



# ANTI ULCER ACTIVITY OF HERBAL MEDICINAL PLANT

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## Abstract:

Ulcer is a ordinary gastrointestinal disorder that is seen between many population within bacterium *Helicobacter pylori* is viewed as ultimate low cause of infection. Long-term use of NSAIDs to a degree Paracetamol, Aspirin, Diclofenac, etc. Various herbaceous cures have been secondhand as a rule for the remedy of an internal or external sore disease (PUD), nevertheless controlled news with commendations to their antagonistic-an internal or external sore both in-vivo and in-vitro in addition to dispassionate studies advocating their use is still inadequate. Preliminary phytochemical hide of these herbs has proved the demeanor of important subordinate metabolites like flavonoids, alkaloids, terpenoids, tannins that are being the reason for the anti-abscess endeavor. The purpose concerning this study is to treat of an internal or external sore ailment search out relieve pain, cure the lesion, and delay abscess recurrence utilizing herbaceous curative plants.

**Keywords:** Natural Pain Killer, *Helicobacter Pyroli*, Peptic ulcer disease, , Medicinal Plants.

## Introduction

Peptic ulcer affliction (PUD) amounts to of esophageal, stomach and gastric ulcers. This pain can occur with something upset stomach, bloating, sickness in stomach and/or early satiety.<sup>1</sup> The causes of PUD are primarily two, the first being never-ending contamination accompanying *Helicobacter pylori* and the second involves abuse of Non-Steroidal Anti-Inflammatory Drugs commonly famous as NSAIDs.<sup>2</sup> Therapy is usually fixated on the elimination of *H. pylori* from the gut of an polluted patient. A standard accepted threefold cure is usually indicated as first-line cure that includes blend of Proton Pump Inhibitor, Amoxicillin and Clarithromycin; Omeprazole, Clarithromycin and Amoxicillin; Pantoprazole, Clarithromycin and Amoxicillin among remainder of something. Increasing medicine opposition of sure Ulcers are most common on the skin of the lower ultimates and in the gastrointestinal lot, even though they can be encountered at nearly some scene.<sup>3</sup> There are many types of lesion such as opening lesion, neck lesion, an internal or external sore, and genital lesion these an internal or external sore is visualized with many people. The digestive ulcers are deterioration of interlining of stomach or the stomach and abdomen.<sup>4</sup>

The two most common types of an internal or external sore are named “pertaining to the stomach abscess” and “duodenal abscess.” The name refers to the scene of inflammatory condition. A person concede possibility have two together gastric and stomach ulcers as long as. Gastric ulcers are situated in the stomach, from pain; ulcers are common in earlier exclusive informal network. Eating grant permission increase pain alternatively relieve pain.<sup>5</sup> different manifestations grant permission contain nausea, disgorging, and burden misfortune. Although victims accompanying gastric ulcers have rational or belittled acid result, still ulcers may happen even deficient dearth of acid. Duodenal ulcers are raise at the beginning of part of digestive tract and are from harsh pain accompanying burning feeling in superior midriff that rouses patients from sleep.<sup>6</sup> Generally, pain happens when the stomach is empty and frees subsequently consuming. A stomach ulcer is more ordinary in more immature things and mainly affects men.<sup>7</sup> In the stomach and abdomen, ulcers can perform on both the beginning and posterior divider. In few cases, pepticulcer maybe life menacing accompanying manifestations like gory seat, severe intestinal pain, and cramps in addition to disgorging ancestry Peptic ulcer is one of the globe’s main gastrointestinal disorders and moving 10% of the globe population. About 19 in another direction 20 healing ulcers are stomach. An supposed 15000 deaths happen eachyear in addition to of an internal or external sore. Annual occurrence estimates of an internal or external sore hemorrhage and prick were 19.4–57 and 3.8–14 per 100,000 things, individually.<sup>8</sup> The average 7-epoch recurrence of bleed was 13.9% and the average general frequency of prick was 12.2% . In the Indian pharmaceutical manufacturing, opposite of an acid and antiulcer drugs share 6.2 billion rupees and keep 4.3% of stock exchange.<sup>9</sup> In order to achieve this aim, Indian ayurvedic book Meteria Medica and photoelectric databases containing erudition direct, pubmed, scopus, and google philosopher were surveyed for each of the curative plants for healing ulcers in addition brought back articles were judged to gain some artificial, in vivo, or clinical evidence for their efficiency and likely devices.<sup>10</sup> The recaptured studies either demonstrate unmistakably influence of these herbs or obliquely their efficiency on the involved machines in the situation of digestive ulcers. Meteria Medica determines innumerable information about ethno curative herbs, that are valuable as antiulcer powers and their use tentatively was evaluated and confirmed by many investigators for allure antiulcer action. Following compiled dossier submitted that curative plant those are apparently reported for allure antiulcer project.

