



Review Article

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A REVIEW STUDY ON *POṄĠĀRĀDI AGADA*

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ABSTRACT:

Keraleeya viśa vaidyas explained numerous formulations for *viśa* and other disease conditions which are currently in practice among various clinical specialities of Ayurveda. Cutaneous dermatophytosis is a superficial skin disorder with very high impact on the socio-economic domain of affected person owing to its prolonged disease course with multiple bouts of exacerbations. The hot and humid climatic conditions prevailing in Kerala is an added advantage for the filamentous hyphae of the fungus to thrive on Stratum corneum. Current therapeutic interventions in modern medicine aims at using topical application of antifungal agents along with corticosteroid therapy given topically and enterally to contain the growth of the fungi. Inappropriate use of these agents results in multiple exacerbations of the disease ending in development of fungal strains developing resistance against these agents. Formulations mentioned in the context of *viśachikitsa* have been used topically against cutaneous dermatosis. *Poṅḡārādi agada*, a drug formulation with two minerals mentioned in *kīṭaviśa prakarana* of *Kriyakoumudi* by Kutty Krishna Menon. The yoga contain *Tankana* (Borax) and *Gandhaka* (Sulphur) as ingredients and it is mentioned for *lepa* in *dadru*. *Dadru* is the disease mentioned under *kushtaroga* which is having a morphological and disease characteristics similar to that of cutaneous dermatophytosis. This paper is an attempt to make a review on the formulation *Poṅḡārādi agada*.

Key words: *Poṅḡārādi agada*, *Dadru*, *Kriyakoumudi*, *Cutaneous dermatophytosis*

INTRODUCTION:

Agada tantra is one among the eight branches of Ayurveda. Keraleeya *viśa* chikitsa is quite famous worldwide. *Keraleeya viśa vaidya* contributed numerous agada yogas, which can be given in *sthavara*, *jungama viśa* and has also been used in several other disease conditions including skin diseases (*Kushta*). Infectious skin diseases embodies the concept of *viśa* as the disease manifestation is partly due to the immunological response to the invading microorganism. The symptoms visualising during the disease process might mimic the *features* of several diseases processes mentioned under *Kushta* and are thus named under specific *Kushta roga*. But their management strategies varies due to the involvement of *viśa* in its pathogenesis. Taking into consideration, the cutaneous dermatophytosis clinically evident as annular plaques with an hypertrophied advancing border and a central clearing forms the typical manifestation of *Dadru*, a *Kushta* described as having the feature of rapid annular spread "*Durvapratana*". Thus, *Dadru* can be equated with cutaneous dermatophytosis based its pathogenesis and morphological features. In *Dadru*, fungal species affect the host immune system and produces clinical symptoms. *Poṅgārādi agada* is mentioned in Keraleeya *viśachikitsa* grantha *Kriyakoumudi* in the context of *kīṭaviśa*.¹ The yoga containing two mineral drugs and *nimbu*. The applicability of the yoga may be considered under the principle of extended use of *viśa* in other diseases under the concept of *Viśapayogeeya*.

REVIEW OF LITERATURE:

Name of yoga: *Poṅgārādi agada*

The reference of yoga can be found out in *kīṭaviśa prakarana* in *Kriyakoumudi* by Kutty Krishna Menon. Total three ingredients out of which two mineral drugs. The mode of use is explained as *lepa* in *nimbu rasa* (Lemon juice).

MATERIALS AND METHODS

Method of preparation of drug:

Śodhita Poṅgāra, *Gandhaka* and lemon pulp mix in equal quantity, grind, dry and store.

Poṅgāra : *Gandhaka* : Lemon pulp - 1:1:1

Table 1: Ingredients of *Poṅgārādi agada*

Drug	Common name	Chemical name/ Scientific name	Chemical formula /Family	Śodhana dravya /Part used
<i>Poṅgāra</i>	Borax	Sodium tetra borate decahydrate	$\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$	Water
<i>Gandhaka</i>	Sulphur	Sulphur	S	Nil
Cherunaranga	Lemon	<i>Citrus limon</i> (L.)	Rutaceae	Fruit juice and fruit pulp

TANKANA(Borax)

Borax, also known as sodium borate, sodium tetraborate or disodium tetraborate, a mineral and a salt of boric acid. It exists as an impure saline incrustation of a dirty-white colour. It occurs as a natural deposit in the form of crystalline tough masses, and when exposed to air it becomes opaque. Powdered borax is white, consisting of soft colourless crystals that dissolve in water.

