

## CASE REPORT ON GASTRIC AND DUODENAL ULCERS AND THEIR MANAGEMENT THROUGH AYURVEDA

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### ABSTRACT

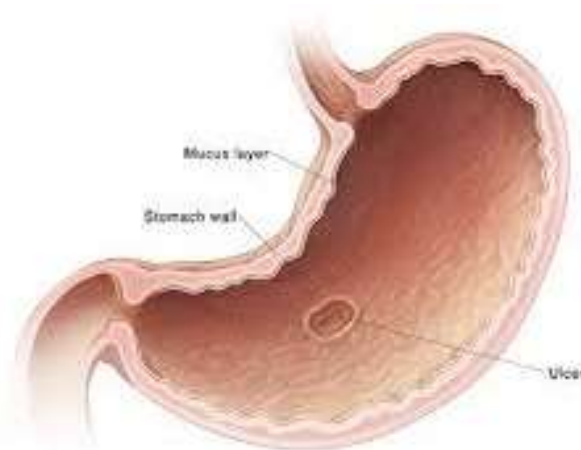
Gastric and duodenal ulcers are common gastrointestinal disorders characterized by mucosal erosions due to imbalance between gastric acid secretion and mucosal defense. Modern treatment involves proton pump inhibitors and antibiotics, but recurrence and side effects remain concerns. Ayurveda describes these conditions under Amlapitta and Parinamshoola, and emphasizes holistic management through herbal remedies, Panchakarma therapies, and lifestyle modifications. This case report presents a patient with gastric and duodenal ulcers managed effectively through Ayurvedic interventions.

### INTRODUCTION

Gastric and duodenal ulcers, collectively termed as peptic ulcer disease (PUD), result from mucosal injury caused by excess gastric acid, *Helicobacter pylori* infection, prolonged NSAID use, or stress. In Ayurveda, these conditions correlate with Amlapitta (acid-peptic disorder) and Parinamshoola (duodenal pain after digestion). The classical texts suggest Nidana Parivarjana (avoiding causative factors), Shamana Chikitsa (palliative measures), and Panchakarma therapies for long-term relief and prevention of recurrence. Peptic ulcer disease (PUD) encompasses both gastric and duodenal ulcers and remains a significant global health issue, despite decreasing incidence in high-income countries due to better treatment and sanitation. The main etiologies are *H. pylori* infection, which accounts for most duodenal ulcers and a high percentage of gastric ulcers, and the prolonged use of NSAIDs. Other risk factors include smoking, alcoholism, and stress. The pathophysiology involves the breakdown of the mucosal barrier by aggressive factors like acid and pepsin, driven by mechanisms such as *H. pylori*'s urease production and NSAID-induced prostaglandin inhibition.

Clinically, PUD often presents as epigastric pain, bloating, nausea, and vomiting, with symptom timing relative to meals helping distinguish between gastric and duodenal ulcers. Diagnosis is primarily achieved through upper endoscopy, which allows for direct visualization and biopsy, with non-invasive tests for *H. pylori* also commonly used. Management focuses on eradicating *H. pylori* using combination antibiotic

therapy (typically with a proton pump inhibitor, or PPI) and discontinuing or modifying NSAID use. Complications, though less common today, include gastrointestinal bleeding, perforation, and obstruction, which may require urgent endoscopic or surgical intervention. A comprehensive approach involving diagnosis, targeted treatment of the underlying cause, and lifestyle modifications is key to preventing recurrence and serious complications.



GASTRIC ULCER

### Pathogenesis

#### 1. Weakened Defenses:

*H. pylori* infection and NSAID use disrupt the normal functioning of protective mechanisms.

#### 2. Exposure to Acid:

The weakened mucosa becomes vulnerable to the corrosive action of gastric acid and pepsin.

### 3. Inflammation and Damage:

Persistent inflammation from *H. pylori* and direct damage from NSAIDs lead to epithelial cell injury.

### 4. Ulcer Formation:

When aggressive factors overwhelm the compromised protective mechanisms, the mucosal surface breaks down, forming an ulcer.

Gastric and duodenal ulcer pathophysiology stems from an imbalance between aggressive factors (like *Helicobacter pylori*, NSAIDs, and excessive acid) and protective mechanisms (mucus, bicarbonate, and mucosal blood flow). *H. pylori* infection and NSAID use weaken the mucosa by reducing protective substances like prostaglandins or causing inflammation, while excessive acid and pepsin erode the damaged or inherently vulnerable lining. This imbalance leads to mucosal breakdown and ulcer formation

#### Aggressive Factors

- **Helicobacter pylori (H. pylori):**

This bacterium colonizes the stomach and duodenal mucosa, triggering inflammation that compromises mucosal defenses. It can also increase acid production.

- **Nonsteroidal Anti-inflammatory Drugs (NSAIDs):**

These medications inhibit cyclooxygenase (COX), which is crucial for synthesizing prostaglandins. Prostaglandins are vital for maintaining protective mechanisms of the mucosa.

