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Review Article

LASUNADI AGADA IN *LOOTHA VISHA CHIKITSA* -A REVIEW ARTICLE

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ABSTRACT

Agadatantra had a golden time period in Kerala, and was known in the name of *Visha chikitsa*. There were excellent *Visha vaidhyas* who used to treat extreme venomous conditions and even predict the condition of patient just through the *Dootha lakshana*. As a part of these practices, there were numerous textbooks on *Visha chikitsa* with unique and exclusive Yogas. Some of the books got maintained, and many got ruined. Among those only few practices are still in use in the management if *Visha* and still many are untouched. *Prayoga samucchaya* is a well-known traditional *Keraleeya Visha chikitsa* textbook written by renowned King *Kochunni thamburan*, which explains the concepts of *Visha* and its detail management. *Lootha visha* is a most frequent and important clinical condition that which a physician encounters in their daily practice. It has got importance in all the time, as its manifestation is in such a way that improper handling of the case may worsen the presentation. There many *Agada yogas* mentioned in the management of *Lootha visha*. *Lasunadi Agada* is a simple yoga explained in *Prayoga samucchaya*, which contains only 6 drugs, explained in the context of *Lootha samanya chikitsa* as *Pana* and *Nasya*. Presently this yoga is practicing in the name of *Lasunadi gulika*. So this paper is an attempt to review on the formulation *Lasunadi Agada*.

INTRODUCTION

Agada tantra is the science that deals with the signs and symptoms and the management of all kinds of poisoning, various other poisons formed by the improper combination of substances or drugs and includes in detail explanation of mythology of origin of *Visha*, *Visha pareeksha*, various types of *Visha, guna* of *Visha, Visha vegas* and their management.[1] *Lootha visha* includes; *Lootha damsa*, its *Lakshana* and *Chikitsa*. The most peculiar feature of *Lootha visha* is its spreading nature to the places wherever the discharge comes in contact. And it is said to be difficult to manage by those who are not well-versed in it. Hence *Lootha visha chikitsa* had great importance in clinical field.

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There are various textbook on *Visha chikitsa* which explains *Lootha visha* and there are various yoga explained in the management of *Lootha visha*, *Lasunadi Agada* is one such *yoga* explained in the management of *Lootha* in *Prayoga Samucchaya*. In this article an attempt is done to review the ingredients, method of preparation and use of *Lasunadi Agada.*

Review of Literature

Name of the *Yoga*: *Lasunadi Agada*

Classical reference of this *yoga* is available in *Prayoga Samucchaya*; well-known *Keralaeeya Visha chikitsa* textbook, in *Ashtamaparicchedam*, in the chapter of *Lootha samanya Chikitsa*, written by renowned King *Kochunni thamburan*. The *yoga* contain only 6 drugs, they are; *Lasuna, Haridra, Vacha, Hingu, Shunti* and *Gomutra* and can be administered as *Pana* and *Nasya*. [2]

Table 1: Ingredients of *Lasunadi gulika* with Botanical name and Family

Drugs	Botanical Name	Family
Lasuna [3]	*Allium sativum* Linn.	Liliaceae
Haridra [4]	*Curcuma longa* Linn.	Zingiberaceae
Vacha [4]	*Acorus calamus* Linn.	Araceae
Hingu [4]	*Ferula foetida* Linn.	Apiaceae
Sunti [4]	*Zingiber officinale* Roscoe.	Zingiberaceae
Gomutra [3]	-	-

Table 2: *Rasapanchaka* of *Lasunadi Agada*

Drugs	*Rasa*	*Guna*	*Virya*	*Vipaka*	*Karma*
Lasuna [3]	*Katu pradhana amla varjita Sadrasa*	*Guru, Snigdha, Tikshna, Sara, Picchila*	*Ushna*	*Katu*	*Kaphavatasamaka, Sulahara, Sothaghna, Krimighna, Kaphanisaraka*
Haridra [4]	*Tikta, Katu*	*Ruksha, Laghu*	*Ushna*	*Katu*	*Kaphapitta samaka, Sothahara, Vranahara, Kandughna, Vishaghna, Krimighna, Kushtaghna*
Vacha [4]	*Tikta, Katu*	*Laghu, Tikshna*	*Ushna*	*Katu*	*Kaphavata samaka, Sulaghna, Krimighna, Bhutaghna*
Hingu [4]	*Tikta, Katu*	*Laghu, Tikshna*	*Ushna*	*Katu*	*Vatakaphasamaka, Krimighna, Sulahara*
Sunti [4]	*Katu*	*Tikshna, Ruksha*	*Ushna*	*Madhura*	*Vatakaphahara, Sulahara*
Gomutra [3]	*Katu, Tikta, Kashaya*	*Laghu, Tikshna, Kshara*	*Ushna*	*Katu*	*Kaphavatasamaka, Kushtaghna, Sothaghna*

