



Herbal Remedies for Peptic Ulcers: Natural Approaches to Healing and Relief.

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ABSTRACT :

Food is not only essential for survival but also plays a pivotal role in maintaining digestive health and overall wellness. However, with the rise of modern lifestyles and changing dietary habits, gastric conditions such as peptic ulcer have become increasingly prevalent.

Peptic ulcer disease (PUD) is a global problem with a lifetime risk of development ranging from 5% to 10%¹. Peptic ulcers are painful lesions that form in the stomach, small intestine, or esophagus due to an imbalance between aggressive factors like gastric acid and the stomach's natural protective mechanisms. These ulcers are most commonly triggered by *H. pylori* infections and the long-term use of nonsteroidal anti-inflammatory drugs (NSAID). Symptoms include burning stomach pain, nausea, and indigestion, and if left untreated, ulcers can lead to severe complications, such as gastrointestinal bleeding and obstruction.

Ayurveda provides a holistic insight into digestive health, recognizing gut health as the foundation of overall well-being and the vital link that harmonizes the physical, mental, and spiritual realms of life². In Ayurvedic system of medicine the term *Amlapitta*, a condition resulting from an imbalance of the *Pitta dosa*, particularly its *Amla and Ushna* (sour and acidic) qualities. This condition can be better correlated with Peptic ulcer disease of modern pharmacology. *Amlapitta* develops due to *Agnidushti* (disturbance of digestive fire) and *Pitta dosa prakopa* (excessive aggravation of Pitta), leading to symptoms such as *Utklesa* (nausea), *Amla Udgara* (acidic belching or acid reflux), *Hrd-kantha Daha* (heartburn and retrosternal burning), and *Avipaka* (indigestion or dyspepsia), which closely resemble the clinical features of gastritis and peptic ulcer disease in modern medicine. Ayurvedic treatments aim to restore *Agni* (digestive fire) and maintain the balance of *Doshas* through *Aushadhi* (herbal formulations), *Pathya-Apathya* (dietary regulations), and *Sattvavajaya chikitsa* (mental and emotional therapy), thereby promoting the healing of the *Annava Srotas* (digestive system) and preventing future *Agnidushti* or digestive disorders.

Key words - peptic ulcer, Amlapitta, pitta dosa, herbal drugs

INTRODUCTION

PEPTIC ULCER

The word “peptic” derived from Greek term “peptikos” which meaning is related to digestion. Peptic ulcer occurs in parts of the gastrointestinal tract exposed to gastric acid and pepsin, mainly the stomach and duodenum. Its exact cause is unclear but is believed to result from an imbalance between aggressive factors (acid, pepsin, bile, and *H. pylori*) and protective factors (gastric mucus, bicarbonate, prostaglandins, and blood flow). *H. pylori* infection is a key contributor to ulcer formation and recurrence. In **gastric ulcers**, acid secretion is typically low or normal, with impaired mucosal defense playing a significant role. In **duodenal ulcers**, acid secretion is high in some patients but normal in others. Reducing gastric acid is the primary treatment approach, and understanding its regulation helps target effective antisecretory drugs.

Acute Peptic Ulcers - Acute peptic ulcers, commonly referred to as stress ulcers, are multiple, small mucosal erosions primarily affecting the stomach and, less frequently, the duodenum. They typically arise in response to severe physical or psychological stress, including trauma, extensive burns, sepsis, or prolonged use of nonsteroidal anti-inflammatory drugs and corticosteroids. Pathogenesis involves mucosal ischemia and depletion of the protective gastric mucus barrier, increasing susceptibility to acid-peptic injury. Grossly, these lesions are often multiple (~75% of cases), oval or circular, and generally less than 1 cm in diameter, most commonly located in the stomach. Microscopically, ulcers are shallow and confined to the mucosa. Potential complications include hemorrhage and perforation, which can be life-threatening if untreated.

Chronic ulcer -

Chronic peptic ulcer represents a persistent mucosal defect extending into the submucosa or muscularis layer, resulting from an imbalance between acid-pepsin secretion and mucosal defence mechanisms. The condition commonly affects the lesser curvature of the stomach and the proximal duodenum,

accounting for over 95% of cases. Major etiological factors include *Helicobacter pylori* infection, chronic NSAID use, hyperacidity, bile reflux, smoking, alcohol, stress, and hormonal influences such as gastrin overproduction in Zollinger–Ellison syndrome.

