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ANTI -ULCER ACTIVITY OF MEDICINAL PLANTS-A REVIEW

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ABSTRACT

Peptic ulcer is a common disease of Gastro intestinal tract. It's seen in many people. It is a form of Dyspepsia, with burning sensation and gnawing pain in the gastrium. When occur the ulcer Equilibrim is abnormal. It may cause in regular medication, Spicy food and most propably in Stress. The number of synthetic drug are available to treat ulcer but these drug are produced in more side effects when compared to herbal medicine. So these review attempts have been made to know about some medicinal plant which may be used in treatment and prevention of *peptic ulcer*. So these herbal medicines valuable to treat *peptic ulcer* with adverse effects.

KEYWORDS: Peptic Ulcer, Herbal Medicine.

INTRODUCTION

Siddha system of medicine is a traditional medicinal system followed in South India. According to the Siddha system of medicine diseases are classified into 4448 in number. *Gunmam* is the one among the disease. It has been described in *Pothu Maruthuvam* text book.[1] In the text *yugi* sage 8 types of gunmam. The *gunmam* is comparison of modern system is called *peptic ulcer*. The ulcer occur when the stomach acid damage the lining of the digestive tract. common cause include in the bacteria *H.pylori & anti inflammatory* pain reliever in Aspirin. It develop on the inside lining of your stomach and the upper portion of small intestine. The most common symptom of *peptic ulcer* is stomach pain. It include 2 types of ulcer present one is *Gastric ulcer* another one is *Duodenal ulcer*. The most common cause in H.pylori & long term use of non steroidal anti inflammatory drug (NSAIDs) such as (Ibuprofen) & Naproxin sodium. Stress and spicy food do not cause peptic ulcer.[2,3] They are made your symptoms worse burning stomach pain, feeling of fullness, bloating of belching, Intolerance of fatty foods, heartburn, Nausea. And severe symptoms of *Blood vomiting*, Dark

blood in stools, Trouble breathing, Unexplained weight loss, Appetite changes.[4] Ulcer are increased in high population and unhealthy food habits & smoking, Alcoholic. So the western drug are effective but produced in some adverse effects like Diarrhoea, dizziness, headache &muscle pain, so limit of used in that drugs. so clinically documentary in this studies of herbal medicine are better result in the treatment of peptic ulcer.[5]

Allium sativum*[6]*

Allium sativum belonging to the family *Liliaceae* is commonly known as "*Garlic"* and locally called as "*vellapundu."* It is cultivated all over India. Chemical constituents in this plant *volatile oil* which is the active principle, starch, mucilage, albumen, and sugar. Seeds yield aromatic oil. The juice, more particularly its oil constituents, is rich in organically bound sulphur, iodine, and salicylic acid combinations, apart from important nutrient and complementary substances containing vitamins. Mustard or coconut oil in which garlic has been fried is an excellent application for infesting ulcers, ulcerated surfaces, and wounds. Garlic juice mixed with 3 or 4 parts of ordinary or distilled water has been used as a lotion for washing wounds and foul ulcers. The extract of *A. sativum* bulb juice was administered at the doses of 250 and 500 mg/kg orally in rats, against *cysteamine* induced gastric ulcer. The extract significantly increases healing of gastric ulcer and prevents the development of experimentally induced gastric and *duodenal ulcers* in rats.

Aloe vera[7]

Aloe vera belonging to the family *Liliaceae* is commonly known as "*aloe gel."* It is locally called "*kattralai"* which is found all over India. Chemical constituents in this plant are aloin, isobarbaloin, and emodin. Leaves are being used successfully in the local treatment of chronic ulcers. First the pain diminishes and after a few weeks the ulcers heal. it is healing

property is due to compound called glucomannan which encriched with polysaccharide like mannose. *Aloe vera* gel are inhibits the cyclooxygenase pathway production. and reduces prostaglandin E2. Aloe vera juice the *anti-ulcer activity*,[8] Anti inflammatory activity, cytoprotective, and wound healing. Aloe vera juice +banana steam juice and Aloe vera juice+banana flower juice exhibited significant in alcohol induced ulcerated rats. The treatment with plant juices ($p<0.05$) reduces in lipid peroxidase when compared to untreated alcohol administration control. *Active Constituents* of Barbalin, isobarbolin, and saponins.

