

Navak Guggulu-The Drug of Choice in Sthoulya (Obesity)

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Abstract

The Navaka Guggulu consists of 10 drugs along with Shuddha Guggulu and was prepared according to the principles of Tablet form. Navaka Guggulu is similar to the Medohara Guggulu in contents. Navaka Guggulu is mentioned in Medo rog. It is mentioned by Bhaishajya Ratnavali and Chakradutta.

Keywords: Navaka Guggulu, Medohara Guggulu, Medoroga adhikar, Bhaishajya Ratnavali and Chakradutta.

INTRODUCTION

The prime tool of a physician to cure illness is nothing but the Dravya. It is the First duty of each and every scholar to update the ancient therapeutic measures which are given in our Ayurvedic classics and to find out new drugs and formulation without leaking our Ayurvedic theoretical essence. So, it is an inevitability to review the drugs and related literatures for the proper understanding of Trisutra Ayurveda i.e. Hetu, Ling, Aushadha gyanam, thereby for the betterment of both healthy and ill persons.

A large number of single drugs and compound drugs are indicated by Acharyas in each and every disease. The logical application of these spectra according to the different stages and conditions of the patient and disease is the prime key for the suitability of that drug in a given disease. In this study compound drug Navak Guggulu is used.

Selection of Drugs

In the pathology of Sthoulya, Kapha is main Dosha and Meda is main Dushya, while Agnimandya takes place at Medodhatvagni level. So, that type of drug therapy should be selected which have Kapha and Medanashaka property and have efficacy to correct the function of Medodhatvagnimandya. In Navaka Guggulu maximum ingredient have Rasa- Katu, Virya Laghu, Ruksha and Ushna, Vipaka- Katu, Vata -Kaphashamaka may be effective to control Sthoulya. Therefore, it has been selected as trial drug.

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Acharya Sri Govind Das has mentioned 'Navaka Guggulu' in Medoroga Chikitsa in Bhaishajya Ratnavali. Sthoulya is also the disease of Medoroga. So, in the light of above, combination of Katu-Rasa and Ushna-Virya Pradhana drugs - 'Navaka Guggulu' was selected for study.

CONCEPTUAL STUDY:

On the basis of pharmacognosy, details of the drugs along with their properties are as follow [1-6]:

SHUNTHI

- **Latin Name:** Zingiber officinale Rosc

- **Family:** Zingiberaceae
- **Charaka:** Truptighna, Dipaniya, Trishanigraha
- **Sushruta:** Pipalyadi, Trikatu
- **Classical Name:** Shunthi, Vishva, Vishvabheshaja, Shringavera, Mahaushadha, Nagara,
 - *Sanskrit Name:* Shunthi
 - *Hindi Name:* Shonth
 - *English Name:* Ginger, Dry Zingiber
- **Rasa:** Katu
- **Guna:** Laghu, Snigdha
- **Virya:** Ushna
- **Vipaka:** Madhura
- **Doshagnata:** Kapha-Vata Shamaka
- **Part used:** Rhizome
- **Rogagnata:** AmaVata, Vata vyadhi, Kapha Vata janyavikara, Shotha, Agnimandhya.
- **Karma:** Kapha-Vata shamaka, Shothahara, Dipana, Pachana, Anulomana, Shoolahara, Srotorodhanivarana, AmaPachana.

Properties and Uses

Charaka described use of Shunthi in the treatment of haematuria, piles, dysentery and inflammation in the disease of stomach and to digest the Ama. Sushruta mentioned it in Karnashoola, Kamla, Gulma etc. Vagbhatta also advised it in Karna shoola. Vrinda refers its use in Sannipata Jvara, Agnimandya, Ajeerna, AmaVata, Grahani, Hikka, Urustambha, etc. Shodhala also mentioned it in Grahani, AmaVata, Vrishchakavisha, Arsha etc.

Chemical Composition

Zingiber officinale contains 0.25 to 3% of a volatile oil possessing the aroma. The drug contains in addition resin and about 56% of starch. The crude fibre varies from 1.7% to 9% with an average of 4% the vitamins present in the green ginger are; Thiamine 0.06, riboflavin 0.03, niacin 0.06, and vitamin C 6.0 mg/100 gm. The carotene present in 40mg/100g. The essential oil derived from the dried ginger is greenish to yellow in colour, mobile with characteristic aromatic odour. The oil contains sesquiterpene hydrocarbons (50% or more), sesquiterpene alcohols, monoterpenoids and associated compounds, esters of acetic and caprylic acids and a trace of phenol.

