

A Critical Review of *Kanchanara Guggulu*- A Poly Herbal Formulation

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ABSTRACT

Ayurveda is concerned with healthy living along with curative measures that synchronize an individual physically, mentally and spiritually. Thyroid dysfunction is one of the most prevalent endocrine disorders worldwide, its prevalence is rising at an alarming rate in Indian population. According to projection from various studies on thyroid disease, In India 42 million people are suffering from thyroid disorders, out of which sub clinical hypothyroidism is most common with prevalence of 5.4%. The prevalence increases with age and is higher in females than in males. Hypothyroidism can result from any of a variety of abnormalities that lead to insufficient synthesis of thyroid hormones. Thyroid dysfunction prevalence is rising at an alarming rate in Indian population. In modern science, the treatment of hypothyroidism is done by thyroxine hormone therapy for long time but this medication can lead to several side effects like chest pain, discomfort, difficulty in breathing, extreme fatigue, irritability etc. however in recent times, hypothyroidism can be well managed with ayurveda medication. *Kanchanara guggulu* is an effective ayurvedic remedy for treating hypothyroidism, Hormonal imbalance, PCOS and joint pains. It is especially useful in maintaining the secretion of thyroid hormones. It is highly recommended formulation for treating an enlarged lymph node. This review explains the pharmacological potential of *kanchanara guggulu* along with the other pharmacological activities of the part used of each ingredient in the formulation. This review helps the researcher to explore more about this important Ayurvedic formulation.

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KEYWORDS: Hypothyroidism, *Kanchanara guggulu*

INTRODUCTION

Thyroid gland is an important part of the human endocrine system, where thyroid hormones play a major role in body's overall metabolic activity, growth and development. The decreased levels of thyroid hormones lead to Hypothyroidism. To a certain extent, description of *Galaganda* and *Gandamala* mentioned in the different *samhitas* can be correlated to hypothyroidism and other thyroid conditions. We get scattered references in ayurveda texts which help us in understanding the underlying pathology. The description of swelling in the neck is mentioned in *Atharva veda* by the name of *Apachi*. *Acharya Charaka* described about multiple *granthi* around the neck and termed it as *Gandamala* whereas, single swelling on the side of the neck as

Galaganda.^[1] He mentioned about this disease under *Nanatmaja kaphaja roga* and also presented that *galaganda* is a solitary swelling in 11th chapter of *chikista sthana* of *Charaka Samhita*. *Acharya Susruta* in *Shareerasthana* mentioned the sixth layer of skin i.e., *Rohinias* the seat of *Galaganda*.^[2] In *Nidana Sthanah* he described the disease *galaganda* as two encapsulated small or big swellings in the anterior angle of neck, which hang like scrotum. *Charaka* mentioned, *galaganda* is mainly originated due to provoked *kaphadosha*. According to *Sushruta*, aggravated *vata* and *kaphadoshas* in the neck having accumulated in *manya* and along with *medas* produce glandular enlargement with their characteristic symptoms. According to *Acharya Vagbhata kapha*

associated with *pitta dushti* with vitiation of *vata* due to *margaavarana* and predominantly *rasavaha*, *medovaha* and *mamsavaha srotodusti* can be considered as the disease^[3]. The signs and symptoms of hypothyroidism nearly relate to a condition called as *galaganda* and some of the *kaphaja nanatmaja vyadhis*. From the above descriptions *galaganda* can be correlated with goiter or hypothyroidism.

MATERIALS AND METHODS

➤ Classical reference of this formulation is mentioned in *Sharangadhara Samhitha*, *Bruhat Nigantu Ratnakara*, *Bhaishjya Ratnaval*,

Bhavaprakasha Nighantu, And *Vangasena Samhitha*, Except *Vangasena*, all other texts mentioned same constituents with different opinions on their individual parts taken.

