



REVIEW ARTICLE

EFFECT OF LODRASEETHADI AGADA IN MANDALIVISHA WITH SPECIAL REFERENCE TO PITVIPER ENVENOMATION –A REVIEW

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Abstract

Kerala has a proven unique background in the field of toxicology (*visha chikitsa*). Classical text book of *Keraleeyavishachikitsa* describes many *yogas* which contain herbal and herbo-mineral drugs for the treatment of *visha* as well as its complications. These formulations are now being underrated and are discarded from the first line of management. Pit vipers are included in the crotalinae subfamily of viperidae are identified as one of the common source of envenomation in Kerala, second only to Russell's viper. The currently available poly valent anti snake venom has no role in reducing its toxicity. Moreover, the treatment protocol adopted for its management are not ideal. Only symptomatic treatment is recommended in modern system of medicine. Hence there is a need to search for an effective remedy from the traditional text book. *Lodraseethadi Agada yoga* mentioned in *Visha vaidya jyotsnika, Mandali Visha Chikitsa* consists of 9 ingredients. The ingredients are analyzed based on *Rasapanchaka* to find out the effectiveness of the formulation in the management of *mandali visha* with special reference to pit viper envenomation.

Introduction

Kerala's background in the field of toxicology is unparalleled and has proven to be unique. The climatic conditions of this land are particularly favourable for the growth and survival of many species, especially snakes. The lush vegetation and abundant prey provide a perfect environment for these reptiles to thrive and hence called as land of snakes-*Sahyadri* or *Ahibhoomi*. The rich legacy of Ayurveda in Kerala owes much to the ancient *vishavaidyas* who once pinnacled its glory. Their knowledge and expertise in this traditional form of medicine are now being neglected and forgotten. The classical text books of *keraleeyavishachikitsa* have many formulations with herbal and herbo-mineral drugs for poisoning, but these are no longer commonly used in first line management. Majority of the snake bites constitutes viperine bite which can be symptomatically correlated to *mandali sarpa damsas* as per Ayurveda. Viperidae family consists of both pit and pit less vipers. Pit vipers including hump nosed pit viper and Malabar pit viper are emerging as a medically important species in Kerala. In the year 2007, as per a study conducted at Little flower hospital and research center Angamali, it was identified as common and dangerous source of envenomation in which

massive morbidity was seen among plantation workers and more number of cases from northern part of Kerala [1]. Pit vipers are not included in the “Big four” snakes and currently available polyvalent anti snake venom is ineffective in case of pit viper envenomation. Only symptomatic treatment is recommended in the modern system of medicine. This article is an attempt to review the effect of *Lodraseethadi Agada* described in *Visha vaidya jyotsnika*, based on the analysis of *rasapanchaka* for the management of *mandali visha* with special reference to pit viper envenomation.

AIMS AND OBJECTIVES

This is an attempt to make review of formulation “*Lodraseethadi Agada*” based on *rasa panchaka* in the management of *mandali visha* with special reference to pit viper envenomation.

MATERIALS AND METHODS

Review of literature [2]

Name formulation: *Lodraseethadi Agada*

The reference of formulation can be found in the chapter 6- *Mandali visha chikitsa* in *Visha vaidya jyotsnika*. A Total of 9 Ingredients are mentioned in the formulation. The mode of administration is *Paana* (Internal administration)[3].

Table 1: Name of ingredients of *Lodraseethadi Agada*.