Various studies on the pharmacological activities of the individual drugs supporting the action of *Lasunadi gulika;*

***Lasuna* [11]**

Anti-oxidant activity: In vivo study on the antioxidant effects of several organo sulfur compounds derived from *Allium sativum* have been conducted. In another study, two lipophilic organo sulfur compounds, diallyl sulfide and diallyl disulfide and two hydrophilic organo sulfur compounds, s-ethyl cysteine and nacetyl cysteine, have protective action against lipid related oxidations by activating associated antioxidant enzymes.

Anti-inflammatory activity: A study found that, several compounds isolated from *Allium sativum* (garlic) modulate leukocyte cell proliferation and cytokine production.

***Haridra* [12]**

Anti-inflammatory activity: A study on Curcumin has been shown that it inhibit a number of different molecules that involved in inflammation process including phospholipase, lipooxygenase, Cyclooxygenase-2, leukotrienes, thromboxane, prostaglandins, nitric oxide, collagenase, elastase, hyaluronidase, Monocyte chemoattractant protein-1, interferon-inducible protein, tumor necrosis factor, and interleukin-12. Studies has proven bisdemethyl curcumin is more potent as an anti-inflammatory agent as indicated by suppression of tumor necrosis factor induced Nuclear factor kappa B activation, more potent as an anti-proliferative agent, and more potent in inducing reactive oxygen species. The beneficial effect of curcumin (anti-inflammatory compound) in sepsis appears to be mediated by the up regulation of Peroxisome proliferator- activated receptor gamma, leading to the suppression of proinflammatory cytokine, Tumour necrosis factor α expression and release.

Anti-allergic activity: Curcumin suppressed compound 48/80-induced rat peritoneal mast cell degranulation and histamine release from rat peritoneal mast cells. Curcumin inhibited compound 48/80-induced systemic anaphylaxis in vitro and anti-Dinitrophenyl immunoglobulin E (IgE) mediated passive cutaneous anaphylactoid response in vivo. Curcumin also has an ability to inhibit nonspecific and specific mast cell-dependent allergic reactions.

***Vacha* [13]**

Ant-inflammatory and Immunomodulatory activity: The methanolic *Acorus calamus* rhizome extract (12.5µg/mL) prevented the Vascular Cell Adhesion Protein-1 and intercellular expression on the surface of mouse myeloid leukemia cells and murine endothelial cells, respectively. Aqueous *Acorus calamus*

leave extract was studied on human epidermal keratinocytes cells and restricted the characteristics of interleukin (IL)-8, IL-6 RNA protein levels alongside interferon regulatory factor 3 (IRF3) and Nuclear factor kappa B activation.

Anti-oxidant Activity: The in vitro study shows antioxidant activity of acetone, acetonitrile, alcoholic, and aqueous extracts of *Acorus calamus* rhizomes exhibited free radical scavenging activity on the [2, 20-azinobis (3-ethylbenzothiazoline- 6-sulphonic acid)] free radical scavenging activity assay. The existence of phenolics and flavonoids in *Acorus calamus* are believed to contribute to the promising antioxidant effect.

Hingu [14]

Anti-oxidant Activity: The study on the extracts of the Asafoetida plant showed antioxidant activity when tested against Sprague-Dawley rats. The extract was orally administered at the dosage of 1.25% and 2.5%. Results showed inhibition in lipid peroxidation as measured by thiobarbituric acid-reactive substances in the liver of rats.

Shunti [15]

Anti-oxidant Activity: The anti-oxidative properties of ginger and its components have been explored in various *in vitro* and *in vivo* studies. 6-Shogaol has exhibited the most potent antioxidant and anti-inflammatory properties in *Zingiber officinale*, which can be attributed to the presence of alpha, beta-unsaturated ketone moiety.