Pathogenesis differs between sites: duodenal ulcers are associated with increased acid-pepsin secretion and rapid gastric emptying, whereas gastric ulcers result from impaired mucosal protection. Morphologically, ulcers are solitary, round to oval, 1–2.5 cm in diameter, and “punched out” with converging mucosal folds. Microscopically, four layers are observed — a necrotic zone, superficial exudative layer, granulation tissue, and fibrotic cicatrization. Complications include haemorrhage, perforation, pyloric obstruction, and rarely, malignant transformation (notably in gastric ulcers).

Drugs Used in the Management of Peptic Ulcer

I. Acid Neutralizing Agents

Antacids – directly neutralize gastric acid and provide rapid symptomatic relief.

II. Anti-secretory Agents

(a) H₂ Receptor Blockers – e.g., Ranitidine, Famotidine; inhibit histamine-mediated acid secretion.

(b) Proton Pump Inhibitors (PPIs) – e.g., Omeprazole, Pantoprazole; suppress final step in acid secretion.

(c) Antimuscarinics – e.g., Pirenzepine; reduce vagal stimulation of gastric acid secretion.

III. Mucosal Protective Agents

Agents like Sucralfate, Misoprostol, and Bismuth compounds protect and strengthen the gastric mucosal barrier.

IV. Anti-*Helicobacter pylori* Antimicrobials

Combination therapies (e.g., Clarithromycin, Amoxicillin, Metronidazole with PPIs) eradicate *H. pylori*, addressing the root cause of ulceration³

AMLAPITTA-

Amlapitta is one such disease, which is described in *Ayurveda* and can be in a way related to "acid peptic disease", a term with which modern science is more familiar. The Roga *Amlapitta* has been described in *Samhithas* like *Kasyapa Samhitha*, *Madhava Nidana*, *Yogaratanakara*, *Bhava prakasha*, *Chakradutta* and *Rasaratnasamuchaya*. Although the *Brihat Trayees* do not explicitly describe *Amlapitta*, the depiction of similar pathological conditions across the chapters provides key insights into its understanding and management.⁴

“*Avipakaklamotkleshatikthamlodgaragauravaihi*

Hruthkanthadaharuchibhishch.Amlapittamvadedbhishak.” (*Madhava Nidana*)⁵

The disease in which the patient has indigestion, exhaustion without any exertion, nausea, belching with bitter or sour taste, feeling of heaviness of the body, burning sensation in the chest & throat, and loss of appetite is to be called *Amlapitta*⁵.

NIDANA

Nidana of *Amlapitta* encompasses the *Ahitakara Ahara* and *Vihara* — unwholesome dietary and lifestyle factors—that contribute to the onset of the disease. Since *Pitta* is the principal *Dosha* involved, all factors that provoke *Pitta* are primarily responsible for the manifestation of *Amlapitta*. However, in certain variants such as *Vataja*, *Kaphaja*, and *Vatakaphaja Amlapitta*, *Vata* and *Kapha* also play an associative (*Anubandhi*) role.

The causative factors (*Nidanas*) of *Amlapitta* described in various Ayurvedic classics can be systematically classified under three categories:

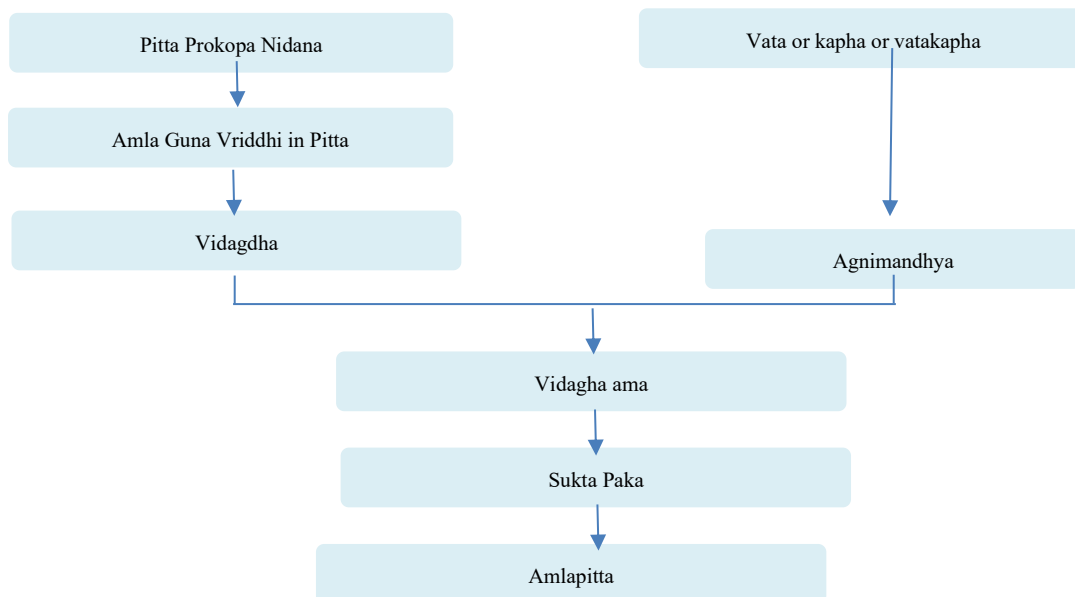
1. *Ahara* (Dietary Factors) – These include improper food habits such as *Abhojana* (skipping meals), *Atibhojana* (overeating), and consumption of *Guru Ahara* (heavy food).

