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Zingiber officinale Roscoe (A Medicinal Plant)

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Abstract: Ginger has been used for centuries to support many various digestive imbalances including heartburn, indigestion, nausea, diarrhea and motion sickness. *Zingiber officinale* is commonly prescribed to treat nausea, but it is also used as an anti-inflammatory agent and cholesterol-lowering herb. Ginger is considered safe for supplemental use. It has anticoagulant affects also. This drug is prescribed in gout, rheumatoid arthritis and other inflammatory conditions.

Key words: Ginger, digestive problems, gout, rheumatoid arthritis

INTRODUCTION

Ginger holds an important place in several traditional systems of medicine. Ginger originally came from China and India, where it has been used in cooking for more than 4,000 years. It was liked for its sharp and spicy flavor. Ginger products are made from fresh or dried ginger root or steam distillation of the oil. Ginger is a well known herbal medicine which is usually used in traditional medicine in all over the world. *Zingiber officinale* has many phytonutrients and has aromatic and pungent taste. The root of *Zingiber officinale* is commonly used in herbal prescriptions Ginger contains Essential oils especially gingerol and zingiberene. It also contains pungent principles such as zingerone, gingerol and shogaol (Yamahara, 1985). For centuries, in Alternative and complementary systems of medicine, *Zingiber officinale* has been prescribed in the treatment of headache, nervous diseases, nausea and vomiting. Ginger has been noted to treat migraine headaches without side-effects (Mustafa and Srivastava, 1990). In addition, it is also recommended in the treatment of rheumatoid arthritis and gout.

A herbaceous rhizomatous perennial, reaching up to 90 cm in height under cultivation. Rhizomes are aromatic, thick lobed, pale yellowish, bearing simple alternate distichous narrow oblong lanceolate leaves. The herb develops several lateral shoots in clumps, which begin to dry when the plant matures. Leaves are long and 2-3 cm broad with sheathing bases, the blade gradually tapering to a point. Inflorescence solitary, lateral radical pedunculate oblong cylindrical spikes. Flowers are rare, rather small, calyx superior, gamosepalous, three toothed, open splitting on one side, corolla of three subequal oblong to lanceolate connate greenish segments (Kawai, 1994).

Chemical Constituents: Ginger contains a number of pungent constituents and active ingredients. Pungency of ginger is due to gingerol. Steam distillation of powdered ginger produces ginger oil, which contains a high proportion of sesquiterpene hydrocarbons, predominantly zingiberene. The major pungent compounds in ginger, from studies of the lipophilic rhizome extracts, have yielded potentially active gingerols, which can be converted to shogaols, zingerone, and paradol. The compound 6-gingerol appears to be responsible for its characteristic taste. Gingerols and shagaols are non volatile phenolic compounds with different side chains (Govindarajan, 1982).

Medicinal uses: *Zingiber officinale* is a popular stomach-settler and has been popular for thousands of years as a treatment for digestive problems ranging from mild indigestion and flatulence to nausea, vomiting and travel sickness. It has also been used to relieve symptoms of colds and arthritis due to its anti-inflammatory properties (Kapil *et al*., 1990). Ginger in Traditional Use Ginger is an essential ingredient in many traditional Chinese medicines and has been used since the 4th century BC. Africans and West Indians also use ginger medicinally and the Greeks and Romans use it as spice. The Chinese take ginger for a wide variety of medical problems such as stomachache, diarrhoea, nausea, cholera, asthma, heart conditions, respiratory disorders, toothache and rheumatic complaints. In Ayurveda, ginger has been recommended for use as carminative, diaphoretic, antispasmodic, expectorant, peripheral circulatory stimulant, astringent, appetite stimulant, anti-inflammatory agent, diuretic and digestive aid (Johri and Zutshi, 1992). In United States, ginger is recommended to relieve and prevent nausea caused by motion sickness and morning sickness.

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Clinical study

Gout: The clinical study was conducted on Gouticin that contains different medicinal herbs including Zingiber officinale, used as analgesic in Gouty arthritis. Study was conducted in Shifa ul Mulk Memorial Hospital, Hamdard University, Karachi. The drug was prescribed to 50 patients between ages of 35 years to 75 years. The selected drug was administered to attain a successful response to gout. Herbal formulation Gouticine was administered to 50 patients. Clinical study of Gouticin shows that it exhibits the anti-inflammatory effects. It was concluded that Gouticin is remarkably effective for the treatment of acute gout arthritis (Akram, 2009).

Rheumatoid arthritis: An herbal drug arthritin containing different medicinal hers including Zingiber officinale was evaluated in comparison with methotrexate for the treatment of rheumatoid arthritis.

Study was conducted in Shifa ul Mulk Memorial Hospital, Hamdard University, Karachi. Herbal formulation Arthritin was administered to 50 patients. Clinical study shows that arthritin exhibits the anti-inflammatory effects. It was concluded that arthritin is effective for the treatment of rheumatoid arthritis(Owais, 2009).

Primary dysmennorrhoea: An herbal drug dysmo off containing different medicinal hers including Zingiber officinale was evaluated in comparison with diclofenic sodium (voren) for the treatment of primary dysmennorrhoea. This comparative study was carried out on 120 patients of ages between 13-30 years in seven consecutive episodes at department of gynecology and obstetrics in Shifa ul Mulk Memorial Hospital, Hamdard University, Karachi. It was concluded that dysmo off is more effective than voren for treatment of dysmennorrhoea (Halima, 2004).

Drug interactions: No drug interactions are known; however, due to ginger's apparent effect on platelets, it should be used cautiously in individuals using anticoagulants (Suekawa, 1984).

Adverse effects: Orally, ginger is usually well tolerated when used in typical doses. However, higher doses of 5 grams per day increase the risk of side effects and decrease tolerability. Common side effects of ginger include abdominal discomfort, heartburn, diarrhea and a pepper-like irritant effect in the mouth and throat. Topically, ginger can cause dermatitis in sensitive individuals.

Conclusion: Ginger is aromatic stimulant, carminative and flavouring agent. It is prescribed in dyspepsia, flatulent colic, nausea, vomiting, cold, cough and asthma. Zinger is utilized in Sore throat, hoarseness. *Zingiber officinale* is commonly prescribed in the treatment of rheumatoid arthritis, gout and other musculoskeletal disorders.

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