Anti-inflammatory Activity: Gingerol, shogaol, and other structurally-related substances in *Zingiber officinale* inhibit prostaglandin and leukotriene biosynthesis through suppression of 5-lipoxygenase or prostaglandin synthetase. Additionally, they can also inhibit synthesis of pro-inflammatory cytokines such as interleukin-1, Tumor Necrosis Factor -α, and interleukin-8. In another investigation, Pan *et al*. showed that in macrophages, shogaol can down-regulate inflammatory inducible Nitric Oxide Synthase and Cyclooxygenase -2 gene expression. Jung *et al*. indicated that rhizome hexane fraction extract of *Zingiber officinale* inhibited the excessive production of Nitric Oxide, Prostaglandin E (2), Tumor Necrosis Factor -alpha, and Interleukin-1beta. Because of potent compounds in ginger rhizome for inhibiting allergic reactions; it may be useful for the treatment and prevention of allergic diseases.

Gomutra [16]

As bioenhancer: A 'bioenhancer'/'biopotentiator' is an agent capable of enhancing the bioavailability and efficacy of a drug with which it is co-administered, without any pharmacological activity of its own at the therapeutic dose used. Cow's urine is the only agent of animal origin which acts as bioenhancer of antimicrobial, antifungal, and anticancer agents. The bioenhancing ability is by facilitating the absorption of drugs across the cell membrane. The cow's urine has been granted United States Patents for its medicinal properties, particularly as a bioenhancer along with antibiotics, antifungal and anticancer drugs.

Method of Preparation

Prayoga samucchaya clearly explains the method of preparation. *Lashuna, Haridra, Vach*a and *Hingu* should be taken in equal quantity, then add half the quantity of *Shunti* and do *bhavana* with *Gomutra*. This *yoga* can be used as *Pana* and *Nasya*. And in the *Phalasruthi*, *Acharya* have mentioned that, this *Yoga* cures *Lootha visha* immediately after its administration. [2] Presently this *yoga* is practicing in the name of *Lasunadi gulika* for the management of *Lootha visha* as well as for *Keeta visha*.

