Commiphora mukul

TAXONOMIC CLASSIFICATION:[1]

- *Kingdom:* *Plantae*
- *Subkingdom:* *Tracheobionta*
- *Division:* *Magnoliophyta*
- *Class:* *Spermatopsida*
- *Subclass:* *Magnoliidae*
- *Order:* *Sapindales*
- *Family:* *Burseraceae*
- *Genus:* *Commiphora*
- *Species:* *wightii*

INTRODUCTION:

Commiphora mukul Herb (Guggul Gum) has been used for a long time in Ayurvedic medicine to treat obesity and other weight related problems. Gum Guggul is also known by the names Guggul, Indian Bedellium, and Guggulow. Guggul, the sticky gum resin from the mukul myrrh tree, plays a major role in the traditional herbal medicine of India. The primary chemical constituents of Guggul include phytosterols, gugulipids, and guggulsterones. It was traditionally combined with other herbs for the treatment of arthritis, skin diseases, and pains in the nervous system, obesity, digestive problems, infections in the mouth, and menstrual problems [2]

Guggulu consists of oleo-gum resin obtained as an exudate from the tapping of stem and branches of Commiphora wightii [syn. Commiphora mukul] The guggul tree is found in arid areas of India, Bangladesh, and Pakistan. In India, it is found in Rajasthan, Gujarat, Assam, Madhya Pradesh, and Karnataka. It is a small, bushy tree with thorny branches and produces a yellowish gum resin (guggulu) (in small ducts located throughout its bark.

The trees are tapped by making an incision on the bark. The resin, which flows out, is allowed to harden before it is collected. The tree is tapped from November to January and the resin is)collected through May to June. A guggul tree yields between 250 to 500 g of dry resin during each collection season [3]

CHEMICAL CONSTITUENTS:

Guggul is the dry gum resin obtained from incisions in the bark of the Commiphora mukul tree as well as Commiphora molmol, Commiphora abyssinica, and Commiphora burseraceae. The gum contains minerals, resin, volatile oils, sterols, ferulates, flavones, sterones, and other chemical constituents.

Several pharmacologically active components have been identified in the plant, including guggulsterone (E- and Z-stereoisomers) and gugulipid. Studies have shown that the guggulsterones are antagonist ligands for the bile acid receptor farnesoid X receptor, which is activated by bile salts, thus reducing cholesterol. A triterpene, myrrhanol A, has been described to have potent anti-inflammatory effects. [4]

PROPERTIES AND USES:[5][3]

- Hypolipidemic Activity
- Effect On Platelet Aggregation And Fibrinolytic Activity
- Thyroid Stimulatory Activity
- Anti-Inflammatory And Antiarthritic Activity
- Antioxidant Activity
- Antiatherosclerotic Activity
- Cardioprotective Activity
- Antihyperglycemic Activity
- Antimicrobial Activity.
- Increases Metabolic Rate Of Body.
- Stimulates The Activity Of White Blood Cells.
- Acts As Immune Stimulant.In India This Plant Is Used As Dhoop Which Is Burnt Before The Deity.
- This Plant Is Also Used To Arrest Graying Of Hair.

- Guggulu Has Been Used To Treat Obesity, Osteoarthritis, Rheumatoid Arthritis, Gout, Facial Paralysis, Sciatica, Constipation, Haemorrhoids, Liver Disorders, Inflammation, Cyst, Cervical Lymphadenitis, Coronary Thrombosis, Anaemia, Diabetes, Urinary Calculus, Increased Frequency And Turbidity Of Urine, And Skin Diseases

DOSAGE:

As mentioned in Ayurvedic Pharmacology, 0.5gm to 1.5gm of Guggulu powder in ghee is safe for consumption.[7]

RESEARCH:

1. In male albino rabbits on a diet with 10% protein given groundnut oil by tube 5 g per kg daily alone or with cholesterol 500 mg, gum of Commiphora mukul 2 g per kg daily orally administered, inhibited the rise of cholesterol in serum and tissues and reduced the incidence of atherosclerosis and the bodyweight gain.[8]