Shunthi is included under Deepanaiya Mahakashaya so by virtue of Deepana Pachana and Rochan guna, it modulates the Agni especially at the Dhatu level of metabolism. By its Trishnanigrahan property, it prevents voracious thirst in Sthoulya. Ginger (*Z. officinale*; 1% w/w) significantly lowers lipid peroxidation by maintaining the activities of the antioxidant enzymes--superoxide dismutase, catalase and glutathione peroxidase in rats. The blood glutathione content is significantly increased in ginger fed rats. Similar effects are also observed after natural antioxidant ascorbic acid (100 mg/kg, body wt) treatment. The results indicate that ginger is comparatively as effective as ascorbic acid as an antioxidant [7].

MARICHA

- **Latin name:** Piper nigrum
- **Family:** Piperaceae
- **Charaka:** Deepanaiya, Krimighna, Shiro-virechana, Shoola prashamana
- **Sushruta:** Pipalyadi, Trikatu
- **Classical Name:** Vellaja, Krishna, Suvritta
 - *Sanskrit:* Maricha
 - *Hindi:* Kalimircha
 - *English:* Black Pepper

- **Rasa:** Katu
- **Guna:** Laghu, Tikshna
- **Virya:** Ushna
- **Vipaka:** Katu
- **Doshagnata:** Vata Kaphashamaka
- **Parts used:** Fruit
- **Actions and Uses:** Deepana, Pachana, Krimighna
- **Rogagnata:** Kapha-Vata janya Vikara, Ajirna, Yakritavikara.
- **Karma:** Vata Kaphashamaka, Lekhana, Deepana, Pachana, Srotoshodhana.
- **Chemical Composition:** Analysis of black pepper (dried) gave following ranges of values: moisture 8.7-14.1, total nitrogen 1.55-2.60, nitrogen in non volatile ether extract 0.7-4.22, volatile ether extract 0.3-4.2, non volatile ether extract 3.9-11.5, alcohol extract 4.4-12.0, starch (by acid hydrolysis) 28.049.0, crude fibre 8.7-18.0, crude piperine 2.8-9.0, piperine (spectrometric ally) 1.7-7.4, total ash 3.6-5.7, and acid insol. Ash (sand) 0.03-0.55. fruits mainly contain piperine 5-10%, piperidine 5%, pipertine and chavicine. Fruits also yield oil of pepper.

PIPPALI

- **Latin name:** Piper longum
- **Family:** Piperaceae
- **Charka:** Kasahara, Triptighna, Deepanaiya, Shulaprashamana, Shirovirechana, Hikkani-graha
- **Sushruta:** Pippalyadigana, Shirovirechana
- **Classical Name:** Pippali, Maagadhi, Vaidehi, Kanaa, Krishna, Chapala, Ushnaa, Upkulyaa, Tikshnatandulaa.
 - **Sanskrit:** Pippali.
 - **Hindi:** Peepala
 - **English:** Long Pepper
- **Rasa:** Katu
- **Guna:** Laghu, Snigdha, Tikshna
- **Virya:** Anushna Sheeta
- **Vipaka:** Madhura
- **Doshagnata:** Vata -Kapha Shamaka
- **Parts used:** Fruit
- **Rogagnata:** Aruchi, Agnimandya, Gulma, Yakrutroga, Krimi, Raktavikara, Kasa, Shwasa, Hikka, Kustha.
- **Karma:** Deepana, Shirovirechana, Medhya, Raktashodhaka, Mootral, Vrishya, Rasayana.

Chemical Composition

The dried fruit (on steam-distillation) yield 0.7% of an essential oil with spicy odour resembling that of pepper and ginger oil. Fruit contains piperine 4-5% and pipalutine alkaloids. Two new monocyclic sesquiterpenes 15.5 and 11.1% respectively. Sesamin and pipalsterol are also present. The roots contain piperine (0.15-0.18%) and pippalartine (0.13-0.20%), piperlonguminine, a steroid and glycoside.

