



REVIEW ARTICLE

A CRITICAL REVIEW ON VARANADI GANA OF VAGBHATA

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Abstract

The term "*Gana*" essentially signifies a group. In Ayurveda, drugs have been systematically grouped into categories, known as "*gana*," for easier comprehension and application. *Varanadi gana*, as mentioned in both Ashtanga Hrudaya and Ashtanga Samgraha, consists of a total of 17 drugs. The majority of these drugs exhibit *kapha-vatahara* properties, making them particularly suitable for conditions characterized by the imbalance of *kapha* and *vata*. Recent research has confirmed the anti-inflammatory, antioxidant, and antitumor activities of the individual drugs within *Varanadi gana*. These findings provide contemporary validation for the efficacy of *Varanadi gana* in alignment with Ayurvedic principles.

Introduction

Dravya or drug is one among the *Paadachatushtaya* (Treatment Quartet). Ayurveda considers that any substance in this world can be used as medicine when applied with proper rationale and in correct indication. The grouping of drugs into different categories serves multiple purposes, facilitating convenient learning, comprehension, and practical applications. Acharya Vagbhata, in the *Sodhanadigana Sangrahaneeya* chapter of the Ashtanga Hrudaya systematically categorized drugs into groups named *ganas* based on their properties and therapeutic indications. A total of 33 such groups are described in Ashtanga Hrudaya. A total of more than 70 such groups are described in Ashtanga samgraha too. Each *gana* represents a group of drugs having similar pharmacological actions. Though they appear to have dissimilar presentations and properties, they have a collective pharmacodynamics. The nomenclature of *gana* is given after the first drug in the group.

Varanadi gana is one such group described by Acharya Vagbhata. The contents of this *gana* are Varuna, Sairyaka dwaya, Satavari, Dahana, Morata, Vilva, Vishanika, Brihati dwaya, Karanja dwaya, Jaya dwaya, Bahalapallava, Darbha and Rujakara. Classically *Varanadi gana* is indicated for *pathologies of Kapha, Medo vikara, Mandagni, Adhyavata, Sirasoola, Gulma* and *Antarvidradhi*⁽¹⁾

Methodology

In the present review, an in-depth literature survey through a range of

authoritative sources, including Nighantus like Bhavaprakasa Nighantu, Dhanwanti Nighantu, and Raja Nighantu, in addition to the Ayurvedic Pharmacopoeia of India. Diverse journals and articles like AYU, Asian Pacific Journal of Tropical Disease, Journal of Ayurveda and Integrative medicine, Journal of Drug research in Ayurvedic Sciences were also referred. The primary goal was to critically analyse Vagbhata's *Varanadi Gana*.

The Literature review revealed the various aspects of the drugs in *Varanadi gana*. The identity of the drugs, their properties as described in Ayurveda (*Rasapnachaka*) and their phytochemical constituents are compiled and presented as tables here.

LIST OF DRUGS IN VARANADI GANA

Table showing the complete list of drugs in *Varanadi gana* along with their botanical sources, Family and part used is shown in Table 1