Drugs	Botanical names	Family	Parts used
Lodra	<i>Symplocos racemosa Roxb.</i>	Symplocaceae	Stem bark
Chandhana	<i>Santalum album Linn.</i>	Santalaceae	Heart wood
Haridra	<i>Curcuma longa Linn.</i>	Zingiberaceae	Rhizome
Daruharidra	<i>Berberis aristata DC</i>	Berberidaceae	Root, stem
Sarala	<i>Pinus longifolia Roxb.</i>	Pinaceae	Stem, bark, stem
Arka	<i>Calotropis gigantean Linn.</i>	Asclepiadaceae	Root
vilwa	<i>Aegel marmalos</i>	Rutaceae	Root
Manjista	<i>Rubia cordifolia</i>	Rubiaceae	Root
padalimoola	<i>Stereospermum sauveolens</i>	Bignonaceae	Root

Method of preparation:

Visha vaidya jyotsnika has not mentioned any method of preparation. As per traditional kashaya preparation method that mentioned in *Sarangadara samhitha* can be adopted here, [25]. In which each drug in *Lodraseethadi Agada* taken in equal quantity (1 pala =48 gms) and boiled in 16 times (768 ml)of water and reduced to its 1/8th quantity (96ml) then the divided dose of 48 ml taken twice daily in empty stomach.

Table 2: Properties of Ingredients of *Lodraseethadi Agada*.

Drug	Rasa	Guna	Veerya	Vipaka	Karma
Lodra [4-6]	Kashaya Tikta	Laghu Rooksha	Sheeta	Katu	kaphapittahara
Chandhana [7-9]	Tikta Madura	Laghu Rooksha	Sheeta	Katu	kaphapittahara
Haridra [10-12]	Tikta Katu	Rooksha Laghu	Ushna	Katu	Kaphavat ahara
Daruharidra [13,14]	Tikta Kashaya	Rooksha	Ushna	Katu	Kapha pittahara
Sarala [15]	Katu Tikta Madura	Laghu Rooksha Snigda	Ushna	Katu	Kapha vata hara
Arka [16,17]	Katu Tikta	Laghu Teekshna Rooksha	Ushna	Katu	Vatahara
Vilwa [18-20]	Maduram	Laghu Rooksha	Ushna	Katu	Tridoshagna
Manjista [21,22]	Madhura Tikta	Guru Rooksha	Ushna	Katu	Kapha pittahara
Padalimoola [23,24]	Tikta Kashaya	Laghu Ushna	Anushna	Katu	Tridoshah ara

Analysis

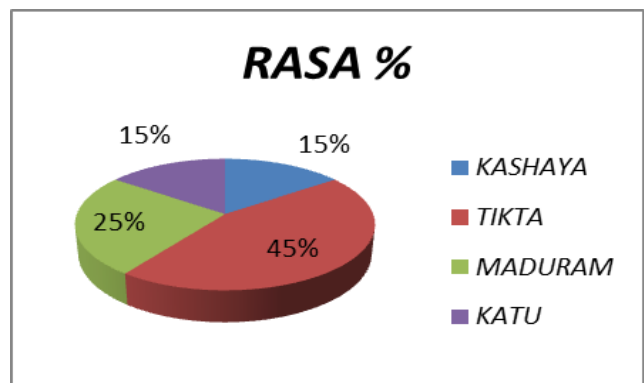


Diagram 1: Analysis of *Rasa* (Taste) of ingredients of *Lodraseethadi Agada*

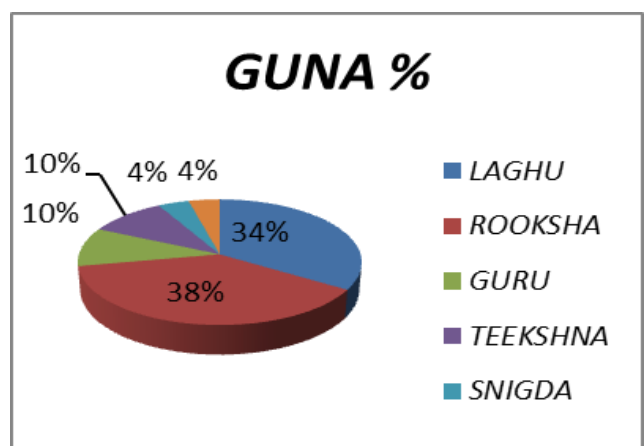


Diagram 2: Analysis of *Guna* (properties) of ingredients of *Lodraseethadi Agada*

