

GUGGULU: A PRECIOUS HERB (REVIEW ARTICLE)

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Commiphora mukul Oleoresin

Description

Botanical Name – Commiphora mukul (hook. ek. stocks)

Family- Burseraceae

Vernacular Names- Hindi –Guggulu; **English-** Indian Bedellium.

Different varieties- Bhavamishra mentioned five types of Guggulu Viz, Mahishaksha & Mahanila are used for elephants; Kumuda & Padma are used for horses and Hiranyaksha is used for human beings. If Hiranyaksha variety is not available, Mahishaksha variety may be used.

Kaiyadeva mentioned that Guggulu trees habitated in the Jangaladesha. It yields five types of Gum-resin during Grishmarutu as well as in Shaityarutu.

Major chemical constituents

Oleoresin- Z-guggulsterone, E-guggulsterone

Gum- Guggullignans I & II; Tettrols; Mukulol; Allylcembrol; C-27 Guggulusterols I, II & III; Z-And E- Guggulusterol etc.

Properties

Rasa	Tikta, Katu
Gunas	Laghu, Ruksha, Vishada, Sukshma, Sara (Properties of Purana Guggulu i.e Old Guggulu), Snigdha and Picchila (Properties of fresh Guggulu i.e New Guggulu.)
Virya	Ushna
Vipaka	Katu
Karmas	Tridosahara, Rasayana, Vrushya (Properties of fresh Guggulu i.e. New Guggulu), Lekhana (Properties of Purana Guggulu i.e. Old Guggulu).

Indications

Useful in Sthaulya (Obesity), Medoroga (Lipid Disorders) , Amavata(Rheumatoid Arthritis), Vatavyadhi(Disorders associated with vitiation of Vata), Prameha(Disorders associated with Urinary system), Apachi(Cold Abcess), Shotha(Inflammation/Swelling), Arshas(Anorectal Diseases), Kushtha(Skin Disorders) etc.

Therapeutic Uses in following Diseases

1. **Sthaulya** (Obesity) / **Medoroga** (Lipid Disorders)
2. **Udara** (Ascites)
3. **Koshtrukashirsha** (Knee joint Disorders)
4. **Amavata** (Rheumatoid Arthritis)

Part used- Oleoresin /Gum.

Dosage- 2-4 gms.

Important preparations

- A) Herbal Preparations of Guggulu-, Panchatikta Guggulu Ghrita, Simhanada Guggulu, Navaka Guggulu, Amritadi Guggulu, Kanchanar Guggulu, Gokshuradi Guggulu, Aabha Guggulu , Laksha Guggulu, Yograj Guggulu, etc.
- B) Herbo-Mineral Preparations of Guggulu- Mahayograj Guggulu, Chandraprabha Vati, Aarogyavaradhini Vati etc.

Previous Research

1. Anti-inflammatory and Anti-arthritic activity – Oleoresin was found to be highly potent Anti-inflammatory agent as compared to Hydrocortisone and Butazoladin against Brownlee's Formaldehyde-induced Arthritis in Albino rats (Gujaral et al;1960).

Clinical study on the effect of the of Shuddha Guggulu in Amavata (RA) is reported to be encouraging (Vyas S.N., G.A.U., Jamnagar, 1983; Jhope A.B1978 & Majumdar, 1979).

Shuddha Guggulu is found to be effective in Katishula (Low back pain) proving the Analgesic & Anti-inflammatory effect (Pandey D.H. 1993 GAU, Jamnagar).

2. Anti-atherosclerotic activity- Effect of Gum-Guggulu was observed on Serum Cholesterol, Fibrinolytic activity and Platelet adhesive index in health individuals, (Group I) and in patients of CAD (Group II). For a period of 30 days, Serum Fibrinolytic activity improved by 22% and 19% at the end of 24hrs, whereas after 30days it was 40% and 30% in Groups I & II respectively. Platelet adhesive index showed 22% and 19% after 30days in Groups I and II respectively. Serum Cholesterol did not decrease significantly (Bordia & Chuttlani, 1979).

Purified steroidal fractions of Guggulu show a marked inhibition of ADP, Adrenaline and Serotonin induced Platelet aggregation. Their Inhibitory effect is comparable to the effect of "Clofirate". The finding has its therapeutic value in Myocardial Infarction and Thromboembolism.

Effect of Guggulu on Coagulation and Fibrinolytic activity in experimental Atherosclerosis is reviewed (Kaur et al: 1980).

