introduction- Omeprazole is a widely used Proton Pump Inhibitor (PPI) that decreases stomach acid production. It is used to treat gastroesophageal reflux disease, gastric and duodenal ulcers, and Zollinger-Ellison syndrome. The common side effects reported with omeprazole are headache, nausea, vomiting, diarrhea, constipation, pain in stomach or excessive gas formation, dizziness. The uncommon and serious side effects include severe allergic reactions (swelling of the face, lips, tongue, or throat, and difficulty breathing), severe skin reactions (peeling, blistering, or bleeding lips, eyes, or mouth, particularly after sun exposure), renal problems (blood in the urine, painful urination, or swelling in the feet and ankles) and hepatic impact (jaundice, dark urine, or loss of appetite).

Case report: We report a fourty- four-year-old female, a known case of non-ulcer dyspepsia for last three months and had symptoms of nausea, vomiting with retrosternal and epigastric burning pain. She was non-diabetic, normotensive, non - smoker, non-alcoholic but was obese with body mass index (BMI) OF 28. She was under treatment with private practitioner but got partial relief, hence reported to our department for second opinion. There was no history of haematemesis, malena, fever or weight loss. All her biochemical tests including liver & renal function tests, blood sugar, thyroid profile, serum electrolytes, urine complete examination, ECG, chest x-ray were normal and ultrasonogram abdomen showed grade 2 fatty liver. The lipid profile was borderline deranged with mild increase in serum cholesterol and triglycerides level. She was started on PPI (Omeprazole 20 mg) daily once one hour before breakfast, along with lipid lowering in night time. She was also advised dietary modifications regarding dyspepsia and for controlling lipid profile. When she took omeprazole on first day then after two hours, she developed severe vomiting which settled after 6-8 hours. She again consulted and our junior resident thought that it might be exacerbation of her baseline non-ulcer dyspepsia symptoms and advised her to continue with the same treatment. She had two similar episodes after taking omeprazole. then wisely, it was immediately stopped and changed with H2 blocker. Patient had no symptoms after that and had complete recovery after four weeks of H2 blocker treatment with dietary modifications.

Conclusion:. Every drug has well documented common side effects but problem occurs when the indication for treatment, is the possible side effect of the same drug. PPI like omeprazole is most commonly used for non-ulcer dyspepsia symptoms, of which nausea, vomiting and pain abdomen are integral part but same are well documented side effect of the same. Patient version should be believed for better differentiation and understanding the gravity of the disease.

Keywords*: Omeprazole, Nausea, Vomiting, Pain abdomen, Side effects.*

INTRODUCTION

Proton Pump Inhibitors (PPIs) are antisecretory agents that are used widely to diminish acid secretion and are used widely to manage many gastric acid-related conditions such as gastroesophageal disease, gastritis, esophagitis, Barrett's oesophagus, Zollinger-Ellison syndrome, peptic ulcer disease, nonsteroidal anti-inflammatory drug-associated ulcers, and *Helicobacter pylori* eradication, around the globe. **[1]** While generally well-tolerated, omeprazole can occasionally trigger severe or unexpected adverse drug reactions. Notable case reports in medical literature document severe events including allergic shock, kidney inflammation (acute interstitial nephritis), severe skin reactions (like DRESS syndrome or Stevens-Johnson syndrome), and hyponatremia. The most common side effects of PPIs include headache, constipation, diarrhea, nausea and vomiting. **[2]** In addition, long-term use of PPIs is associated with some serious and rare adverse effects including kidney diseases (acute kidney injury, acute interstitial nephritis, chronic kidney disease, end stage renal disease), cardiovascular disease (myocardial infarction, stroke), liver disease (hepatocellular carcinoma), fractures, infections (Clostridioides difficile infection, Community-acquired pneumonia, COVID-19), micronutrient deficiencies (hypomagnesemia, anemia, vitamin B12 deficiency, hypocalcaemia), dementia, and gastric cancer. **[3]**