Annona squamosal

Annona squamosa (*Annonaceae*) is commonly known as "*custard apple."* It is cultivated in gardens all over India which is locally called as "*sitapalam.*[9]*"* Chemical constituents in this plant are alkaloids, flavonoids, saponins, and tannins. reticuline, isocorydine, quercetin-3-0-glucoside. Seeds yield oil and resin; seeds, leaves, and immature fruit contain an acrid principle. Leaves made into a paste without adding water are applied to unhealthy ulcers. The aqueous leaf extract protected against pylorus ligation and ethanol induced *gastric ulcer* in rat. The leaves are used in decoction to treat dysentery and urinary tract infection. They also used in wound. it is a gastro protective effect of the test extract were 5.27T% and 72.00% at 250mg/kg and 500mg/kg dose.

Azadirachta indica

Azadirachta indica the family *of 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. 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.[10] leaves mixed with sesamum seeds is very useful in unhealthy ulceration *Azadirachta indica* leaf extract protected against pylorus ligation and cold restraint stress induced *gastric ulcer*.

***Acacia Arabica*[11]**

Acacia arabica (family *Mimosaceae*), is common all over India in dry and sandy localities. It is commonly known as *"babul tree*" and locally called as "*karuvelam."* Chemical constituents reported in this plant are gum containing arabic acid combined with calcium, magnesium, and potassium and also small quantity of malic acid, sugar, moisture 14%, and ash 3-4%. Bark contains a large quantity of tannin; pods contain about 22.44% tannin.[12] As gargle it is useful as wash in *haemorrhagic ulcer* and wounds. Bruised tender leaves formed into a poultice and applied to ulcers act as stimulant and astringent. *Acacia senegal* gum protected against cold restraint stress-induced gastric ulcer in rats. Aqueous extract of *A. arabica* gum showed protection against meloxicam-induced intestinal damage and attenuated intestinal enzymes active.

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. The fruit of *A. marmelos* is traditionally used for the treatment of ulcer among the kani tribes in Kanyakumari district, Tamil Nadu, India.[13] 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 1 gm/kg. The result indicated a significant reduction in the ulcer lesion count compared to control.

Beta vulgaris

Beta vulgaris (Chenopodiaceae) is commonly known as "*beetroot."* It is native of the sea-coasts of tree Mediterranean, now extensively cultivated in Europe and America, and is known as sugar-beet. It is also cultivated in gardens in many parts of India for the sake of its flesh roots and leaves. There are two kinds: white and red. Chemical constituents in this plant are an active principle "*betin*''A decoction of the root with a little vinegar added is excellent for all kinds of *ulcers* and running sores.[14]

Carica papaya

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. It is largely used in tropical folk medicines.[15] The ripe fruit is edible and unripe can be eaten cooked for indolent ulcer. 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*. The aqueous seed extract of *C. papaya* was administered at the doses of 50 and 100 mg/kg orally, in rats against ethanol induced gastric ulcer. The extract protected the gastric mucosa against ethanol effect. *C. papaya* extract significantly reduced the gastric juice volume and gastric acidity.[16]

Ficus religiosa

Ficus religiosa (*Urticaceae*) is commonly known as *"sacred fig*." It is locally called "*arasha-maram."* This 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.[17] Bark

is useful in ulcers in infusion or decoction (Simple kashayam) with a little honey. 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*.[18] The extract significantly decreases the ulcer index value when compared to control. it is a protective effect of against *ulceration.*

Hibiscus rosa sinensis

Hibiscus rosa sinensis (*Malvaceae*) is commonly known as "*changing rose."* It is locally called *"Sembaruthi*." It is native to China and grown widely as an ornamental plant through India. Chemical constituents in this plant are flavonoids, anthocyanins, quercetin, cyanidin, kaempferol, and hydrocitric acid.[19] The root of *H. rosa sinensis* is traditionally used for the treatment of ulcer among the kani tribes in Kanyakumari district, Tamil Nadu, India. The aqueous and alcohol extracts of *H. rosa sinensis* roots possessed significant *antiulcer activity* in pylorus ligated rats at the doses of 250 and 500 mg/kg. Thus, it has been scientifically proven that these extractspossess enoughpotential as an antiulcerogenic agent.