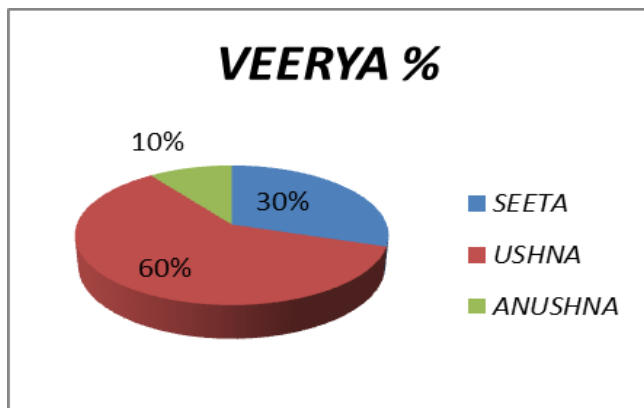


Diagram 3: Analysis of Veerya (potency) of ingredients of *Lodraseethadi Agada*

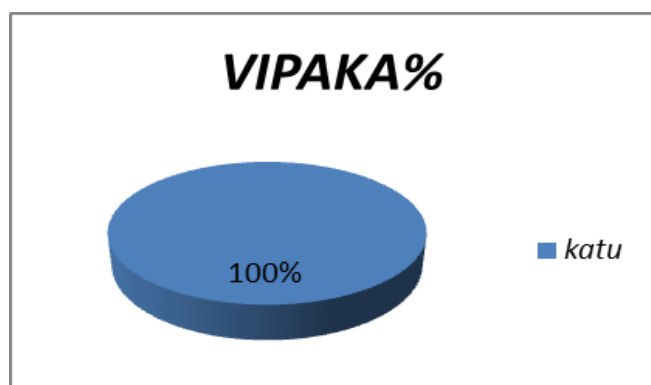


Diagram 4: Analysis of vipaka of ingredients of *Lodraseetadi Agada*

Results and Discussion

Lodraseetadi agada is an effective formulation practiced by many *visha vaidyas* for the management of pit viper envenomation. It is characterized by four cardinal symptoms; i.e., rapid and profuse development of edema as said in the 2nd *vega* of *mandali damsra*, burning sensation, intense pain, and erythema on bite site,^[26,27]. *Mandali* being pitta predominant snake and symptoms of envenomation is due to *pitta vikrithi* and *rakta dusti*, as *rakta* is the *asraya dhatu* of *pitta*. In *Susrutha samhita pitta vedana* is told as a symptom of *mandali damsra*^[28] commenting on this dalhana says that '*pittavedana oshachoshadaya*,^[29] that means it is characterized by burning sensation and different type of pain. *Lodraseethadi agada* contain a total of 9 ingredients, in which 45 % are *thikta rasa* and 25% are *Madura rasa*. *Thikta rasa* is *pithakapha upasoshanam*, *dahaharam* and *vishahara* in nature, which help to reduce edema and burning sensation. *Madura rasa* having *vatapithahara* properties and helps to reduce pain after bite^[30]. 38% of drugs having *rookshaguna* and 34% having *laghuguna* which results in *kaphasoshana* and facilitate entry of medicine to *sookshma srotas*(capillaries) easily. 60% of drugs are *ushna veerya* and only 30% has *seetaveerya* and all the drugs possess *katu vipaka*. These will indicate the *deepana pachana* property of drugs in the formulation helps in the breakdown and elimination of toxic metabolites produced by the action of venom.

Conclusion

Snake bite management is a time limiting medical emergency which needs proper diagnosis and immediate intervention. *Lodraseethadi agada* is found very effective *yoga* for the management of pit viper envenomation based on *rasapanchaka* analysis. This *yoga* is mentioned in *visha vaidya jyotsnika* for the management of *mandali visha*. All ingredients are easily available and very effective and easy for preparation and administration. Further clinical research should be carried out for the better understanding of its efficacy.

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