CASE REPORT

We report a fourty- four-year-old female, a known case of non-ulcer dyspepsia for last three months and had symptoms of nausea, vomiting with retrosternal and epigastric burning pain. She was non-diabetic, normotensive, non -smoker, non-alcoholic but was obese with body mass index (BMI) OF 28. She was under treatment with private practitioner but got partial relief, hence reported to our department for second opinion. There was no history of haematemesis, malena, fever or weight loss. All her biochemical tests including liver & renal function tests, blood sugar, thyroid profile, serum electrolytes, urine complete examination, ECG, chest x-ray were normal and ultrasonogram abdomen showed grade 2 fatty liver. The lipid profile was borderline deranged with mild increase in serum cholesterol and triglycerides level. She was started on PPI (Omeprazole 20 mg) daily once one hour before breakfast, along with lipid lowering in night time. She was also advised dietary modifications regarding dyspepsia and for controlling lipid profile. When she took omeprazole on first day then after two hours, she developed severe vomiting which settled after 6-8 hours. She again consulted and our junior resident thought that it might be exacerbation of her baseline non-ulcer dyspepsia symptoms and advised her to continue with the same treatment. She had two similar episodes after taking omeprazole. then wisely, it was immediately stopped and changed with H2 blocker. Patient had no symptoms after that and had complete recovery after four weeks of H2 blocker treatment with dietary modifications.

DISCUSSION

Omeprazole is a proton pump inhibitor (PPI). It is a first-line treatment for acid-related disorders such as gastroesophageal reflux disease (GERD), peptic ulcers, and Zollinger-Ellison syndrome **[4]**. Its therapeutic effects are achieved by irreversibly blocking the H+/K+ ATPase enzymes in gastric parietal cells, resulting in sustained acid suppression **[5]**. Since its introduction in the late 1980s, it has become a cornerstone of acid-suppression therapy due to its superior efficacy and longer duration of action compared to histamine H2-receptor antagonists. This drug is formulated as a delayed-release capsule to protect it from stomach acid, ensuring optimal absorption in the small intestine **[6,7]**. Its metabolism is via CYP2C19, resulting in variable response among individuals, particularly those with gigantic polymorphisms **[8]**. The use of PPI has increased drastically in last few decades, making it reach in first ten drugs being prescribed in world. In majority of cases, it is being over and wrongly used. **[9-12]** The risk of PPI-associated adverse effects is higher among the patients with advanced age, comorbid conditions, concomitant medications, and others. The elderly population is already at risk of developing many complications that could be aggravated by PPI therapy. Regular monitoring is indicated in elderly PPI users to determine the need of PPI therapy continuation. **[13]** Common adverse events (≥10%) in the omeprazole arm included lower respiratory tract infection (26%) and abdominal pain, urinary tract infection, vomiting, and cough (~9–13%). Three participants in the omeprazole arm experienced moderate-to-severe abdominal pain, resulting in treatment discontinuation. **[14]** The commonest adverse events in the omeprazole, lansoprazole and pantoprazole cohorts were diarrhoea, nausea/vomiting, abdominal pain and headache. **[15]** In our case also, patient had three episodes of severe vomiting associated pain abdomen, after taking omeprazole on each occasion. The patient reported after first episode of this side effect but junior resident negated it, thinking that his baseline non -ulcer dyspepsia symptoms have increased. But when consecutively, three times same episode occurred after single dose of omeprazole, then wisely, it was immediately stopped and changed with H2 blocker. Patient had no symptoms after that and had complete recovery after four weeks of H2 blocker treatment with dietary modifications.

CONFLICT OF INTEREST- None and no funding was taken for this case report.

CONCLUSION- Every drug has well documented common side effects but problem occurs when the indication for treatment, is the possible side effect of the same drug. PPI like omeprazole is most commonly used for non-ulcer dyspepsia symptoms, of which nausea, vomiting and pain abdomen are integral part but same are well documented side effect of the same. Patient version should be believed for better differentiation and understanding the gravity of the disease.

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