CHITRAKA

Latin Name: Plumbago zeylanica

- **Family:** Plumbaginaceae
- **Charaka:** Lekhaniya, Bhedaniya, Dipaniya, Triptighna, Arsoghna, Sulaprasamana, Katuskandha.
- **Sushruta:** Aragwadhadi, Varunadi, Muskadi, Pippalyadi, Mustadi, Amalakyadi, Virataradi.
- **Classical Name:**
 - **Sanskrit:** Citraka, Agni

- *Hindi:* Cita, Citra, Citi
- *English:* Leadwort
- **Rasa:** Katu
- **Guna:** Laghu, Ruksha, Tiksha, Usna
- **Virya:** Usna
- **Vipaka:** Katu
- **Doshagnata:** KaphaVata shamaka
- **Part Used:** Root Bark (Mool Chhall)
- **Rogagnata:** Medoroga (Vangasen), Sotha, Meha, Ama, Agnimandya, Udara Roga, Arsha.
- **Karma:** Kapha Vata shamaka, Pittavardhaka, Lekhana, Shothahara, Dipana, Pachana.
- **Chemical Composition:** Roots contain a bitter, crystalline, yellow, needle-like active substance which is known as Plumbagin 0.9 % (maximum contain).
- **Pharmacological Actions:** The roots and root bark are bitter, dry, stomachic, carminative, and astringent to the bowels; they cure inflammation, vitiation of Vata and Kapha, consumption and Tridosha. The roots of plant are used with honey in obesity.

HARITAKI

- **Latin name:** Terminalia chebula
- **Family:** Combretaceae
- **Charaka:** Prajasthapana, Jwaraghna, Kusthaghna, Kasaghna, Arshaghna
- **Sushruta:** Triphala, Amalakyadi, Parushakadi
- **Classical Name:** Abhaya, Pathya, Harad, Harre, Haritaki
- **Sanskrit:** Haritaki, Pathya
- **Hindi:** Harad
- **English:** Chebulic myrobalan
- **Rasa:** Pancharasa (Lavana Varjita), Kashayapradhana
- **Guna:** Laghu, Ruksha
- **Virya:** Ushna
- **Vipaka:** Madhura
- **Doshagnata:** Tridosha Shamaka (Vishesh Vata shamaka)
- **Parts used:** Fruit
- **Rogagnata:** It is useful in Prameha, Shwasa, Kasa, Grahani, Shopha, Kustha, Udararoga, Hridroga etc. According to Bhavaprakasha it is effective in Vibahda, Krimi, Trishna, Hikka, Kandu, Vedana, Yakritroga, Mutraroga and Santarpanajanya Vikara.
- **Karma:** Vedanasthapana, Vranashodhana, Vranaropana, Deepana, Pachana, Krimighna, Kusthaghna, Medhya, Chakshushya, Brimhaniya, Anulomana, Rasayana.
- **Chemical Composition:** Fruit contains tannin up to 30%, chebulinic acid; and it also contains Gallic acid, resin etc., and some purgative of the nature of anthraquinone. It contains tannic acid 45%, rich Gallic acid, mucilaginous and colouring matter; its content chebulinic acid disintegrates into tannic and Gallic acids on boiling in water.

BIBHITAKA

- **Latin name:** Terminalia bellirica
- **Family:** Combretaceae
- **Charaka:** Jwarahara, Virechanopaga
- **Sushruta:** Triphala, Mustadi
- **Classical Name:** Karshaphala, Aksha, Kalidrum, Bibhitaka
 - *Hindi:* Bheda
 - *English:* Belliric myrobalan
- **Rasa:** Kashaya

- **Guna:** Ruksha, Laghu
- **Virya:** Ushna
- **Vipaka:** Madhura
- **Doshagnata:** Tridosha shamaka (Vishesha Kapha shamaka)
- **Parts used:** Fruit
- **Rogagnata:** It is useful in Kasa, Krimi, Ashmari, Swarabhanga. The ripe fruit is laxative. Fruits are also effective in Bronchitis, sore throat, inflammation, asthma and liver diseases.
- **Karma:** Anulomana, Bhedaniya, Shothahara, Krishnikarana, Keshya, Kasaghna, Chakshushya.
- **Chemical Composition:** The fruit contain gallo-tannic acid, colouring matter and resin. Seeds yield greenish yellow oil.
- **Pharmacological Actions:** Astringent, expectorant, tonic and laxative.