Mangifera indica

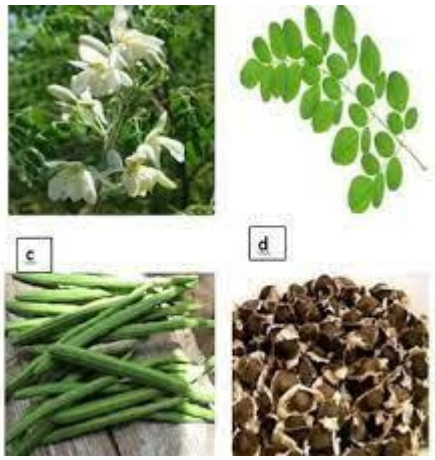
Mangifera indica (*Anacardiaceae*) is commonly known as *"mango tree."* It is locally called *"Maangai."* It is cultivated throughout India. Chemical constituents in this plant are alkaloids, sterols, saponins, tannins, and flavonoids.[20,21] Leaf extracts were dissolved in rice bran oil and given orally for ulcer. Traditionally the plant is reported to have antiulcer activity. The flower decoction was administered in the doses of 250, 500, and 1000 mg/kg orally, in rats with gastric lesions in dose-dependent manner. Thus, the extract significantly reduced the gastric juice volume and gastric acidity.

Momordica charantia

Momordica charantia (*Cucurbitaceae*) is commonly known as "*bitter gourd."* It is locally called as "*Pavakka-chedi."* This climbing plant is cultivated in gardens everywhere in India, for its fruit. Chemical constituents in this plant are bitter glucoside soluble in water and insoluble in ether, a yellow acid, resin, and ash 6%. Fresh vegetable contains 88.75% moisture, albuminoids 1.62%, soluble carbohydrates 85.41%, woody fiber 1.51%, and ash 8.53%[22] Whole plant powdered is used for dusting over leprous and other intractable ulcers and in *healing wounds;* when mixed with cinnamon, long pepper, rice, and chaulmugra oil it forms a good ointment in malignant ulcers. Alcoholic and aqueous The extract of *S. robusta* was administered at the doses of 150 and 300 mg/kg orally in rats against ethanol and pylorus ligation induced gastric ulcer.[23]

Moringa oleifera

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, kaempferom, and terpenoids.[24] The medicinal value of the different parts of the plant has long been recognized in folklore medicine. 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.



Myrica nagi

Myrica nagi (*Myricaceae*) is commonly known as "*box myrtle; bay-berry*." It is locally called "*Marudam-pattai."* It is an evergreen plant of the subtropical Himalayas, Simla District, SyIhet, and southwards to Singapore and found also in the Khasia Mountains and the hills of Burma. This is a very commonly cultivated tree in China and Japan. Chemical constituents in this plant are bark that contains tannin, saccharine matter, and salts.[25] The ground bark yields a colouring principle named "*myricotin*" A poultice made by bruising the bark and simmering it in water and stirring in Indian meal till it obtains the proper consistence cures scrofulous ulcers (Tukina). Fruits when boiled yield a kind of wax called myrtle wax which is used as a healing application to ulcers.[26]

Fig. 1: Morphological evaluation of the plant *M. excelsa*
(A) Tree (B) bark (C) leaves (D) fruits

Shorea robusta

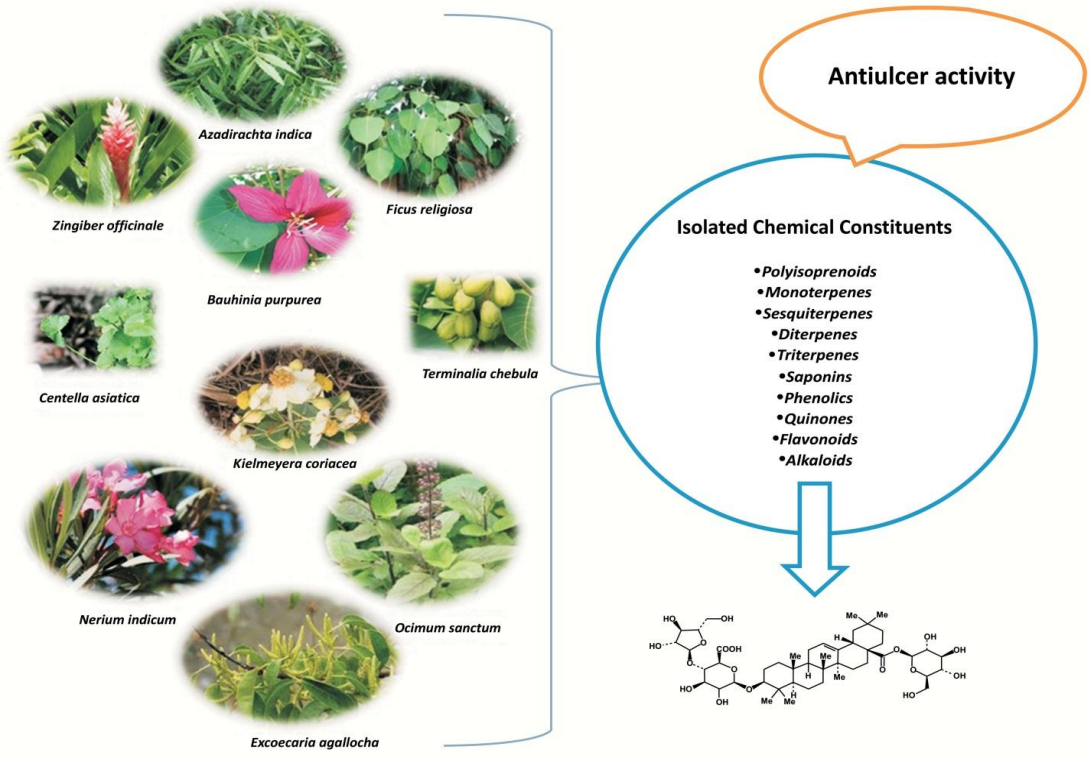
Shorea robusta (*Dipterocarpaceae*) is commonly known as "*sal tree.*" It is locally called *"Taloora; Kungiliyam."* It is common in the sub-Himalayan regions and the forests of Western Bengal. Chemical constituents in this plant are ursolic acid, tri and tetrehydroxy ursenoic acid, Asiatic acid alpha and beta amyrin, and mangiferonic acid uvaol. *S. robusta:* 5, Cinnabar: 2, Mastiche: 3, *Calamus draco*: 3, and Ghee (10 parts[27,28]). Mix and make an ointment; it is used for foetid ulcers The extract of *S. robusta* was administered at the doses of 150 and 300 mg/kg orally in rats against ethanol and pylorus ligation induced gastric ulcer. The extract significantly increases the *gastroprotective activity* as compared to control.