2. *Vihara* (Lifestyle Factors) – Activities like *Diwaswapna* (daytime sleep), *Vegadharana* (suppression of natural urges), and *Atisnana* (excessive bathing) fall under this category.

3. *Kala* (seasonal factors) such as *Varsha* and *Sharad Ritu*; *Desha* (regional factors) like *Anupadesha* (humid regions); and *Manasika Vikaras* (psychological factors) such as *Krodha* (anger) and *Irsha* (jealousy), all of which known to aggravate *Pitta*.

SAMPRAPTI

Pitta sanchita (accumulates) due to *nidanas* (causative factors). This accumulated *Pitta* undergoes *vidagdhata* (derangement) when exposed to *viruddha* (incompatible), *dushta* (impure), *amla* (sour), *vidahi* (pungent/heating), and *Pitta*-aggravating *ahara* (foods and drinks), as well as *aggravating kala* (unfavorable environmental conditions) such as the *Varsha* (rainy) and *Sharad* (autumn) seasons. The deranged *Pitta* manifests as clinical symptoms including *hrid-kantha daha* (burning sensation in the chest and throat), *avipaka* (indigestion or dyspepsia), *klama* (fatigue), *utklesha* (bloating and epigastric fullness), *tikta-amlottara* (sour or bitter regurgitation), *gourava* (heaviness), *aruchi* (loss of appetite), and *chardi* (nausea/vomiting)



Purvarupa of Amlapitta (Premonitory Symptoms)

The early signs indicating the onset of *Amlapitta* occur due to *Pitta* and *Agni dushti*, showing initial disturbance in digestion and metabolism.

These includes Arochaka (Loss of taste or aversion to food) *Utklesa* – Nausea or feeling of uneasiness *Hrd-daha* (Burning sensation in the chest or epigastric region) *Avipaka* – Indigestion or incomplete digestion *Tikta-amlā udgara* (Bitter or sour belching) *Gaurava* (Heaviness of the body) *Klama* (fatigue or tiredness).

Rupa of Amlapitta (Manifest Symptoms)

The main clinical features of *Amlapitta* arise due to **vitiatio**n of *Pitta* and *Agni* and involve disturbances in digestion and metabolism.

Symptoms include:

Adhmana (bloating), Amlodgara (sour belching), Amlotklesa (nausea), Angasada (weakness), Antrakujana (gurgling sound in abdomen), Aruchi (loss of taste), Atisara (diarrhoea), Avipaka (indigestion), Chardi (vomiting), Gaurava (heaviness), Gurukoṣṭhata (heaviness in abdomen), Hikka (hiccough), Hrt-daha (burning in chest), Hrt-sula (epigastric pain), Kantha-vidaha (throat burning), Klama (fatigue), Romaharṣa, Siro-ruja (headache), and Tiktodgara (bitter belching)

Chikitsa of Amlapitta (Treatment Principles)

The treatment of *Amlapitta* is based on three main Ayurvedic principles:

1. ***Nidana Parivarjana* (Avoidance of Causative Factors)**
2. ***Sodhana Chikitsa* (*Apakarṣaṇa*)**
3. ***Samana Chikitsa* (*Prakṛtivyaghāta*)**

Sodhana Chikitsa (Purification Therapy):

- ***Vamana* (Emesis):** Best for *Amasayokta vyadhi* and *Urdhvaga Amlapitta* (upward movement of doshas).
- ***Virechana* (Purgation):** Indicated when doshas are in *Pakwāsaya* or in *Adhoga Amlapitta* (downward type).
- ***Basti* (Enema):** Useful in *Jirṇa Amlapitta* or chronic conditions.
- ***Raktamoksana* (Bloodletting):** Mentioned in *Yoga Ratnākara* when doshas are not pacified after emesis and purgation.