Table 1 Complete list of drugs in Varanadi gana

Sl. no	Sanskrit Name	Botanical Name	Family	Part used
1	<i>Varuna</i> ⁽²⁾	<i>Crateva nurvala</i> Buch.-Ham.	Capparaceae	Stem Bark
2	<i>Kurabaka (rakta pushpa)</i> ^{*(3)}	<i>Barleria cristata</i> L.	Acanthaceae	Root
3	<i>Kurandaka (peeta pushpa)</i> [*] ₍₃₎	<i>Barleria prionitis</i> L.	Acanthaceae	Root
4	<i>Satavari</i> ⁽⁴⁾	<i>Asparagus racemosus</i> Willd.	Liliaceae	Tuberous root
5	<i>Dahana</i> ⁽⁵⁾	<i>Plumbago zeylanica</i> L.	Plumbaginaceae	Root
6	<i>Morata (murva)</i> [*] ⁽⁶⁾	<i>Marsdenia tenacissima</i> (Roxb.) Moon	Apocynaceae	Root
7	<i>Vilva</i> ⁽⁷⁾	<i>Aegle marmelos</i> (L.) Correa	Rutaceae	Root
8	<i>Vishanika</i> [*] ⁽⁸⁾	<i>Gymnema sylvestre</i> (Retz.) Schult.	Apocynaceae	Root
9	<i>Brihati</i> ⁽⁹⁾	<i>Solanum indicum</i> Linn.	Solanaceae	Root
10	<i>Kantakari</i> ⁽¹⁰⁾	<i>Solanum xanthocarpum</i> Schrad. & J.C.Wendl.	Solanaceae	Root
11	<i>Karanja</i> ⁽¹¹⁾	<i>Pongamia pinnata</i> (L.) Pierre	Fabaceae	Stem Bark
12	<i>Putikaranja</i> ⁽¹²⁾	<i>Holoptelia integrifolia</i> Planch.	Ulmaceae	Stem Bark
13	<i>Agnimantha</i> [*] ⁽¹³⁾	<i>Premna integrifolia</i> L.	Verbenaceae	Root
14	<i>Tarkari</i> [*] ⁽¹⁴⁾	<i>Clerodendrum phlomidis</i> Hort.Ital. ex DC.	Verbenaceae	Root
15	<i>Bahalapallava</i> ⁽¹⁵⁾	<i>Moringa oleifera</i> Lam.	Moringaceae	Root bark
16	<i>Darbha</i> ⁽¹⁶⁾	<i>Desmostachya bipinnata</i> (L.) Stapf	Poaceae	Root
17	<i>Rujakara</i> ⁽¹⁷⁾	<i>Semecarpus anacardium</i> L. f.	Anacardiaceae	Fruit

RASAPANCHAKA

Rasa, Guna, Vipaka, Veerya and Karma of constituent drugs of Varanadi gana are shown in Table 2

Table 2 Rasapanchaka of drugs in Varanadi gana

Sl. no	Sanskrit Name	Rasa	Guna	Vipaka	Veerya	Karma
1	Varuna ⁽¹⁸⁾	Tikta Kashaya	Laghu Ruksha	Katu	Ushna	Kapha-vatasamaka, deepana, bhedana, asmaribhedana, raktasodhaka
2	Kurabaka ⁽³⁾	Tikta madhura	Laghu	Katu	Ushna	Kapha-vatahara, Kesaranjana, sothahara, mutrala
3	Kurandaka ⁽³⁾	Tikta madhura	Laghu	Katu	Ushna	Kapha-vatahara, Kesaranjana, sothahara, mutrala
4	Satavari ⁽¹⁹⁾	Madhura Tikta	Guru Snigdha	Madhura	Seeta	Vata-pittasamaka, balya, medhya, hridya, sukrala, stanyajanana, mutrala, rasayana, chakshushya
5	Dahana ⁽²⁰⁾	Katu	Laghu Ruksha Teekshna	Katu	Ushna	Kapha-vatasamaka, lekhana, deepana Sothahara, pachana, grahi, krimighna
6	Morata (murva) ⁽²¹⁾	Tikta Madhura	Guru ruksha	Katu	Ushna	Kapha-vatahara, amapachana, deepana, sulaprasamana, pramehaghna, anulomana
7	Vilva ⁽²²⁾	Kashaya Tikta	Laghu Ruksha	Katu	Ushna	Kapha-vatasamaka, jwaraghna, sothahara, vedanasthapana
8	Vishanika ⁽²³⁾	Kashaya Tikta	Laghu ruksha	Katu	Ushna	Kapha-vatasamaka, sothahara, vedanahara, vishaghna
9	Brihati ⁽²⁴⁾	Katu Tikta	Laghu Ruksha	Katu	Ushna	Kapha-vata samaka, vedanasthapana, Deepana, pachana, grahi, krimighna, kasahara, mutrala
10	Kantakari ⁽²⁵⁾	Tikta Katu	Laghu Ruksha	Katu	Ushna	Kapha-Vatasamaka, vedanasthapana, sothahara, krimighna, deepana pachana swasahara hikkani-grahana
11	Karanja ⁽²⁶⁾	Tikta Katu Kashaya	Laghu Teekshna	Katu	Ushna	Kapha-vatasamana, deepana, pachana, bhedana, yakrituttejaka, mutrasamgrahaneeya, garbhasayavisodhana
12	Putikaranja ⁽²⁷⁾	Tikta Kashaya	Laghu Ruksha	Katu	Ushna	Kapha-pittasamaka, Deepana, anulomana, krimighna, bhedana, pramehaghna, kushtaghna
13	Agnimantha ⁽²⁸⁾	Tikta Katu Kashaya	Ruksha Laghu	Katu	Ushna	Kapha-vatasamaka, sothahara, vedanasthapana, deepana, pachana, pramehaghna
14	Tarkari ⁽²⁹⁾	Tikta Katu Kashaya	Ruksha Laghu	Katu	Ushna	Kapha-vatasamaka, sothahara, vedanasthapana, deepana, pachana, pramehaghna
15	Bahalapallava ⁽³⁰⁾	Katu Tikta	Laghu Ruksha Teekshna	Katu	Ushna	Kapha vata samaka, deepana, pachana, grahi, sulaprasamana, krimighna
16	Darbha ⁽³¹⁾	Madhura Kashaya	Laghu Snigdha	Madhura	Seta	Tridoshaghna, stambhana, trishnanigrahana, asmarinasana, mutrala
17	Rujakara ⁽³²⁾	Madhura Katu Tikta Kashaya	Laghu Snigdha Teekshna	Madhura	Ushna	Kapha-vatasamaka, pittavardhaka, deepana, pachana, bhedana, yakrituttejaka, vrishtya, rasayana