### Herbal medicinal plants and its anti-ulcer activity

*Aegle marmelos*. *Aegle marmelos* which is commonly known as a “bael tree” belonging to the family *Rutaceae* is the plant that chiefly grows on throughout India. It is locally called as “vilvam.” Chemical constituents in this plant are flavonoids, tannins, and saponins. <sup>12</sup>



Figure no.1: Bel Plant

### **Antiulcer Activity**

*In Folk Medicine.* The fruit of *A. marmelos* is traditionally used for the treatment of ulcer among the kani tribes in Kanyakumari district, Tamil Nadu, India. *In Recent Studies.* Ulcers are induced by aspirin plus pylorus ligated gastric ulceration in rats and aqueous extract of leaves is to be administered orally for 21 days, daily dose of 1gm/kg.<sup>13</sup> The result indicated a significant reduction in the ulcer lesion count compared to control. *Active Constituents.* Luvangetin, a pyranocoumarin isolated from the seeds, is considered.<sup>14</sup>

***Azadirachta indica.*** *Azadirachta indica* (family *Meliaceae*) is indigenous to and cultivated nearly all over India and in Bengal. It is commonly known as “neem” and locally called “vembu.” Chemical constituents reported in this plant are nimbidin, phenolic compounds, saponin, and flavonoids.<sup>15</sup> It contains a bitter alkaloid named Margosine. Seeds contain about 10–31% of a yellow bitter fixed oil. The oil contains free and volatile fatty acids. The volatile fatty acids probably consist of a mixture of stearic and oleic acids with a small amount of lauric acid.<sup>16</sup>



**Figure no. 2: Neem Plant**

### **Antiulcer Activity**

*In Ayurvedic.* A poultice of leaves mixed with sesamum seeds is very useful in unhealthy ulcerations.<sup>17</sup> *In Recent Studies.* *Azadirachta indica* leaf extract protected against pylorus ligation and cold restraint stress induced gastric ulcer in rats. *Active Constituents.* Stearic and palmitic acid isolated from the nimbidin fraction of neem seeds oil is considered.<sup>18</sup>

***Aloe vera.*** *Aloe vera* belonging to the family *Liliaceae* is commonly known as “aloe gel.” It is locally called “kattalai” which is found all over India. Chemical constituents in this plant are aloin, isobarbaloin, and emodin.<sup>19</sup>



**Figure no.3: Aloe vera Plant**

### **Antiulcer Activity**

*In Ayurvedic.* Leaves are being used successfully in America in the local treatment of chronic ulcers. First the pain diminishes and after a few weeks the ulcers heal. *In Recent Studies.* *Aloe vera* powder was mixed with gum acacia; the solution was administered orally in rats at dose of 200mg/kg against indomethacin induced gastric ulcer.<sup>20</sup> The extract showed significant antiulcer activity comparable to control. *Active Constituents.* Barbalin, isobarbolin, and saponins are considered.<sup>21</sup>

*Annona squamosa*. (*Annonaceae*) is commonly known as “custard apple.” It is cultivated in gardens all over India which is locally called as “sitapalam.” Chemical constituents in this plant are alkaloids, flavonoids, saponins, and tannins. Seeds yield oil and resin; seeds, leaves, and immature fruit contain an acrid principle.<sup>22</sup>



Figure no. 4: Sitapalam Plant

#### **Antiulcer Activity**

*In Ayurvedic*. Leaves made into a paste without adding water are applied to unhealthy ulcers. *In Recent Studies*.<sup>23</sup> The aqueous leaf extract protected against pylorus ligation and ethanol induced gastric ulcer in rats. *Active Constituents*. Tannic acid is considered.<sup>24</sup>

*Carica papaya*. (*Caricaceae*) is commonly known as “papaya.” It is locally called “papali-pazham.” It grows in all tropical countries and many subtropical regions of the world. Chemical constituents in this plant are Papain, chymopapain, pectin, carposide, carpaine, carotenoids, and antheraxanthin.<sup>25</sup>



Figure no. 4: Papaya Plant

#### **Antiulcer Activity**

*In Folk Medicine*. It is largely used in tropical folk medicines. The ripe fruit is edible and unripe can be eaten cooked for indolent ulcer.<sup>26</sup> The unripe fruit can be cooked as parts of salads, jellies, and stews while the ripe fruits are usually eaten raw without the skin or seed. Intake of the unripe fruit of the plant has been linked with an antiulcer effect. *In Recent Studies*. The aqueous seed extract of *C. papaya* was administered at the doses of 50 and 100mg/kg orally, in rats against ethanol induced gastric ulcer.<sup>27</sup> The extract protected the gastric mucosa against ethanol effect. *C. papaya* extract significantly reduced the gastric juice volume and gastric acidity. *Active Constituents*. Chymopapain and papain are widely known as being useful for digestive disorders and disturbances of the gastrointestinal tract.<sup>28</sup>