➤ According to *Vangasena Triphala* 3 parts, *Trikatu* 2 parts, *Kanchanara twak* 10 parts, *Guggulu* equal to above drugs, Honey 10 parts. Powders of *Triphala*, *Trikatu*, *Kanchanaratwak* are powdered well then add *Guggulu* and pounded well and add honey mixed well together and pills are made out of it^[9].

INGREDIENTS:

INGREDIENTS	Parts Acc TO Sha, Samhitha ^[4] Bru .Ni.Ra ^[5]	Parts Acc To B.P, ^[6] &B.R ^[7]	Useful Part	Quantity Acc to AFI ^[8]
Kanchanara	10 Pala	5 Pala	Stem Or Bark	480 Gms
Haritaki	2 Pala	1/2 Pala	Fruit	96 Gms
Vibhitaki	2 Pala	1/2 Pala	Fruit	96Gms
Amalaki	2 Pala	1/2 Pala	Fruit	96Gms
Pippali	1 Pala	1 Pala	Fruit	48 Gms
Maricha	1 Pala	1 Pala	Fruit	48 Gms
Shunti	1 Pala	1 Pala	Rhizome	48 Gms
Varuna	1 Pala	1 Aksha	Stem Or Bark	48 Gms
Twak	1 Karsha	1 Tanka	Stem Or Bark	12 Gms
Patra	1 Karsha	1 Tanka	Leaf	12 Gms
Ela	1 Karsha	1 Tanka	Seed	12 Gms
Shudda Guggulu	Equal Quantity of Above Drugs	Equal Quantity of Above Drugs	Resin	996Gms

METHOD OF PREPARATION:

- Fine powders of all drugs are prepared.
- Followed by this, *Shuddha guggulu* was taken equal to the quantity of above drugs, later it is pounded in a *khalvayantra*.
- Then rest of the powered drugs are added to it and mixed well, *mardana* was carried out till it attains a consistency to prepare pills.

DOSAGE: 1Masha (1 gm)

ANUPANA: *Mundi kwatha*

Khadira sara kwatha

Haritaki kwatha

Ushna jala

INDICATIONS: *Gulma, Gandamala, Apach, Granth, Vrana, Kustha, Bhagandara, Slipada.*

Ayurveda pharmacodynamic properties and other properties of ingredients of *Kanchanara guggulu*