- **Gastric Acid and Pepsin:**

The potent digestive action of stomach acid and pepsin can damage the gastric and duodenal lining.

#### Protective Mechanisms

- **Mucus and Bicarbonate:**

These form a physical and chemical barrier that protects the underlying epithelial cells from the corrosive effects of gastric acid.

- **Mucosal Blood Flow:**

Adequate blood flow to the gastric mucosa helps to deliver bicarbonate to the surface, neutralize diffused acid, and provide nutrients for repair.

- **Cellular Restitution:**

Healthy cells can migrate to the site of injury, restoring the mucosal surface through a process called restitution.

- **Tight Intercellular Junctions:**

These junctions between epithelial cells prevent acid from passing between them into the underlying tissue.

#### What They Are

- **Gastric Ulcer:** A sore or ulcer on the lining of the stomach.

- **Duodenal Ulcer:** An ulcer on the lining of the duodenum, the first part of the small intestine that receives food from the stomach.

- **Gastroduodenal Ulcer:** The term used when a person has both a gastric and a duodenal ulcer simultaneously.

#### Causes

The primary causes of both gastric and duodenal ulcers are:

- **H. pylori infection:** A bacteria that damages the protective mucus lining of the stomach and duodenum, allowing stomach acid to cause an ulcer.

- **NSAIDs:** Long-term use of nonsteroidal anti-inflammatory drugs (NSAIDs) can also lead to ulcers.

- **Excess stomach acid:** Can contribute to the ulcer formation.

#### Symptoms

While symptoms can be similar, a key indicator can be the timing of the pain in relation to meals:

- **Burning pain:** A common symptom for both types of ulcers.

- **Gastric ulcer pain:** May worsen when you eat.

- **Duodenal ulcer pain:** Often relieved by eating but can worsen at night or when the stomach is empty.

#### Diagnosis

A doctor can diagnose these ulcers through:

- **Endoscopy (Gastroscopy):** A flexible tube with a camera is used to look inside the stomach and duodenum.

- **Biopsy:** During the endoscopy, tissue samples can

be taken to test for *H. pylori*.

### CASE PRESENTATION

A 40-year-old male patient presented with complaints of burning epigastric pain, sour belching, nausea, and occasional vomiting for the past 6 months. Pain aggravated on empty stomach and was relieved after meals. Past history revealed frequent intake of spicy food and irregular eating habits. Endoscopy findings showed gastric ulcer in the antrum and duodenal ulcer in the first part of duodenum.

### Management and Treatment

The patient was managed through Ayurvedic protocol as follows:

1. Nidana Parivarjana: Avoidance of spicy, oily, fermented foods, irregular meals, and stress.
2. Shamana Chikitsa:
  - Shatavari churna (*Asparagus racemosus*) 3 g twice daily with milk.
  - Yashtimadhu churna (*Glycyrrhiza glabra*) 2 g twice daily with honey.
  - Avipattikara churna 3 g at bedtime with warm water.
  - Dadimashtaka churna for improving digestion and reducing Amlata.
3. Panchakarma:
  - Virechana (therapeutic purgation) with Trivrit lehya to eliminate Pitta.
  - Shirodhara with Takra for stress management.
4. Pathya-Apathya (Diet and Lifestyle): Consumption of easily digestible food, buttermilk, ghee, and avoidance of alcohol, smoking, and fast foods.

### RESULTS

After 8 weeks of treatment, the patient reported significant improvement in symptoms such as burning sensation, nausea, and belching. Appetite improved, and weight stabilized. A follow-up endoscopy after 12 weeks showed remarkable healing of gastric and duodenal ulcers.

### DISCUSSION

This case demonstrates the efficacy of Ayurvedic management in gastric and duodenal ulcers. Shatavari

and Yashtimadhu possess proven anti-ulcer, mucoprotective, and anti-inflammatory properties. Avipattikara churna helps balance Pitta and relieves hyperacidity. Gastric and duodenal ulcers are peptic ulcers, which are open sores in the stomach (gastric) or the first part of the small intestine (duodenum). The main distinction is their location, with gastric ulcers forming in the stomach lining and duodenal ulcers in the duodenum. While symptoms can be similar, a key difference is that eating may worsen gastric ulcer pain but relieve duodenal ulcer pain. Both are commonly caused by *H. pylori* infection or NSAID use, and diagnosis often involves an endoscopy. Virechana effectively reduces aggravated Pitta dosha, addressing the root cause. Dietary and lifestyle modifications further prevent recurrence. Hence, Ayurveda offers a safe and sustainable alternative in the management of peptic ulcer disease.

### CONCLUSION

Ayurvedic interventions including herbal formulations, Panchakarma, and lifestyle modifications provided significant relief in a patient with gastric and duodenal ulcers. This highlights the potential of Ayurveda as an effective and holistic approach for managing peptic ulcer disease.

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