AMALAKI

- **Latin name:** Embilica officinalis
- **Family:** Euphorbiaceae
- **Charaka:** Vayasthapana, Virechanopaga
- **Sushruta:** Triphala, Parushakadi
- **Classical Name:** Amalaki, Dhatri, Amla, Amalaka
 - **Sanskrit:** Amalaki
 - **Hindi:** Amla
 - **English:** Emblica myrobalan
- **Rasa:** Pancharasa (Lavana Varjita) Amla Pradhana
- **Guna:** Guru, Ruksha, Sheeta
- **Virya:** Sheeta
- **Vipaka:** Madhura
- **Doshagnata:** Tridosha shamaka
- **Parts Used:** Fruit
- **Rogagnata:** Prameha, Hridroga, Yakritroga, Kustha.
- **Karma:** Dahaprashamana, Chakshushya, Keshya, Rechana, Deepana, Anulomana, Vrishya, Rasayana.
- **Chemical Composition:** It contains Gallic acid, tannic acid, sugars, albumin, cellulose and minerals. It is rich source of Vitamin C which is 720 mg and 921 mg per 100 gms of fruit pulp and juice respectively. Other contents are as follows (per 100gms of fruit): Moisture 81.20 mg, protein 0.5 mg, fat 0.1 mg, minerals 0.7 mg, phosphorus 0.02 mg, iron 1.2 mg, nicotinic acid 0.2 mg.
- **Pharmacological Actions:** Fresh fruit is diuretic and laxative. Fruit is also carminative and stomachic. Dried fruit is sour and astringent.

NAGAR MOTHA

- **Latin name:** Cyperus rotandus
- **Family:** Cyperaceae
- **Charka:** Triptighna, Trushanigrahana, Lekhaniya
- **Sushruta:** Mustadi, Vachadi
- **Classical Name:** Varid, Mustaka
 - **Sanskrit:** Mustaka
 - **Hindi:** Motha, Nagaramotha
 - **English:** Nut Grass
- **Rasa:** Tikta, Katu
- **Guna:** Laghu, Ruksha
- **Virya:** Sheeta

- **Vipaka:** Katu
- **Prabhava:** Pachana
- **Doshagnata:** Kapha-Pittahara
- **Parts used:** Root
- **Rogagnata:** Kaph pittajanya Vikara, Rakta Vikara, Shothahara, Krimihara.
- **Karma:** Kapha pitta shamaka, Lekhana, Shothahara Dipana and Pachana.
- **Chemical Composition:** The tuber of the plant drug Cyperus rotundus contains an aromatic oil 0.5-0.9% and remaining quantity is of fixed oil.
- **Pharmacological Actions:** Musta having anti-inflammatory, Anti-helminthic, smooth muscle relaxant Property.

Anti-microbial activity of certain Sudanese plants used in folkloric medicine.

VIDANGA

- **Latin name:** Embelia ribes
- **Family:** Myrsinaceae
- **Charaka:** Krimighna, Triptighna, Kushthaghna, Shirovirechana.
- **Sushruta:** Trimada
- **Classical Name:** Vidang, krimighna, Chitratandula
 - **Sanskrit:** Vidanga
 - **Hindi:** Bayabidanga
- **Rasa:** Katu
- **Guna:** Laghu, Ruksha, Tikshna
- **Virya:** Ushna
- **Vipaka:** Katu
- **Doshagnata:** Kapha-Vatahara
- **Parts used:** Fruit
- **Actions and Uses:** Krimighna, Deepana, Pachana, Shothahara
- **Rogagnata:** Kapha - Vata Vikara, Agnimandhya, Ajirna, Vibandha.
- **Karma:** Kapha Vata shamaka, Dipana, Pachana, Anulomana, Krimighna.
- **Chemical Composition:** The drug contains (dry basis): embelin 2.5-3.1, quercitol 1.0 and fatty ingredients 5.2%, and alkaloid christembine, a resinoid, tannins and minute quantities of a volatile oil are present.
- **Pharmacological Actions:** Vidanga having + grade (+ = mild active), as per “the anti-bacterial activity of some Ayurvedic drugs. (Jour. Res. Ind. Med. 9:2, 1974 page 65).