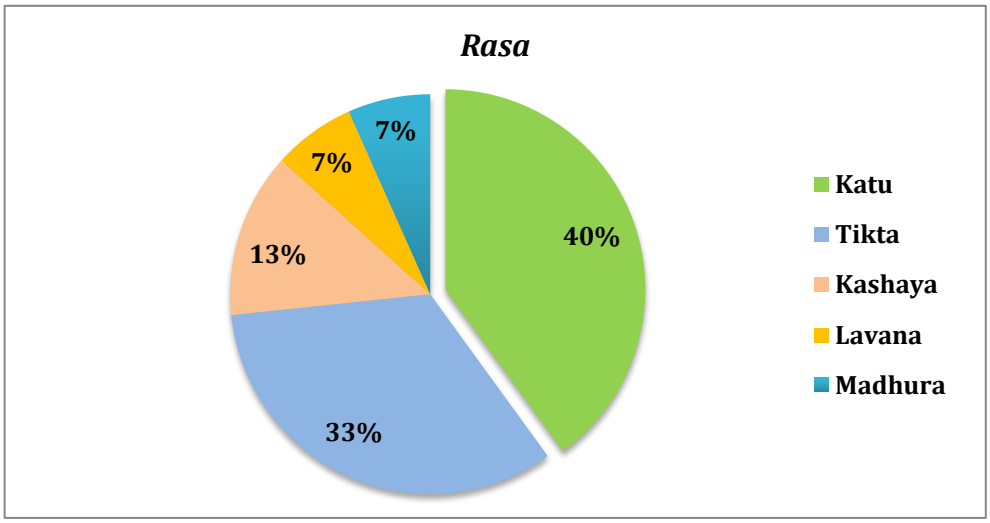

Diagram 1: Analysis of *Rasa* of ingredients of *Lasunadi Agada*

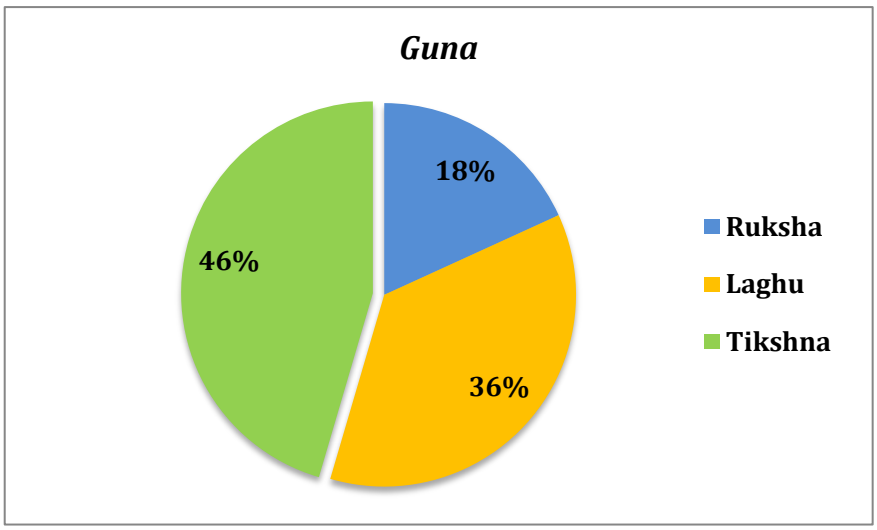

Diagram 2: Analysis of *Guna* of ingredients of *Lasunadi Agada*

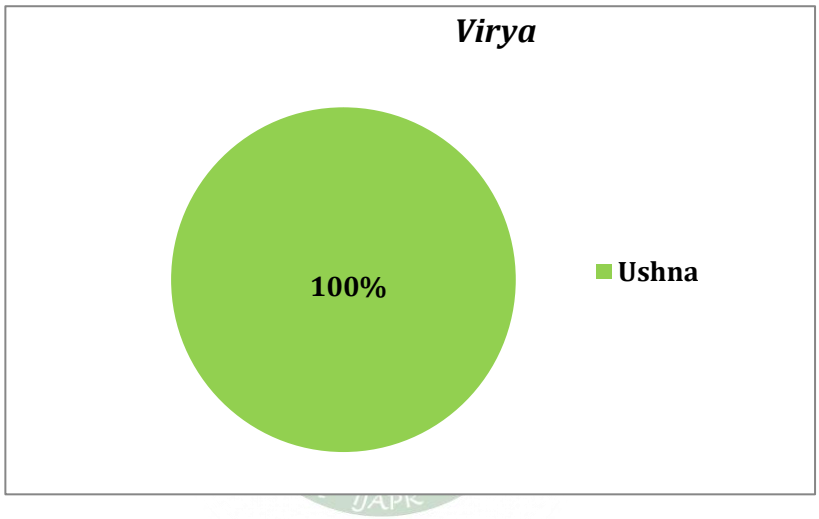

Diagram 3: Analysis of *Virya* of ingredients of *Lasunadi Agada*

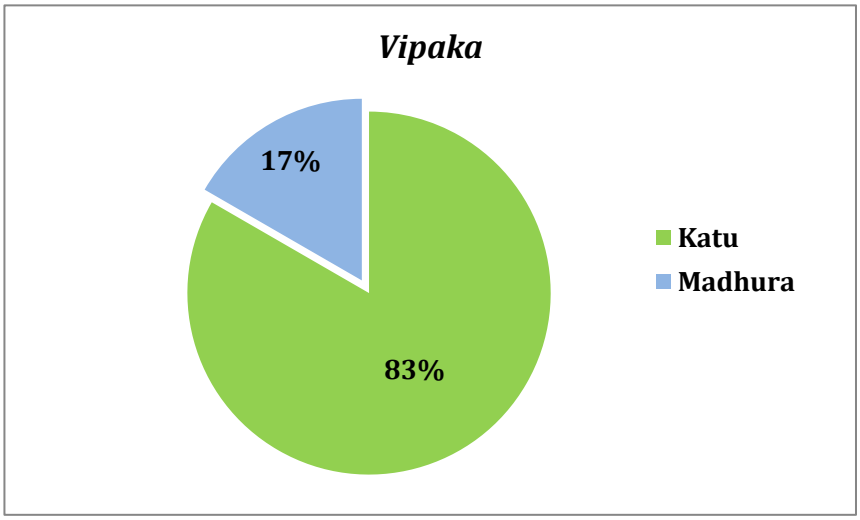

Diagram 4: Analysis of *Vipaka* of ingredients of *Lasunadi Agada*

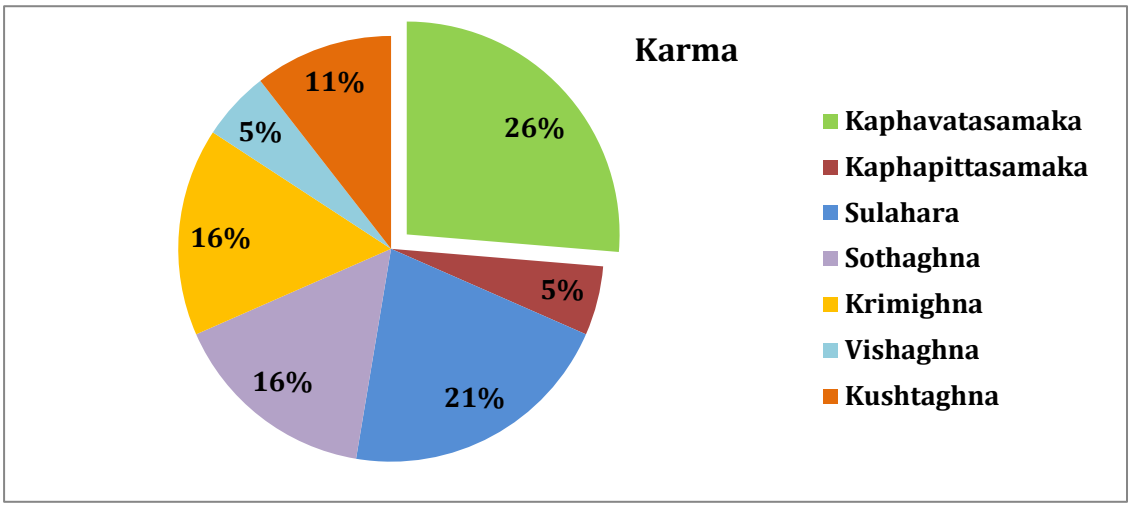

Diagram 5: Analysis of *Karma* of ingredients of *Lasunadi Agada*

DISCUSSION

On analyzing the *Rasa panchaka* of *Lasunadi Agada*; 40% of the drugs are *Katu rasa* and 33% are *Tikta rasa* and 13% *Kashaya rasa*, which help to pacify the *Kapha dosa* [5]. *Tikta rasa* and *Katu rasa* possess *Vishahara karma* as per *Charaka acharya* and *Madanapala Nighantu* respectively.[6-7] While considering *Guna*; 46% are *Tiksha guna* and 36% *Laghu guna*, both will reduce the *Kapha dosa* as these *Gunas* are opposite to *Kapha dosa*.[8] As well as will facilitates the deeper penetration of the drug to perform immediate curative action as mentioned in its *Phalasruthi*. All of the drugs possess *Ushna virya* i.e., 100% *Ushna virya* serving *Kaphavatahara* property of the *Yoga*. [9] 83% of the drugs are *Katu vipaka*, there by leading to *Kaphadosahara*. [10] While considering the *Karma* of the *yoga*; 26% is *Kaphavatahara* and the *yoga* possess other properties such as; *Sulahara* (21%), *Sothaghna* (16%), *Krimighna* (16%), *Kushtaghna*, *Vishaghna* etc. may help to