

# Improved Patient Outcomes after Pharmacist Interventions in Eradication of *H. Pylori* Linked Gastric Ulcer

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## Case Report

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## Abstract

Peptic ulcer is disruption in the innermost lining of stomach or primary portion of small intestine (duodenum) and occasionally lower esophagus. Clinical presentations of a gastric or duodenal ulcer involves upper abdominal pain called epigastric pain and complications comprises of bleeding, gastric perforation and obstruction of stomach and common etiological factors include bacteria (*Helicobacter pylori*) and non-steroidal anti-inflammatory drugs. Histological examination, Urea breathe test and serological testing reveals the presence of *Helicobacter pylori*. Triple regimen where proton pump inhibitor and clarithromycin can be along with either amoxicillin or metronidazole. In this case study, referred patient of 40 years old male is complaining about epigastric pain and diagnosed with *H. pylori* associated gastric ulcer along with comorbidity of type 2 diabetes and he was treated by eradication therapy or triple therapy (Amoxicillin, clarithromycin and omeprazole) along with life style amendments followed by clinical pharmacist which finally stabilizes his epigastric pain and condition of gastric ulcer.

**Keywords:** Eradication therapy; Patient outcomes; Gastric ulcer; Pharmacist interventions; *H. pylori*

## Introduction

Peptic ulcer is a localized defect in the gastric and/or duodenal wall that encompasses through muscularis mucosae into the *muscularis propria* [1]. Microaerophilic gram negative bacillus found in gastric specimens from biopsy of patients [2]. Infection with microorganism *Helicobacter pylori* is interrelated with chronic atrophic gastritis which is an inflammatory originator of gastric adenocarcinoma [3]. The main clinical presentations occurring in peptic ulcer patients includes upper abdominal pain or discomfort, anorexia, belching, nausea or vomiting, heartburn and regurgitation [4].

Ulcerative bleeding is also associated with peptic ulcer due to *H. pylori* infection [5]. Combinations of urea breath test (UBT), culture, serology, and histology were used to evaluate the presence of infection, eradication, or cases of relapse. Triple therapy is effective for eradication of *H. pylori* and overall eradication rate is 87% [6]. *H. pylori* eradication inhibits the intensification in gastritis connected with acid suppressive treatment [7]. Acid suppression for 4 to 8 weeks cure most of the duodenal ulcers but 70 to 80 percent of healed ulcers relapse within next year [8].

## Case Presentation

A 40-year-old man, father of one child, having 60kg weight presents to the physician with complaint of pain in epigastric area, heartburn and nausea. He was in usual state of health 2 days back when he started having epigastric pain. Pain aggravate at night after taking large meal. He denies smoking and use of NSAIDs. He uses junk food mostly on every weekend and spicy food in daily routine and has a sedentary lifestyle. He is used to eating late night meals.

## Past Medication History

He was using Paracetamol 500mg for relief of headache, Orinase-Met (Glimepiride+Metformin HCl)

Brands	Generics	Dose	Indications
Cap. Amoxil	Amoxicillin	1g x BID	For H.pylori
Tab. Clarithro	Clarithromycin	500mg x BID	For H.pylori
Cap. Risek	Omeprazole	40mg x BID	For acid secretion
Susp. Mucaine	Aluminum hydroxide	1 tablespoon x TID	Relieve heart burn
Tab. Glamet	Ranitidine	150mg x TID	Relieve heart burn

**Table 2:** Medication therapy.

## Pharmacist Intervention

### Drug Related Intervention

Optimize the therapy with appropriate number of drugs as Triple Drug Therapy is being followed for patient. Mucaine is given to relieve heartburn, so Glamet is omitted from therapy.

### Life Style Modifications

- ❖ Reduce fried food intake and use unsaturated fats in diet.
- ❖ Regularly monitor blood glucose level for good diabetic control
- ❖ Avoid lying down immediately after meal.
- ❖ Take healthy diet with low cholesterol.
- ❖ Avoid spicy food & late night meals
- ❖ Elevate head during sleep
- ❖ Practice good hygiene.

## Patient Outcomes

Epigastric pain of patient was relieved and eradication of *H. pylori* was done by triple therapy. Life style

2/500mg and Nexum (Esomeprazole) 40mg once daily for treatment of diabetes since 2 years.

## Lab Findings

According to hematology reports, all findings were normal and no signs of blood in vomiting and stool. Serology, urea breath test and stool antigen test showed *H. pylori* positive.

Sign	Normal Range	Results
Blood Pressure	120/80 mmHg	120/80 mmHg
Heart Rate	72 BPM	80 beats/min
Temperature	98°F	98°F

**Table 1:** Vital signs of patient.

modification especially by reduced fried food intake, also helped in relief of epigastric pain.

## Discussion

Peptic ulcer is a chronic inflammatory ailment of stomach as well as duodenum occurring 10% people in US every year [9]. Infected individual always has a predictable lifetime risk of 10 to 20% for development of peptic ulcer which is at least 3 to 4 fold greater than in non-infected people [10]. This patient was complaining about epigastric pain which was due to *H. pylori* associated gastric ulcer. He uses junk food mostly on every weekend and spicy food in daily routine and has a sedentary lifestyle. Both of these are contributing influencing factors for development of gastric ulcer. Dietary factors including spice consumption and skipping meal cause peptic ulcers [11].

Eventually, Patient was treated with acid suppressive therapy including triple therapy and additional life style modifications. Triple therapy consisting of PPIs and a combination of two antimicrobials including amoxicillin and clarithromycin is effective for peptic ulcer [12]. So, triple therapy is enough for the treatment. Pharmacist

intervention includes omission of Glaxo, although mucaine is given to relieve heartburn. Life style modifications comprising stoppage of fried food intake as well as spice consumption. Follow up for routine tests and examination is advised. Adherence to therapy is advised and assessed at each follow up. As patient is also suffering from diabetes so it is compulsory to evaluate and regular monitoring of glucose level. So, this patient is treated appropriately and goal of therapy was achieved by pharmacist recommendations along with doctor's endorsement.

### Conclusion

In this case scenario, this patient was suffering from H. pylori associated gastric ulcer and DM Type 2. Now-a-days, ulcer is most leading gastric disorder so our aim was to treat epigastric pain and ulceration. He was treated with acid suppressive therapy. Patient was stable after treatment with triple therapy.

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