Solanum nigrum

Solanum nigrum (*Solanaceae*) is commonly known as "*black nightshade berries*." It is locally called "*Manathakkali keerai."* It is cultivated throughout India. Chemical constituents in this plant are alkaloids, saponins, flavonoids, and phytosterols.[29] The fresh leaves are consumed for intestinal ulcer by Paliyar tribals in Dindugal district, Tamil Nadu, India. Aqueous leaf extract of *Solanum nigrum* protected against pylorus ligation induced gastric ulcers. *Solanum nigrum* is important in trational indian medicines. Infusions used in dysentery, stomach complaints, and fever. The juice of the plant are used in ulcer and skin

skin diseases. The juice from the root is used in against asthma and whooping cough. it is considered in anti oxidant, anti inflammatory, diuretic, hepato productive, and anti pyretic. it is also treatment in *gastric ulcer*.[30][31]

Chemical constituents of other herbals



Some Medicinal Plants Species With Antiulcer Potential

DISCUSSION

Now a days *Peptic ulcer* is a common disease. Because it changes the food habits lifestyle, Increasing stress etc. They are many study are proved in herbal Medicine is a better in alternative to modern drugs. The extract of *A. sativum* bulb juice was administered at the doses of 250 and 500 mg/kg orally in rats, against *cysteamine* induced gastric ulcer. The aloe

vera juice with banana flower juice significant gastro protection and alcohol induced ulcerated rats. The hydro alcoholic extract leaves of *F. religiosa* were studied at two dose levels (250 and 500 mg/kg, oral) in rats. *H. Rosa sinensis* roots possessed significant *antiulcer activity* in pylorus ligated rats at the doses of 250 and 500 mg/kg. Thus, it has been scientifically proven that these extractspossess enoughpotential as an antiulcerogenic agent. The extract of *S. robusta* was administered at the doses of 150 and 300 mg/kg orally in rats against ethanol and pylorus ligation induced gastric ulcer. The extract of *S. robusta* was administered at the doses of 150 and 300 mg/kg orally in rats against ethanol and pylorus ligation induced gastric ulcer. The zingiber officinale, Ocimum sandum, Terminalia chebula, Nerium indicum etc. they are chemical constituents of saponin, phenol, alkaloids, Flavanoids etc. So these constituents are Prevent and therapeutical usage of peptic ulcer.

CONCLUSION

They are various medicinal plant and their extract containing the chemical constituents of tannin, saponin, Flavanoids, Alkaloids etc. so the combination of traditional &modern knowledge helps to develop better the anti ulcer drugs to treat with peptic ulcer and fewer side effects. The trational medicinal system in the world provide therapeutically use the compound from plants.In this literature anti- ulcer drugs are better acceptability & therapeutics. so in this study has been proved &developed the future trials.

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