In Ayurveda, *Tankana* has high therapeutic value. In Rasasastra, been used in many *pārada karmas* and it is described under *uparasa*.² Rasa granthās have included *tankana* under the group of *Ksharātrayās*, *Kshārapanchaka*, *Drāvakagana*, *Mitrāpanchak* etc. It has a wide range of therapeutic applications, including diseases like *vrana*, *svāsa*, *hrudya*, *streepushpajanana* etc. It is used in the form of compound formulations like *parpati*, *kupipakwa*, *khalvee rasāyana*, *cūrna*, *vati*, *lepa* etc. It is the best antidote for *Vatsanābha*.³

Table 2: Pharmacological properties of *Tankana*;⁴

Rasa	Guna	Vīrya	Vipaka	Karma	Rogaghnata
<i>Katu</i>	<i>Tikshna, Laghu, Sara, Rooksha</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphaghna, Vatahara, Pittakrut</i>	<i>Kapha vishleshaka, Hridya, Vāta vikāra nāshaka, Agni deepaka, Ādhamāna naashaka, Stri pushpa janana, Balya, Vividh vrana naashaka, Sthavara visha hara, Mudha garbha pravartaka</i>

Purification of *Tankana*

Tankan is recommended for internal as well as external use. Depending on usage; it is purified in different ways.

For External Use: Tankan is dissolved in 24 parts of water, filtered and subject to intense heat till little water is left and then dried completely. This is used for preparation of *tankanamla* and in external applications.⁵

For Internal Use: There are few methods of purification but in the commonly used one, raw *tankana* is first powdered, heated over a low flame in an iron vessel and stirred till it loses water and *tankana* particles swell up in the form of kheel. It is then allowed to cool, made into a fine powder to obtain *Śuddha tankana*.⁶

GANDHAKA (Sulphur)

Sulphur is a non-metal element which commonly known as *Gandhaka*. It occurs in nature in the form of pure sulphur, sulphides and sulphates. It plays an imperative role for the maintains of health as skin, connective tissues, muscles, bones, teeth and hair, also control the metabolic process which is a key factor for the body.⁷

Mythologically *Gandhaka* originated from *Śivāṅgī Raja* (Ovum of Goddess Pārvatī). In rasa sastra, *Gandhaka* has been classified under *Uparasa varga* and has given prime importance because of its *rasāyana* properties and also for its *prativiśa* (antidote) property against *Aśuddha-Pārada*.⁸

Table 3: Pharmacological Properties of *Gandhaka*:

Properties	<i>Rasaratna sammuccaya</i> ⁹	<i>Āyurveda-Prakāśa</i> ¹⁰	<i>Rasataraṅgiṇī</i> ¹¹
Rasa	Madhura	Kaṭu, Tikta	Kaṭu
Vīrya	Uṣṇa	Uṣṇa	Uṣṇa
Vipāka	Kaṭu	Kaṭu	Kaṭu
Karma	Rasāyana, Dīpana	Pittakara, Rasāyana, Kaphavātahara	Rasāyana, Agni dīpaka
<i>Rogaghnatā</i>	Kaṇḍu, Kuṣṭa, Visarpahara, Ādhmāna, Kṛmirogahara	Kaṇḍu, Visarpa, Kṛmi, Kṛṣṭha and Plīhāroga nāśaka	Garaviśahara, Twagarogahara, Kāsaśwāsaharara

NIMBU (*Citrus limon* Linn.)