RELEVANT PHYTOCONSTITUENTS AND PHARMACOLOGICAL PROPERTIES OF CONSTITUENT DRUGS OF VARANADI GANA

Table showing the important phytochemicals of drugs in *Varanadi gana* is given below

Table 3 Phytochemical compounds and pharmacological activity

SI No.	Botanical Name	Phytoconstituents	Pharmacological property
1	<i>Crateva nurvala</i> Buch.-Ham. (33)	Lupeol	Antihyperlipidemic , Anti inflammatory
2	<i>Barleria cristata</i> L. (34)	Iridoid phenylethanoid glycosides	Carcinogenesis blocker , anti inflammatory
3	<i>Barleria prionitis</i> L. (35)	Barlerin ,Acetylbarlerin,Barlerinoside ,Lupulinoside Balarenone, 7-methoxydiderroside ,Melilotic acid,Vanillic acid	antioxidant, antidiabetic, Anti-inflammatory, cytoprotective
4	<i>Asparagus racemosus</i> Willd. (36)	Shatavarins	Anticancer , immunomodulatory
5	<i>Plumbago zeylanica</i> L. (37)	Plumbagin	Antihyperlipidemic , antiovolatory
6	<i>Marsdenia tenesissima</i> (Roxb.) Moon (38)	Marstenacisside C1-C10	Antitumour , Anti inflammatory
7	<i>Aegle marmelos</i> (L.) Correa (39), (40)	Rutin , Marmesin , Marmin	Hypolipidemic , Antidiabetic , antioxidant , cytoprotective
8	<i>Gymnema sylvestre</i> (Retz.) Schult. (41)	Gymnemic acid	Antidiabetic, Antiinflammatory , antiobesity
9	<i>Solanum indicum</i> Linn. (42)	Solanine , Solanidine, hydroxycoumarins, Solanerianones A&B	Anti-inflammatory
10	<i>Solanum xanthocarpum</i> Schrad. & J.C.Wendl. (43)	Solavetivone	Cytotoxic to OVCAR3 cells
11	<i>Pongamia pinnata</i> (L.)Pierre (44)	Karanjin , Pongapin	Hypoglycemic , hypolipidemic
12	<i>Holoptelia integrifolia</i> Planch. (45)	Oleanolic acid, steroids and Glycosides	Selective cytotoxicity to cancer cells, antidiabetic
13	<i>Premna integrifolia</i> L. (46), (47)	Flavanoïdes, Phenols, aminoacids	Anticancer, anti-inflammatory, hepatoprotective
14	<i>Clerodendrum phlomidis</i> Hort.Ital. ex DC (48)	oleanolic acid 3-acetate and betulinic acid	Anti-inflammatory, anti-oxidant, anticancer, antimicrobial, hepatoprotective, hypolipidemic
15	<i>Moringa oleifera</i> Lam. (49)	thiocarbamate and isothiocynate related compounds	Anti inflammatory, Anticarcinogenic
16	<i>Desmostachya bipinnata</i> (L.) Stapf (50)	Coumarins(Scopoletine & Umbelliferone) Xanthenes	Antineoplastic, Antiinflammatory, antidopaminergic
17	<i>Semecarpus anacardium</i> L. f. (51)	Anacardic acid , Butein , Semicarpol, Bhilwanol, Flavanoids	Anticancerous , anti-inflammatory