The effect of C. mukul on Fibrinolytic activity and Platelet aggregation was studied in 42 IHD patients. It was observed that patients with Myocardial Infarction were found to have a Low Fibrinolytic activity as compared to case of Angina Pectoris, Acute Coronary insufficiency and Asymptomatic coronary disease, but no such difference was observed for Platelet aggregation. Administration of Guggulu improved Fibrinolytic activity in Ischemic Heart Disease (Baldwa et al; 1980).

3. Anti-obesity activity- Crude Guggulu was found to reduce the body weight of hydrogenated groundnut oil treated rabbits (Satyavati et al; 1969 b).

Preliminary Clinical trials on 22 patients of Hypercholesterolaemia associated with Obesity, Ischemic Heart Disease, Hypertension, Diabetes Mellitus etc. (crude) was administered orally (6.12 mg in 3 divided doses for 15 days to one month). A fall in Total Serum Cholesterol and Serum Lipid Phosphorus was found in all the cases treated with Guggulu. The body weight of 10 patients of Obesity also found to be reduced significantly (Satyavati 1966; Dwarakanath & Satyavati 1970)..

In another study, 75 patients (both sexes and of different age groups) having varied etiology and clinical manifestation of Obesity and Lipid disorders were treated with Crude Guggulu and PE extract (16 gm. in 4 divided doses per day for three months). In average, there is 2 kg. reduction in month in both the groups (Pandey et al; 1989).

4. Hypolipidemic/Hypocholesterolaemic activity

- 1) Crude Guggulu was reported to possess highly encouraging Hypolipidaemic activity in rabbits (Satyavati, 1966).
- 2) Fraction A of PE extract effectively lowered Serum Lipids Cholesterol, Phospholipids and Triglycerides in monkeys fed with Cholesterol diet (Das et al., 1973).

Special Research by CCRAS, Government of India

The present monograph in four sections- Introduction ,Literary background, Experimental studies and clinical studies along with the discussion, present observation of the research work conducted on a series of experimental and clinical studies of 6-7 years to ascertain the effect of Guggulu and its extracts in the management of Medoroga(Lipid disorders).

The ancient approach of etio-pathogenesis and management of disease Medoroga pin points the attention on the conversion of sweet articles in to fatty substances and genetic susceptibility of the offsprings of the obese patients, in addition to vivid details of the etio-pathogenesis of the disease. The experimental studies highlight the effect of petroleum ether extract of the drug and its certain pure compounds on Hyperlipidemia, Atherosclerosis and Obesity. These studies also indicate the possible mechanism of the action of the drug through the thyroid gland. The clinical observations on the epidemiology, clinical manifestation and the therapeutic effect also offer valuable conclusions. The disease was quite common in the selected population and various complications such as Diabetes, Hypertension, Coronary insufficiency, Hemiplegia , Gynaecological disorders and Arthritis, were observed in most of the patients. Guggulu as well as its petroleum ether extracts show definite effect on reduction

of the body weight and various lipid fractions – Serum Cholesterol, Phospholipids, Triglycerides and Free fatty acids in a series of clinical trials. It also increased the coagulation time of the blood highlighting its potential for applications in the management of Ischemic Heart Diseases.

Articles on Guggulu

1. Safety of Mahayograj Guggulu (A Herbo-Mineral Formulation): An Observational Study; Tripathi S., Pandey S D, Sastry J.L.N., Sasibhushan V.; Int. J. Pharm. Sci. Rev. Res, May- June 2016; 38(1): Article no. 03, Pages-13-17.
2. A Study on Standardisation of Triphala Shodhdhita Guggulu (Commiphora mukul Hook.); Kiran Sharma, Amit Lather, Vikash kumar ,Vaibhav Tyagi, Neetu Lather; World Journal Of Pharmaceutical Research, 3(2): 2156-2162. ISSN -2277-7105.

My Observations

Following are the observations in patients under outdoor and indoor departments of Kayachikitsa attached to M.A.Podar hospital, Mumbai-18:

Guggulu kalpa	Indications/Symptoms in which patients relieved
Arogyavardhini Vati	Katigatavata, Manyagatavata, Sandhigatavata Pakshavadha
Yograj Guggulu	Katigatavata, Manyagatavata Sandhigatavata, Pakshavadha, Ardita
Chandraprabha Vati	Mutradaha, Katigatavata, Manyagatavata, Prameha
Gokshuradi Guggulu	Mutradaha, Mutrashmari
Lakshadi Guggulu	Raktapitta, Vatarakta, Grudhrashi, Asthikshaya
Aabha Guggulu	Katigatavata, Manyagatavata, Sandhigatavata

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