Citrus limon belongs to *Rutaceae* family, common name is lemon and this originated from South East Asia, probably in India or Southern China. Lemon is a pale yellow, elliptically shaped berry fruit.¹² The fruit is widely used in *Rasaśastra*, for *śodhana* and *jārana* of metals and minerals. This may be because of citrus yields more percentage of juice than other varieties even though having smallest diameter among the citrus fruits. The juice is more acidic in nature than other varieties.¹³ Citrus fruit in general contain sugar, polysaccharide, organic-acid, lipids, carotenoids, vitamins, minerals, flavonoids, bitter lemonoids and volatile compounds. Lemon is a good source of potassium, calcium & vitamin C.¹⁴

Table 4: Pharmacological properties of Nimbu:¹⁵

Rasa	Guna	Vīrya	Vipāka	Karma	Therapeutic indication
<i>Amla, Katu</i>	<i>Laghu, Tikshna</i>	<i>Uṣṇa</i>	<i>Amla</i>	<i>Vāta-Kapha hara, Dīpana, Pāchana, Chakśuśya</i>	<i>Agnimāndya, Gulma, Śūla, Amlapitta, Viśūci, Vātaroga</i>

DISCUSSION:

Poṅgārādi agada is not much practiced agada yoga. The action of the formulation can be explained as;

- According to the morphological conditions, *Dadru* can be correlated to cutaneous dermatophytoses. Dermatological manifestations of *Dadru* shows spreading nature and papules with bluish tint or copper colour.¹⁶
- *Tankana cūrna* is traditionally used as an anti-inflammatory agent in the form of dusting powder to treat ulcers, as it acts antiseptic and astringent. A study by BS Kumar et al showed that aqueous solution of *tankana cūrna* exhibits membrane stabilization effect by inhibiting hypotonic induced lysis of erythrocyte membrane, and also effective in inhibiting the heat induced hemolysis of erythrocyte membrane.

This provides evidence for membrane stabilization as well as anti-inflammatory effect.¹⁷ Boron also reduces levels of inflammatory biomarkers.¹⁸ Various research studies have proved antibacterial and antifungal action of borax and boric acid.¹⁹

- *Gandhaka* is extensively used by Ayurvedic practitioners for treating a wide range of skin disorders. Internally as well as externally, it has shown good prospective in controlling various *Kshudra Kushta*. It has been clearly indicated by *Acharya Charaka* (*Chikitsa Sthana*, Chapter 7/72) as a remedy for *Kushta*.²⁰ In *Suśruta Samhitā: Mahāvajraka-Taila* is given for all types of *Kuṣṭha*.²¹ In *Ashtanga Samgraha*, *Gandhaka* is used in *Mustādi-cūrṇa* for treating *Dadru*, *Kaṇḍu*, *Pāmā* and *Vicarcikā*.¹⁶ Internal as well as external use of *Gandhaka* has been prevalent since Vedic period. A study by Pramod Yadav et al showed that raw as well *Śodhita Gandhaka* has antibacterial and antifungal activity. Antifungal activity in raw *Gandhaka* is more as compared to *Śodhita* samples.²²
- Study by HA Shinde et al proved the anti-bacterial and antifungal activity of *gandhaka*.²³
- *Prativiśa* (antidote) - *Gokśīra* (cow milk) and *Goghṛta* (butter) acts as antidote in relieving symptoms of *Gandhaka* (sulphur) poisoning.⁸
- Citrus fruit products are known to potent antimicrobial agents like, bacteria, fungus.²⁴ The antimicrobial activity of plants had been received attention many years ago as one of the most effective mechanisms for the control of microorganisms.²⁵ Lime juice have been reported to exhibit antimicrobial activity against *Vibrio cholera*.²⁶ Pharmacologically, lemon is primarily important for its vitamin C & potassium content. A study done by Amit Pandey et al showed the antifungal activity of ethanolic and methanolic extract of lemon peels against *T. rubrum*.¹²

CONCLUSION:

Poṅgārādi agada is not a popular agada yoga even though it is directly indicated in *Dadru*. The yoga contains minimum number of ingredients and all the ingredients possess antimicrobial activities. It can be used in the conditions of cutaneous dermatophytoses.

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