Discussion

In Ayurveda, medicinal plants have been classified according to pharmacological action. This constitutes *Ganas*. *Varanadi gana* is mentioned by Acharya Vagbhata in *Sodhanadigana samgrahaneeya* chapter of *Sutrasthana* in *Ashtanga Hrudaya*. In this *gana*, 17 drugs are included. A controversy exists regarding the botanical sources of *Saireyaka*, *Morata*, *Vishanika*, and *Agnimantha*.

Saireyaka and *Sahachara* are used interchangeably in *Nighantus* which created confusion regarding the botanical identity of the drug. According to Arunadatta, *saireyakayugmam* is interpreted as one with red flowers called *kurabaka* and the other with yellow flowers called *kurandaka*. *Saireyaka* and *Sahachara* are used synonymously. Dhanwantari *Nighantu* cited 3 types of *Saireyaka* – *peeta (kurandaka)*, *rakta (kurabaka)*, and *Neela*. Bhavamisra added one more variety with *sweta pushpa* comprising a total of four. Acharya PV Sharma revealed the botanical identities as *sweta / rakta : Barleria cristata*, *Peeta: Barleria prionities* and *Neela : Barleria strigose*.⁽⁵²⁾

There exists difference in opinion about *Jayadwaya*. Arunadatta considers it as *Hareetaki* and *Tarkari* while Hemadri opined it to be *Tarkaridwaya*. *Tarkari* is used as a synonym of *Agnimantha*. In the *varanadi gana* of *Susruta Samhita*, both *Agnimantha* and *Tarkari* are there, which implies both are having separate botanical identity. In *amarakosa*, *Tarkari* and *Agnimantha* are identified as separate trees. Acharya PV Sharma identified *Agnimantha* as *Premna integrifolia* and *Tarkari* as *Clerodendrum phlomidis*.⁽⁵³⁾

Various commentators of *Ashtanga Hrudaya* have identified *Morata* as *Murva* and *Ksheera murva*. The true botanical source of *Murva* is *Marsdenia tenacissima*, where as Ayurvedic physicians of Kerala recognized *Chenomorpha macrophylla* as *Murva*. *Ksheera Morata* is considered as *Chenomorpha fragrans* in *Raja Nighantu*.⁽⁵⁴⁾

Vishanika is commented as *Ajasringi* by Arunadatta and *Meshasringi* by Hemadri. *Ajasringi* and *Meshasringi* are considered to be different *dravyas* as Acharya *Susruta* in *Varanadi gana* mentioned these two separately. Acharya PV Sharma elaborated the botanical source of *Ajasringi* as *Gymnema sylvestre*.⁽⁵⁵⁾

On analysing the properties of drugs in *Varanadi Gana*, it was observed that the predominant tastes are *Tikta*, *Kashaya*, and *Katu*. Additionally, these drugs exhibit properties such as *Laghu*, *Ruksha*, and *Teekshna*. With the exception of *Darbha* and *Satavari*, all the constituent drugs in *Varanadi Gana* have *ushna veerya*. In terms of *vipaka*, most of the drugs have *katu vipaka*, except for *Satavari*,

Hareetaki, *Darbha*, and *Bhallataka*, which have *Madhura vipaka*. *Hareetaki* and *Darbha* are *tridosha samana*, *Satavari* is *vatapitta samaka*, and *Putikaranja* is *kapha-pitta samaka*, while all others act as *kaphavatasamaka*, indicating their effectiveness in balancing *Vata* and *Kapha doshas*.