GUGGULU

- **Latin Name:** Commiphora mukul
- **Family:** Burseraceae
- **Charaka:** Sangyasthapanas dasheymani
- **Sushruta:** Elaadigana
- **Classical Name:** Guggulu, Kaushik, Pura, Palankash, Mahishaaksha, Kalaniryasa, Devadhoopa, Jatayu.
 - **Hindi:** Gugal, Gubdee
 - **English:** Gum, Guggulu, Indian bedellium, Hill mango.
- **Rasa:** Katu, Tikta
- **Guna:** Laghu, Ruksha, Tikshna, Vishada, Sukshma, Sara.
- **Virya:** Ushna
- **Vipaka:** Katu
- **Doshagnata:** Tridosha-Shamaka

- **Part Used:** Gum exudates
- **Charaka:** Udararoga
- **Sushruta:** Urustambha , Shotha , Karnadaurgandhya .
- **Vagbhatta:** Shwasa
- **Raj Nighantu:** Krimi, Vato-Udara, Pliha, Shopha, Arsha
- **Chakradatta:** Gridhrasi, Krosthushirsha, Vidradhi
- **Sodhala:** Amlapitta, Vrana, Bhagandara
- **Karma:** Medoghna (old Guggulu), Balya, Medhya, Rasayana, Rajastraavkara Swedala, Mootrala, Kaphanissaraka, Varnya, It increases W.B.C. count and haemoglobin. It is stimulant, kills microorganisms (Rogajantughna).
- **Properties and Uses:** Guggulu is an oleo-resin obtained from the plant *Commiphora mukul* and is very much used in the Indian system of medicine as astringent, antiseptic, expectorant, aphrodisiac, demulcent, carminative, antispasmodic, emmenagogue and used in rheumatism. The drug is described as Hridya, Medoghna and Mehaghna, Ashmaghna. It also reduces the level of cholesterol and obesity. Oleo-resin gum of *C.mukul* has been proved to be a potent hypocholesterolemic, hypolipidaemic, antiatherosclerotic agent both in clinical as well as in experimental studies.

A steroidal compound isolated from the petroleum ether extract of the plant possessed significant anti-inflammatory activity on rat paw edema produced by carrageenin. The steroidal fraction had a significant effect on the primary as well as the secondary inflammation induced by Freud's adjuvant, the activity being less than that of hydrocortisone acetate in primary inflammation but it is more effective than hydrocortisone in reducing the severity of secondary lesions. Further study showed that the steroidal component of fraction A had a pronounced antiarthritic effect and is superior to phenylbutazone and comparable to hydrocortisone. The oleo-resin fraction possessed significant antiarthritic and anti-inflammatory activities. Only the acidic fraction showed significant activity while the monacid and solid fraction were inactive. Chemical Composition: From the gum-resin, sesamin, cholesterol, few other steroids, essential oil containing steroidal ketones, alcohols and aliphatic triols (mostly as esters of ferulic acid) were reported. The structure elucidation of steroidal constituents viz, Z-Guggulusterone, E-Guggulusterone, three new sterols Guggulusterols-I, II and III have been established along with partial synthesis of Guggulusterol II from diosgenin. In addition, diterpenoid constituents cembrene-A and Mukulol, some fatty tetrols-octadecan-1,2,3,4-tetrols, eicosan-1, 2,3,4-tetrol and non-adeacan-1,2,3,4-tetrol were reported. Two new sterols viz, Guggulusterols-IV and V have been reported for the first time. Known compounds isolated were Guggulu-sterols-I, II and III and Guggulusterones-Z and E. A diterpene alcohol, Guggulusterone, Guggulusterol-I, II and III were isolated from the gum-resin.

Pharmacological Actions

Gum resin showed different pharmacological properties, uses and clinical application: astringent, expectorant, aphrodisiac, demulcent, carminative, antispasmodic, emmenagogue, to enrich blood, in snake bite and scorpion sting, antifertility, arthritis, leprosy, in impotence and sterility, in liver disorder and hemiplegia, hypocholesterolemic, hypolipidaemic, atherosclerosis, thyroid stimulating, psoriasis and cardiac ischaemia.

The significant pharmacological properties which led to clinical trials are: hypocholesterolemic, hypolipidaemic, antiarthritic, thyroid, stimulating in cardiac ischaemia and in psoriasis.