reduce the pain, oedema etc. cuased by *Lootha visha*. *Tiksha*, *Laghu guna* and *Ushna virya* may provide better action of this *yoga* as *Nasya*. *Kaphadosahara* property of this *yoga* may facilitate in the management of *Lootha visha* of *Kapha* predominance or *Kapha* involvement. It may also help to manage the conditions such as *Kleda*, *Srava* etc. and even can be used in the management of various *Keeta visha* according to the condition.

CONCLUSION

Lootha damsa is a very frequent and pivotal presentation in *Agadatantra* clinical practice. Identification and treatment of *Lootha visha* is an important task as improper handling of the cases may worsen the condition. *Lasunadi Agada* is explained in *Prayoga samucchaya;* well-known *Keraleeya visha Chikitsa* textbook, in *Ashtamaparicchedam*, in the chapter of *Lootha samanya Chikitsa*. The *yoga* contain only 6 ingredient, that too easily available and can be prepared out with simple *Bhavana* procedure, this makes the *Yoga* more cost effective and less time consuming. And the *Kaphahara* property of this *yoga* may help to manage *Lootha visha* of *Kapha* predominance and even various *Keeta visha* with *Kapha* involvement. And the yoga is directly indicated to administer as *Nasya;* point out its action in deeper level. And presently this *yoga* is used in the name of *Lasunadi gulika*. As such there is no research uptakes on *Lasunadi Agada*. Further studies should be carried out on this *Yoga* to know its applicability.

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