The likely mechanism of action of *Varanadi Gana* in various indications stated can be elucidated as follows:

The attributes of *Kapha dosha* encompass qualities such as *snigdha*, *shita*, *guru*, *manda*, *slakshna*, *mritsna*, and *sthira*. In contrast, the drugs in *Varanadi gana* predominantly exhibit *ruksha*, *ushna*, *laghu* and *teekshna gunas*. This opposition in characteristics makes these drugs a favorable option for addressing *Kaphaja rogas*.

As per Ayurvedic concept, the etiological route of the *Medoroga* is a vicious cycle, *Dhatvagnimandya* results in vitiation of *Medo dhatu* which obstructs the micro channels leading to vitiation of *vayu* (due to *Margavarodha*) and that increased *vata* dampens the *Dhatvagni*. The constituent drugs of *Varanadi gana* is *Kapha vatahara* and has *deepana karma* which helps in correcting the *margavarodha* which in turn cures *medo vikara*. The majority of drugs in the *Varanadi* group possess *deepana karma*, contributing to the stimulation of *agni* and thereby rectifying the *mandavastha*.

Adhyavata or *Urustambha* is characterized by thigh stiffness. Although the clinical presentation resembles a *Vata*-dominant condition, the main contributors to its pathogenesis are *Kapha* and *medo dhatu*. The therapeutic strategies for *Urustambha* predominantly focus on *Kapha-Vata hara* measures, suiting the *doshakarma* exhibited by drugs in the *Varanadi* group.

Siras is one among *kapha sthanas*. In *vatikasirasoola*, *Varanadi gana ksheera ghrita* along with *sarkara* is indicated by Acharya Vagbhata. The individual drugs in *Varanadi gana* being *Kapha vata hara* helps in pacifying the vitiated *doshas*.

In Ayurveda, *Gulma* is recognized as a condition arising from aggravated *Vata*, either independently or in conjunction with other *doshas*. The pathogenesis of *Gulma* is significantly influenced by factors such as *Mandagni* (weakened digestive fire) and *Margavarana* (obstruction in the channels). The drugs in the *Varanadi* group exhibit *deepana pachana* properties along with *Kapha vatahara* action, aiding in the elimination of *margarodha* and providing relief from the disease.

Vidradhi can be considered as a *sopha* in *amavastha* and *vrana* in *pakvavastha*. In *Ama avastha* of *antarvidradhi*, Acharya Vagbhata mentioned about the use of *Varanadi kwatha* with drugs of *Ushakadi gana* as adjuvant. Also, the drugs in *Varanadi gana* can be used in

the form of *ghrita* for *pana*, *asthapana* and *anuvāsana vasthi*. The effect may be attributed to the *sophahara* and *Kaphavata hara karma* of *Varanadi gana* by virtue of its *katu rasa*, *laghu ruksha guna* and *ushna veerya*

As *Varanadi Gana* drugs possess *Kaphavata hara* properties, they can be effectively employed in conditions characterized by the imbalance of *Kapha* and *Vata dosha*. The diseases indicated typically involve both *Kapha* and *Vata* in their pathogenesis, often associated with *margavarana* or *srotorodha*. Additionally, the relationship of *Kapha* and *Medas* as *asraya-asrayi* suggests the utility of *Varanadi Gana* in all conditions with *medo dushti*.

In terms of pharmacological characteristics, the majority of these drugs demonstrate Anti-inflammatory, Antineoplastic, Antioxidant, anti-lipase, Anti-Diabetic, Hepatoprotective, Hypolipidemic, and Immunomodulator activities. The predominant research in this area, often comprising preclinical studies involving laboratory or animal experiments, supports their efficacy. The modern pharmacological effects of the constituent drugs in *Varanadi Gana* align with the actions described in Ayurvedic classics, suggesting that these drugs exert their effects based on their chemical constituents.

Conclusion

Varanadi gana is a drug of choice in conditions where there is *kapha* and *vata* vitiation characterized with *margavarodha* along with *sopha* and also in conditions like *sirasoola* and *vidradhi*.

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