Kashyapa and Cakradatta recommend:

Vamana → Virechana → Basti → then Samana measures as per dosha and type.

Samana Chikitsa (Palliative Treatment):

- Aimed at pacifying aggravated *Pitta* and *Kapha*.
- Use *Pitta–Kapha samaka* and *Agnidipana* dravyas.
- **Desirable drug qualities:** *Tikta rasa*, *Madhura vipaka*, *sita virya*, *Snigdha guṇa*.
- **Ahara:** *laghu annapana* (Light, easily digestible) and *Amapacaka* foods.

Pathya – Apathya in Amlapitta.

Pathya Ahara (Wholesome Diet):

Diet should be *Pitta–Kapha samaka*, light (*laghu*), non-irritant, and easy to digest.

According to Acharyas:

- **Chakradatta:**
Recommends *Tikta (bitter)* ahara — foods made from barley (*Yava*), wheat (*Godhuma*), and parched paddy (*Laja*) mixed with sugar and honey, taken in liquid form.
- **Bhaishajya Ratnāvali:**
Advises consumption of –*Pūrana Śāli* (old rice), *Yava* (barley), *Godhuma* (wheat), *Mudga* (green gram), *Jangala māṃsa rasa* (soup of wild animal meat) Sugar and honey, *Tikta rasa* vegetables like *Karela* (bitter gourd), *Patola* (pointed gourd), *Vṛddha Kuṣmaṇḍa* (ash gourd), *Kapitha*, *Daḍima* (pomegranate), *Dhatri*(*amla*)

These foods pacify *Pitta* and *Kapha* and help in balancing *Agni*.

Apathya Ahara (Unwholesome Diet): *Naveena anna*, *virudha asana*, *pitta prokopaka bhojana*, *vamana vega nirodhana*, *tila*, *masha*, *kulatha*, *taila bhakshana*, *avi dugdha*, *kanjika*, *dhanyamla*, *lavana*, *amla*, *katu rasa pradhana dravya sevana*, *guru aahara*, *dahi*, *madya* etc are *apathya* for *Amlapitta*.

Formulations Mentioned in Classical Texts

Several Ayurvedic formulations have been described like: *Patoladi kvatha*, *Dasanga kvatha*, *Phala trikadi kvatha*, *Satavari ghritha*, *Avipathikara choorna*, *Khanda kusmandavaleha*, *Narikela khanda*, *Gudoochyadi kwatha*, *Bhunimbadi kwatha*, *Eladi choorna*, *Sutasekhara rasa*.

MATERIALS & METHODS

HERBAL REMEDIES ⁶

Ajamoda (*Apium graveolens*) Satavari (*Asparagus racemosus*)
Sveta kusmanda (*Benincasa hispida*) Narikela (*Cocos nucifera*)
Musta (*Cyperus rotundus*) Bhringaraja (*Eclipta alba*)
Amalaki(*Emblica officinalis*)
Hingu (*Ferula foetida*)
Naga kesara (*Mesua ferrea*) Sobhanjana(*Moringa oleifera*)
Sveta candana (*Santalum album*)

Pharmacological activity of drugs:

Name of drug	Botanical name	Rasa	Virya	vipaka	Phytochemicals	Pharmacological actions
Ajamoda	Apium Graveolens Linn.	Katu ,tikta	usna	Katu	Thymol methyl ether ,β-pinene ,γ-terpinene, β-sitosterol	Anti oxidant , anti inflammatory, antimicrobial, antifungal