*Ficus religiosa*. (*Urticaceae*) is commonly known as “sacred fig.” It is locally called “arasha-maram.” This sacred peepul is a large tree round wild and cultivated all over India by the Hindus. Chemical constituents in this plant are bark containing tannin, caoutchouc (cochtone), and wax.<sup>29</sup>



Figure no. 5: peepul Plant

### **Antiulcer Activity**

*In Ayurvedic.* Bark is useful in ulcers in infusion or decoction (simple kashayam) with a little honey. *In Recent Studies.* The hydro alcoholic extract leaves of *F. religiosa* were studied at two dose levels (250 and 500 mg/kg, oral) in rats against absolute ethanol, aspirin, and pylorus ligation induced gastric ulcer. The extract significantly decreases the ulcer index value when compared to control. *Active Constituents.* Bioactive compounds like flavonoids, saponins, and tannins are considered.<sup>30</sup>

***Moringa oleifera.* (Moringaceae)** is commonly known as “drum-stick, horse radish tree.” It is locally called “murungai.” It is native to the Western and sub-Himalayan region, India, Pakistan, Asia minor, Africa, and Arabia. Chemical constituents in this plant are alkaloids, flavonoids, saponin, tannins, zeatin, quercetin, kaempferol, and terpenoids<sup>32</sup>



**Figure no. 6: murunga Plant**

### **Antiulcer Activity**

*In Folk Medicine.* The medicinal value of the different parts of the plant has long been recognized in folklore medicine.<sup>33</sup> The leaf tea treats gastric ulcers by Kani tribals of Pechiparai Hills, Tamil Nadu, India. Flower buds of *M. oleifera* are widely consumed in Pakistan and have been reported to possess antiulcer activity. The alcoholic leaves extract of *M. oleifera* was administered in the doses of 125, 250, and 500mg/kg orally, in rats against pylorus ligation, ethanol, cold restraint stress, and aspirin induced gastric ulcer. The extract showed decreases in ulcer and acid pepsin secretion. *Active Constituents.* Quercetin, beta sitosterol, and beta carotene are considered.<sup>34</sup>

***Tamarindus indica.* (Caesalpinaceae)** is commonly known as “tamarind tree.” It is locally called “puli; puliyam-pazham.” This evergreen tree which is indigenous to South India is cultivated throughout India and Burma. Chemical constituents in this plant are pulp that contains tartaric acid 5%, citric acid 4%, malic and acetic acids, tartaric acid of potassium 8%, invert sugar 25–40%, gum, and pectin.



**Figure no. 7: Imli Plant**

Seeds contain albuminoids, fat, carbohydrates 63.22%, fiber, and ash containing phosphorus and nitrogen. Fruit contains traces of oxalic acid.<sup>35</sup>

### **Antiulcer Activity**

*In Ayurvedic.* Decoction of the leaves is used as a wash for indolent ulcers and promotes healthy action. The methanolic extract of the seed coat of *T. indica* at doses of 100 and 200mg/kg significantly reduces the total volume of gastric juice and free and total acidity of gastric secretion in pylorus ligation induced ulcer model as compared to control. *Active Constituents.* Tannins are considered.

## Conclusion

According to previous hypothesis, acid secretion is a major sole cause of ulcer formation and reduction in acid secretion was thought to be the major approach towards therapy. Now a day's treatment of ulcer mainly targets the potentiation of the defensive system along with lowering of acid secretion. Ayurveda, the oldest medicinal system in the world, provides leads to find therapeutically useful compounds from plants. Therefore, Ayurveda knowledge supported by modern science is necessary to isolate, characterize, and standardize the active constituents from herbal sources for antiulcer activity. The combination of traditional and modern knowledge can produce better drugs for the treatment of peptic ulcer with fewer side effects. It is apparent that experimental evaluation of herbal drugs for the treatment of gastric ulcer is rather impressive but very few have reached clinical trials and still few have been marketed. This shows that the benefits of research are not reaching the people to whom medical research is directed and hence the time, manpower, and resources are not efficiently utilized. Hence, pharmacologists need to take more active interest in evaluation of herbal drugs for potential antiulcer activity and standardization of such herbal drugs to be clinically effective and globally competitive.

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