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Review Article

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A Review on Pirandai (*Cissus quadrangularis*)

Kannan G¹, Pooja K¹, Thiruthani M², Abdul Kader Jeylani M.P.³

¹PG scholars, Department of Nanju Moolum Maruthuva Neethi Noolum, Govt Siddha Medical College Palayamkottai, Tamilnadu, India

²Professor and HOD, Department of Nanju Noolum Maruthuva Neethi Noolum, Govt Siddha Medical College, Palayamkottai, Tamilnadu, India

³Professor, Department of Nanju Noolum Maruthuva Neethi Noolum, Govt Siddha Medical College, Palayamkottai, Tamilnadu, India

Corresponding Author: Kannan. G

Post Graduate, Department of Nanju Noolum Maruthuva Neethi Noolum, Govt Siddha Medical College, Palayamkottai, Tamilnadu, India.

E-mail: gee.kannan00@gmail.com

Abstract

Since ancient ages plants have served human beings as a natural source of treatments and therapies, amongst them medicinal herbs have gain attention because of its wide use and less side effects. In current scenario focus on plant research has increased throughout the world and a huge amount of evidences have been collected to show immense potential of medicinal plants used in various traditional systems. *Cissus quadrangularis* is a succulent herbal plant belonging to family, Vitaceae. It is fleshy, cactus in nature. It is also known as *Vitis quadrangularis*, *Lycopodium imbricatum* or *Heliotropium indicum*. In siddha, it is used as digestive aid, relieves constipation, strengthening bones, Aphrodisiac, etc. In Unani, it is used to treat gastritis. The whole plant is used in treatment of asthma, powdered root is specifically used in treatment of bone fractures. The usual dose of the powder is 30-40 grains. Leaves and young shoots are frequently taken with curry in Southern India. In Chennai, young shoots of the plant are dried, powdered, burnt to ashes in a closed vessel. These ashes are administered in dyspepsia, indigestion and certain bowel complaints. Leaves and young shoots are also considered as powerful alternatives in the gastro intestinal treatments. Juice of stem is dropped into the ear in otorrhoea and into the nose in epistaxis. The plant has many therapeutic uses. This review highlights some of the phyto chemical and pharmacological aspects of *Cissus quadrangularis* Linn. *Cissus quadrangularis*, a perennial climber widely used in traditional medicinal systems of India has been reported to possess bone fracture healing, antibacterial, antifungal, antioxidant, anthelmintic, antihemorrhoidal and analgesic activities. *Cissus quadrangularis* Linn. Has been recognized as a rich source of carotenoids, triterpenoids and ascorbic acid and is proved to have potential for medical effects, including "Gastro protective activity" in conjugation with NSAID therapy and in "Lipid metabolism and oxidative stress". Needless to say that versatile uses and various therapeutic activities has made the plant a valuable medicinal herb.

Keywords: Marutham, *Cissus quadrangularis*, herbal drug, Siddha Medicine, Peptic ulcer disease.

Introduction

Cissus quadrangularis L. is a succulent plant of family Vitaceae commonly known as Asthisamhari found in tropical and subtropical xeric wood. It can be found throughout the hotter parts of India alongside hedges, neighboring countries like Pakistan, Bangladesh, Srilanka and Malaysia. It can be cultivated in plains coastal areas, jungles and wastelands up to 500m elevation. Plant is propagated using cuttings. The stem juice of plant is used to treat scurvy, menstrual disorders, otorrhoea and epistaxis. The plant has been documented in Ayurveda for the treatment of osteoarthritis, rheumatoid arthritis and osteoporosis. A paste of stem is given in asthma, burns and wounds, bites of poisonous insects and for saddle sores of horses and camels. *Cissus quadrangularis* (Linn) has been used by common man in India for promotion of fracture healing and well known as "Hadjod". It is also known as *Vitis quadrangularis* Wall. Which belongs to family Vitaceae. It is a common perennial climber, which is distributed throughout India particularly in tropical regions. The plant is commonly known as Vajravalli in Sanskrit, Hadjod in Hindi, Marathi, Haddjor in Punjabi, Hadbhanga in Oriya, Vedhari in Gujarati, Perandi in Tamil, Nalleru in Telugu and Veldgrap, Edible Stemmed Vine in English.

Discussion

Methanol extract showed significant antiulcer activity in experimentally induced ulcer in rat model by decreasing gastric secretions and by enhancing glycoprotein levels. Methanol extract produce healing effect on aspirin induced gastric mucosal damage in rats through its antioxidative mechanism. Triterpenoids and - sitosterol present in methanol extract possess anti-lipid peroxidating effect and thus prevent gastric damage.

Gastro protective Activity *Cissus quadrangularis* is well known for the treatment of gastric disorders in traditional medicine, owing to its rich source of carotenoids, triterpenoids and ascorbic acid, and has received considerable attention regarding its role in human nutrition. A number of studies have analysed and revealed the effect against gastric toxicity and the gastro protective effect of *Cissus quadrangularis* extract (CQE) along with its mechanism underlying the therapeutic action against the gastric mucosal damage induced by aspirin. The studies have investigated the effect of CQE on the course of

experimentally induced gastric ulcer by analyzing the levels of tumour necrosis factor- (TNF-), interleukins, micro vascular permeability, activity of nitric oxide synthase² (NOS-2), mitochondrial antioxidants, lipid per oxidation and DNA damage. In addition, the findings of the studies have shown that administration of aspirin increases lipid per oxidation status, xanthine oxidase (XO), myeloperoxidase and decrease in superoxide dismutase (SOD), catalase (CAT) and selenium- glutathione peroxidase activities in the gastric mucosa, resulting in mucosal damage at both cellular and sub cellular level which were reversed by CQE. In addition, CQE prevents oxidative damage of DNA by reducing DNA fragmentation indicating its block on cell death. Pre-treatment with CQE ameliorated the observed effect significantly in the gastric mucosa of ulcerated rats.

Conclusion

On the basis of the presented literature indications, Pirandai (*C. quadrangularis*) is mainly used for treatment of peptic ulcer disease cardiovascular disease including Myocardial infarction, hypertension and high cholesterol . So it is the best choice drug for PUD cardiovascular diseases, to manner up heart and also in postponing ageing process due to its antioxidant property.

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