Satavari	Asparagus racemosus Willd.	Madhura, Tikta	sita	madhura	Saponins, polysaccharides	Anti-bacterial, Antisecretory, antiulcer
Sveta kusmanda	Benincasa hispida (Thunb.)	madhura	sita	madhura	Alkaloid, lupeol, isovitexin, isomultiflorenol, cucurbitacin-B	antioxidant, anti-inflammatory, antidiabetic, CNS-related effects
Narikela	Coccus nucifera L.	madhura	sita	madhura	Lauric acid, folic acid (0.003ug/mL), trace amounts of pyridoxine (B6), thiamine (B1). vitC, folic acid, free amino acids,	Antibacterial, antioxidant, antiviral, hypoglycemic
Musta	Cyperus rotundus Linn.	Tikta, kashaya, katu	sita	Katu	Cyperene-1, Cyperene-2, β -selenene, Cyperenone, α -cyperone, Rotundone	anti-inflammatory, antirheumatic, hepatoprotective, diuretic, antipyretic
Bhringaraja	Eclipta alba (L.) Hassk.	Katu, tikta	usna	Katu	coumestans, alkaloids, flavonoids, glycosides, polyacetylenes, and triterpenoids	Hepatoprotective, antibacterial, purgative, Wound healing, antiviral
Amalaki	Embilica officinalis Gaertn.	Amla pradhana lavana varjitha pacharasa	sita	madhura	Ellagic acid, β -sitosterol, β -glucogatin, triterpene,	Antioxidant, immunomodulatory, anti-ulcerogenic,
Hingu	Ferula foetida Linn.	Katu, tikta	usna	Katu	Flavonoids, polysaccharides, Azulene	Carminative, antimicrobial, Anti-inflammatory, Antiulcer
Nagakesara	Mesua ferrea Linn.	Kasaya, tikta	usna	Katu	Mesulol, mameuissin, mamegin, Mesuferrol	Antioxidant, anti-inflammatory, antimicrobial, antispasmodic.
Shobhanjana	Moringa oleifera Linn.	Katu	usna	Katu	β -sitosterol, α -alanine, vitamin C, glutamine	antioxidant, anti-inflammatory, anti-microbial, and anti-cancer
Sweta Chandana	Santalum album Linn.	Tikta, madhura	sita	Katu	α -santalol, β -santalol, santenone, teresantol, santalone	stomachic, anti-viral and anti-herpetic activities.

RESULTS AND DISCUSSION:

The collective evaluation of herbal drugs — Ajamoda (*Apium graveolens*), Shatavari (*Asparagus racemosus*), Sveta Kusmanda (*Benincasa hispida*), Narikela (*Cocos nucifera*), Musta (*Cyperus rotundus*), Bhringaraja (*Eclipta alba*), Amalaki (*Embilica officinalis*), Hingu (*Ferula foetida*), Nagakesara (*Mesua ferrea*), Sobhanjana (*Moringa oleifera*), and Sveta Candana (*Santalum album*) can demonstrate significant therapeutic potential in the management of Peptic Ulcer (Amlapitta). Experimental and pharmacological findings indicate that these drugs exhibit anti-ulcer, antioxidant, anti-inflammatory, and cytoprotective activities. The presence of bioactive compounds such as flavonoids, tannins, phenolic compounds, saponins, and essential oils contributes to the inhibition of excessive gastric acid secretion, reduction in pepsin activity, and enhancement of mucin and bicarbonate secretion. These effects collectively strengthen the mucosal barrier and accelerate healing of ulcerated tissue.

Antioxidants counteract reactive oxygen species generated during ulceration, thereby safeguarding the gastric mucosa. Simultaneously, anti-inflammatory mechanisms mitigate oedema and congestion, while demulcent and cooling agents provide symptomatic relief from burning sensations and epigastric discomfort. Together, these mechanisms lead to a marked reduction in ulcer index, gastric acidity, and the severity of gastric lesions. From an Ayurvedic perspective, these drugs exert their therapeutic benefits through Pitta-samana, Dipana-Pacana, and Vrana-ropana actions, which help regulate Agni, neutralize excess Pitta, and promote healing of the ulcerated gastric mucosa. Most of them possess Madhura, Tikta, or Kashaya rasa with Sita virya and

Madhura vipaka, which help pacify aggravated Pitta dosha—the prime factor in Amlapitta. They normalize Agni (digestive fire), aid in the digestion of Ama (undigested metabolites), and restore the physiological balance of gastric functions.

Thus, both modern pharmacological evidence and classical Ayurvedic principles converge to establish the gastroprotective efficacy of this group of drugs. The combined actions on gastric acidity, mucosal integrity, oxidative stress, and tissue repair highlight the holistic therapeutic potential of these formulations in the treatment and prevention of Peptic Ulcer /Amlapitta

CONCLUSION

Peptic ulcers and *Amlapitta* share a close pathophysiological relationship, both arising from an imbalance between aggressive and protective factors within the gastrointestinal tract. Modern pharmacological therapies such as PPIs and H₂-receptor antagonists are effective in reducing acid secretion and promoting ulcer healing, but their long-term use is limited by side effects. Ayurvedic remedies, on the other hand, provide a holistic approach by balancing Pitta dosha, soothing the mucosal lining, reducing inflammation, and addressing the root causes of digestive disturbances through herbs, diet, and lifestyle regulation.

The integration of modern medicine with traditional Ayurvedic management strategies can offer a comprehensive, safe, and sustainable treatment approach for peptic ulcers and *Amlapitta*. Future clinical studies exploring the efficacy, safety, and mechanisms of these herbal formulations may further validate their role.

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