Sl no	Dravya	Rasa	Guna	Virya	Vipaka	Dosha karma	Roga karma
1.	Kanchanara Twak ^[10]	Kashaya	Ruksha	Laghu	Katu	Kapha pittahra, Grahi Deepana	Gandamala Raktapitta Raktapradara Mutrakrichra Vrana, Arshas Masurika
2.	Haritaki ^[11]	Lavana varjitha pancharasa	Ruksha Laghu	Ushna	Madhura	Tridosahara Anulomana Rasayana Prajasthapana Chaksusya Hrudya Lekhana	Shotha, Prameha Kustha, Chardi, Vatarakta, Hridroga Asmari, Kasa, Shwasa, klaibya
3.	Vibhitaki ^[12]	Kashaya	Ruksha Laghu	Ushna	Madhura	Kaphapittahara Keshya, Chakshushya, Bhedana Madakari	Jwara, Atisra, Kasa, Shwasa, Chardi Trushna
4.	Amalaki ^[13]	Lavana varjita Pancarasa, Alma Pradhana	Ruksha Laghu	Sheeta	Madhura	Tridosha Hara, Vayahsthapana, Rasayana, Chaksusya, Vrusya	Prameha, Raktapitta, Netra Roga, Kusta, Arshas, Soma Roga, Pradara, Mutrakruchra, Sula.
5.	Shunti ^[14]	Katu.	Guru, Ruksha, Tikсна	Ushna	Madhura	Vata-kapha Hara, Deepana, Bhedana	Sula, Amavata, Adhmana, Atisara, Slipada, Kasa, Swasa, Pandu, Hrudroga, Arsha, Vibanda
6.	Maricha ^[15]	katu.	Laghu, Tikсна.	Ushna	Katu	Kapha-vatahara, Deepana	Pinasa, Kasa, Pravahika, Hrudroga, Krim, Swasa, Sula.
7.	Pippali ^[16]	Katu	Laghu, Snigdha	Anushna Sheeta	Madhura	vata-kapha Hara, Deepana, Rasayana, Vrusya	Udara, Pliharoga, Jwara, Kusta, Prameha, Gulma, Arsha, Sula, Amavata.
8.	Varuna ^[17]	Tikta, Kashaya	Laghu, Ruksha	Ushna	Katu.	kapha-vata Hara, Deepana, Krimigna.	Ashmar, Mutrakruchra, Vidradh, Gulma, Gandamala.
9.	Twak ^[18]	Katu, Tikta, Madhura	Laghu, Ruksha, Tikshna	Ushna	Katu.	Vata-pitta hara, Shukrala, Balya, Varnya, Grahi	Kandu Amajirna, Aruch, Hrudroga, Basthiroga, Vataarsha, Krim, Pinasa, Sukradosha
10.	Patra ^[19]	Katu, Madhura	Laghu, Picchila, Tikshna	Ushna	Katu	Kapha-vata hara, Ruchya	Hrullasa, Arshas, Pinasa, Prameha, Aruchi
11.	Ela ^[20]	Katu, Madhura	Laghu, Ruksha	Sheeta	Katu	Kapha-vata Hara, Hrudya, Sukra nashaka, Deepana.	Hrudroga, Swasa, Kasa, Mutra Kruchra, Chard, Sirah shoola, Ashas.
12.	Shoditha guggulu ^[21]	Tikta, Katu	Laghu, Ruksha, Vishada, Sukshma Sara (Old Guggulu) Snigdha, Picchila (Fresh Guggulu)	Ushna	Katu	Tridosha hara, Rasayana, Vrushya, Lekhana	Sthoulya/Medoraga, Amavata, Vata vyadh, Prameha, Apaci, Gandamala, Sotha, Asmar, Ashas, Kustha.

DISCUSSION:

- *Kanchanara* is considered as drug of choice for *granthivikara* and *galaganda*. It has *Ruksha*, *Laghu Gunas*, *Kashaya rasa*, *Katu vipaka* but its *prabhava* is *gandamalanashana*. It has great ability to dry up the vitiated *Kapha* and *Medhab* because of its potent astringent property. Its *grahi* property helps to remove excess fluid from swollen tissue. Ethanolic and aqueous extracts of the stem bark and root of *B.variegata* effectively decreases plasma cholesterol, triglyceride, LDL, and VLDL and increases plasma HDL levels. It has a balancing activity on thyroid production, increasing any deficient production and decreasing any excess. It is a specific herb for swollen lymph nodes, cervical adenitis. *Bauhinia variegata* has chemo protective antitumor activity, anti-inflammatory, anti-diabetic and antioxidant properties. Active constituent of *bauhinia variegata* (bark) promotes conversion of tyrosine to thyroxin by potentiating the enzyme tyrosinase. Lupeol & β -sitosterol present in *kanchanara* exhibits anti-inflammatory, anti-oxidant, anti-tumor, chemo protective and cholesterol lowering effects.
- *Triphala* is having *Deepana* (stimulation of digestive fire), *Vatanulomaka* property (proper regulation of excretory system), *Pachana* (stimulation of digestive fire), *Rasayana* (rejuvenation), *Sothahra* (reduced oedema), and *Srotoshodhaka* (purification of a channel). The chemical compound gallic acid present in *terminalia chebula* extract, which is an active blocker of T-lymphocyte mediated cytotoxicity which in turn blocks the major immunocascade resulting in enhanced cellular functionality.
- The *Ushna guna* and *Katu rasa* of *Trikatu* stimulates *Pitta*, it has predominance of *Agn*, *Vayu* and *Akasha mahabhuta* which is responsible for *Kapha shamana*. It has *Deepaniya* and *Pachaniya* property and it promotes *Agni*. Besides the *Tikshna* property of *Trikatu* ensures tissue penetration thereby showing its action in *Manadagni* at the *Dhatwagni* and *Bhutagni* level. In hypothyroidism where there is hypometabolism, *Trikatu churna* shows promising results by reversing the hypometabolism in the tissues and thereby, by feedback mechanism normalizing the TSH.
- *Pippali* increases the absorption of selenium, a trace element required for deiodinase reaction of the thyroid hormone necessary for bioactivity of the hormone.
- The active principle of *Trikatu* is piperine, piperine (1-piperoyl piperidine), an amide alkaloid, is mainly responsible for enhancing the bioavailability of concurrently administered drugs.
- The active constituents present in *Trikatu* exhibits anti-inflammatory and stimulant to pituitary axis promotes thyroid tissue regeneration and bioregulation of thyroid activity.
- *Crataeva nurvala* is another active ingredient also synergizes with its anti-inflammatory activity and regulate calcium metabolism and ensure ionic concentrations in body fluids. The beta-sitosterol & catechin present in the *varuna* shows anti-hypercholesterolemic & anti-oxidant activity, anti-bacterial, anti-proliferative and chemo protective effect.
- *Guggulu* contains oleo-resins which have a potent anti-inflammatory effect. It is therapeutically used to treat *Gulma* (abdominal lump), *Ganadamala* (cervical lymphadenitis), *Apachi* (chronic lymphadenopathy), *Granthi* (cyst) etc., The administration of *Guggulu* with other herbs has the effect of purging *Ama* (undigested food) from the body. *Agnivardhaka* property of *gugguluids* in digestion, thereby digests the *Amarasa* (undigested food), reduces the excessive production of *Kapha* and removes the obstructive *Srotas* (body channels) .
- *Guggulu* contains Z & E guggulosterones which are responsible for the hypolipidemic activity of the *guggulu*, it may decrease hepatic steroid production which ultimately increases the catabolism of plasma LDL cholesterol.
- Z-guggulusterone was shown to be responsible for thyroid stimulatory action of *guggulu*, administration of isolated compound of the same leads to significant increase in all thyroid function parameters namely, uptake of iodine by thyroid, enzymes involved in the synthesis of thyroid hormones, and tissue oxygen uptake, thus suggesting thyroid stimulatory action.
- The *Mundi* contains sterol glycosides, sesquiterpene lactones, sphaerene as chemical constituents anti-inflammatory and stimulant to thyroid pituitary axis promotes thyroid tissue regeneration and bioregulation of thyroid activity.
- The catechin, rutin & kaempferol chemical constituents present in *Khadira Sara* exhibits antioxidant & immunomodulatory properties including effects on T-lymphocytes and killer cells.

- Catechin affects the molecular mechanisms involved in angiogenesis, extracellular matrix degradation, the regulation of cell death and multidrug resistance in thyroid and other related disorders.
- While discussing over the pharmacodynamic properties of *kanchanara guggulu*, we found that the *Triphala* having *Kaphavatahara* property with *Rasayana*. *Trikatu* helps to promote Agni and *Aamapachan*. *Trijataka* helps as *Agni deepana* and *Kaphavatahara* functions. *Kanchanara* itself has the function of *Shothagna* and *Galaganda Gandamala Nashaka* property where *Varuna Twak* and *Guggulu* enhances its action.

Conclusion:

This review has presented a collective knowledge on therapeutic, pharmacological and medicinal applications of *Kanchanara guggulu* and its constituent drugs. By reviewing the properties of each ingredients of *kanchanara guggulu* we can conclude that it is an effective poly herbal formulation for treating hypothyroidism, hormonal imbalance PCOS etc., Hence its use and pharmacological effects should be documented well and more studies on its pharmacological actions must be conducted.

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