2. This study conducted both preclinical and clinical investigations of guggul for reduction of pain, stiffness, and improved function, and to determine tolerability in older patients with a diagnosis of OA of the knee. Thirty male and female participants meeting the inclusion/exclusion criteria, with a score of 2 or more on the Kellegran Lawrence scale for at least 1 knee, were admitted in the study. Commiphora mukul(CM) was administered in capsule form (500 mg concentrated exact delivered TID) along with food. The WOMAC Total Score was used as a primary outcome measure. VAS scales, 6-minute walk-test, and WOMAC subscales were used as outcome measures. At the end of treatment, WOMAC total score, participants were significantly improved ($P<0.001$). There were no side effects reported during the trial. Hence, CM appears to be a relatively safe and effective supplement to reduce symptoms of OA.[9]

PRECAUTION AND WARNING:[6]

- Pregnancy and breast-feeding: Guggul seems to encourage menstrual flow and stimulates the uterus. Hence it might endanger the pregnancy..

Bleeding disorders: Guggul can slow blood clotting and might cause bleeding or bruising in people with bleeding disorders.

- High cholesterol: Guggul might increase levels of low-density lipoprotein (LDL or "bad") cholesterol in some people with high cholesterol levels.
- Hormone-sensitive condition such as breast cancer, uterine cancer, ovarian cancer, endometriosis, or uterine fibroids: Guggul might act like estrogen in the body affecting adversely in such conditions.
- Surgery: Guggul might increase the risk of bleeding during and after surgery. Stop using guggul at least 2 weeks before a scheduled surgery.

  Hypothyroidism or Hyperthyroidism: Guggul might interfere with treatment for these conditions.

INTERACTION WITH MEDICATIONS:[6]

- **Estrogens interacts with Guggul**

Large amounts of guggul might theoretically increase the side effects of estrogen. Some estrogen pills include conjugated equine estrogens (Premarin), ethinyl estradiol, estradiol, and others.

- **Contraceptive drugs interacts with Guggul**

Some birth control pills contain estrogen. Guggul might theoretically increase the side effects of birth control pills. Some birth control pills include ethinyl estradiol and levonorgestrel (Triphasil), ethinyl estradiol and norethindrone (Ortho-Novum 1/35, Ortho-Novum 7/7/7), and others.

- **Diltiazem (Cardizem, Dilacor, Tiazac) interacts with Guggul**

Taking guggul along with diltiazem (Cardizem) might decrease the effectiveness of diltiazem (Cardizem).

- **Medications changed by the liver (Cytochrome P450 3A4 (CYP3A4) substrates) interacts with Guggul**

- Some medications are changed and broken down by the liver. Guggul might increase how quickly the liver breaks down some medications. Taking guggul along with some medications

that are broken down by the liver can decrease the effectiveness of some medications.Some medications changed by the liver include lovastatin (Mevacor), atorvastatin (Lipitor), ketoconazole (Nizoral), itraconazole (Sporanox), fexofenadine (Allegra), triazolam (Halcion), and many others.

- **Medications that slow blood clotting (Anticoagulant / Antiplatelet drugs) interacts with Guggul**

  Guggul might slow blood clotting. Taking guggul along with medications that also slow clotting might increase the chances of bruising and bleeding. Some medications that slow blood clotting include aspirin, clopidogrel (Plavix), diclofenac (Voltaren, Cataflam, others), ibuprofen (Advil, Motrin, others), naproxen (Anaprox, Naprosyn, others), dalteparin (Fragmin), enoxaparin (Lovenox), heparin, warfarin (Coumadin), and others.
  Propranolol (Inderal) interacts with Guggul

Guggul might decrease how much propranolol (Inderal) the body absorbs. Taking guggul along with propranolol (Inderal) might decrease the effectiveness of propranolol (Inderal).

- **Tamoxifen (Nolvadex) interacts with Guggul**

Some types of cancer are affected by hormones in the body. Estrogen-sensitive cancers are cancers that are affected by estrogen levels in the body. Tamoxifen (Nolvadex) is used to help treat and prevent these types of cancer. Guggul could theoretically affect estrogen levels in the body. By affecting estrogen in the body, guggul might decrease the effectiveness of tamoxifen (Nolvadex). Do not take guggul if you are taking tamoxifen (Nolvadex).

- **Thyroid hormone interacts with Guggul**

Guggul might increase thyroid hormone in the body. Taking guggul along with thyroid hormone pills might increase the effects and side effects of thyroid hormones

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