Rasa Panchaka of Navaka Guggulu: It can be understood by Table 1 given as.

By virtue of its Rasapanchaka, (Navaka Guggulu) is very well indicated in Kapha predominant pathologies. Due to this property, it breaks the Samprapti of Sthulya. As it is Dipana and Pachana it can do very well in certain Vata-Kapha condition like Sthaulya [8, 9].

Table 1. Rasa Panchaka of Navaka Guggulu.

Dravya	Rasa	Guna	Virya	Vipaka	Prabhava	Karma
Sunthi	Katu	Laghu, Snigdha	Ushna	Madhura	Triptighna Pachana Deepana	VK↓
Maricha	Katu	Laghu Tikshna	Ushna	Katu	Deepana	KV↓
Pippali	Katu	Laghu Snigdha Tikshna	AnuUshna Shita	Madhura	Deepana	VPK↓
Chitraka	Katu	Laghu Ruksha Tikshna	Ushna	Katu	Deepana	KV↓
Haritaki	Pancha -Rasa	Laghu Ruksha	Ushna	Madhura	Medhya	VPK↓
Bibhitaka	Kashaya	Ruksha Laghu	Ushna	Madhura	Chhedana Deepana	K↓
Amalaki	Pancha -Rasa	Guru, Ruksha, Sheeta	Sheeta	Madhura	Rasayana	VPK↓
Musta	Tikta Katu Kashaya	Laghu, Ruksha	Sheeta	Katu	Lekhana Pachana	PK↓
Vidanga	Katu, Tikta	Tikshna, Laghu, Ruksha	Ushna	Katu	Triptighna Pachana Deepana	VK↓
Shudha Guggulu	Tikta Katu Madhura	Tikshna, Sara	Ushna	Katu	Medohara Lekhana	VPK↓

DISCUSSION

In the disease Sthaulya, Tikshnagni is occurs. Here, Jatharagni is found in excessive condition whereas Medodhatvagni is found in Manda condition. It is due to Avarana of Vayu in Kostha. So person indulges more food, which produce excessive Meda and vitiated cycle go on. This cycle is broken (Samprapti Vighatana) by Katu-Rasa and Ushna-Virya Pradhana drugs – “Navaka Guggulu” which decreases Meda by its Lekhana, Shoshana and Kaphanashaka properties, Kaphanashaka properties due to Agni and Vayu Mahabhuta dominance in them . So, it was thought at that time that being a Visesa for Medhodhatu, Navaka Guggulu will cause Hrasa of increased Meodhatu in Sthula patients.

The mode of action of Navaka Guggulu on Sthaulya can be explained as follows –

The disease Sthaulya originates due to consumption of Kapha Vriddhikara Ahara, Vihara and Manasa Nidana. These factors derange Jatharagni causing Ama Annarasa, which results in Medodhatvagnimandya. This condition leads to the excessive growth and accumulation of Medodhatu, causing the disease Sthaulya.

Dosha

Navaka Guggulu encounters Vata and Kapha Dosha by virtue of its Katu-Rasa dominance and Ushna-Virya. Vatahara action is also achieved by Laghu and Snigdha property.

Dushya

Meda and Kleda are the chief culprits in Sthaulya. Katu-Rasa performs Medo-Kledopa-Shoshana action. Sthairya Guna of Madhura Rasa combats Sharira Shaithilya. Ushna-Virya also helps in Kleda and Meda Vilayana action.

Agni and Ama

Katu-Rasa, Ushna-Virya encounters Dhatwagnimandya and potentiates the weakened Dhatwagni and help in Amapachana thereby alleviates Aparipakwa and Ama dhatu.

Srotas

Due to Katu-Rasa, all the involved channels are dilated i.e. “Srotansi Vivrunoti” action. Katu-Rasa and Ushna-Virya check over Medovaha and Mamsavaha Srotodushti.

CONCLUSION

In nut cell in Navaka Guggulu maximum ingredient have Katu Ras, and Laghu, Ruksha and Ushna Virya, Katu Vipak, Vata-Kaphashamak, Karshana, Lekhaniya, Medorogahara, Amapachana, Dhatu shoshana properties, which normalize the state of Agni. Thus, regulated Jatharagni, checked the excessive growth and accumulation of Medodhatu and there by causing Lakshana Upshamana of disease Sthaulya.

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