



## Review Article

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**A COMPREHENSIVE REVIEW OF LODRYADHYA AGADA: AN AGADA FORMULATION**Shreeraksha N <sup>1\*</sup>, Amala U Kumar <sup>1</sup>, Ashwinikumar S Bharati <sup>2</sup>, Gazala Hussain <sup>3</sup><sup>1</sup> PG Scholar, Department of Agada Tantra avum Vidhi Vaidyak, Sri Dharmasthala Manjunatheswara College of Ayurveda & Hospital, Hassan, Karnataka, India<sup>2</sup> Professor, Department of Agada Tantra avum Vidhi Vaidyak, Sri Dharmasthala Manjunatheswara College of Ayurveda & Hospital, Hassan, Karnataka, India<sup>3</sup> Associate Professor, Department of Rasashastra & Bhaishajya Kalpana, Sri Dharmasthala Manjunatheswara College of Ayurveda & Hospital, Hassan, Karnataka, India

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**ABSTRACT**

Agada tantra is considered as one of the most ancient branches of Ayurveda. It is a clinical branch that deals with bites of snakes, insects, spiders, scorpions, rats, etc., their characteristic symptoms, and the signs and symptoms of accidental or purposeful ingestion of poisons. In the management of poison, various treatment procedures have been described; one among them is the use of agada formulations. Various formulations are described, which are made up of herbal, animal origin and Herbo-mineral origin. One among them is Lodryadhya agada (Herbo-mineral), which is mentioned in the treatment of sarpa visha (snake poison). It is a formulation of twenty-three drugs, and bhavana dravya are Gritha kumari, ksoudra and Gopitta (cow's bile). This agada destroys the poison of snakes, rats etc. and cures possession by evil spirits, fevers, epilepsy, insanity due to seizures by evil spirits, abdominal tumours, indigestion and visuchika.

**Keywords:** Agada Tantra, Lodryadhya agada, Sarpa, Visha.**INTRODUCTION**

Since the origin of humankind, man has feared reptiles, especially snakes; those have always been more dreadful than even the fear of death. Man is physically and mentally vulnerable to the severe toxic effects of non-living and living beings. This being the state of affairs, the current psychosocial conditions elevate the relevance of Agada tantra, an essential branch of Ayurveda, in both prophylactic and therapeutic measures<sup>1</sup>. Poison is any substance taken into or formed in the body that destroys life or

impairs health. *Agada* is derived as 'A' means 'no/prevention', and 'Gada' means 'disease'; thus, Agada means that which prevents the disease<sup>2</sup>.

Agada or Aushadha prayoga is one of the treatment modalities mentioned among Chaturvimshati upakrama<sup>3</sup>. Acharya Vagbhata explained that many agada yogas are used to remove or alleviate visha from the body. One among them is Lodryadhya agada. It contains twenty-two ingredients of plant, mineral and animal origin<sup>4</sup>.

**Table 1: Ingredients with properties and action of Lodryadhya agada**

Drugs	Rasa (Taste)	Guna (property)	Veerya (potency)	Vipaka (Metabolic property)	Doshagnata (Action on Dosh)	Karma (Action)
Lodra <sup>5</sup> ( <i>Symplocos racemosa</i> Roxb.)	Kashaya Tikta	Laghu Ruksha	Sheeta	Katu	Kapha-pittahara	Chakshushya (Improves eyesight)
Shirisha <sup>6</sup> ( <i>Albizia lebeck</i> )	Kashaya Tikta Madhura	Laghu Ruksha Teekshna	Anushna	Katu	Tridoshahara	Vishaghna (Anti-poisonous) Varnya (Enhance skin complexion) Vrinaropana (Ulcer-healing) Vedanasthapana (Analgesics) Shothahara (Anti-inflammatory)
Samanga <sup>7</sup> ( <i>Manjishta</i> ) ( <i>Rubia cordifolia</i> )	Madhura Tikta	Guru Ruksha	Ushna	Katu	Kapha-pittahara	Varnya (Enhance skin complexion) Vishaghna (Anti-poisonous)
Hingu <sup>8</sup> ( <i>Ferula narthex</i> )	Katu	Laghu Snigdha Teekshna	Ushna	Katu	Kapha-vatahara	Hridya (Cardio protective) Shoolahara (Reduces pain)
Renuka <sup>9</sup> ( <i>Neela nirgundi</i> ) ( <i>Vitex agnus-castus</i> )	Katu Tikta	Laghu	Anushna	Katu	Kapha-vatahara	Deepani (Gastro-stimulant) Pachani (Digestive) Medhya (Enhances memory power)

Kana <sup>10</sup> (Pippali) ( <i>Piper longum</i> )	Katu	Laghu Snigdha Teekshna	Ushna	Madhura	Vata- shleshmahara	Deepana (Gastro-stimulant) Vrushya (Aphrodisiac) Rasayana (Rejuvenation of body)
Ushana <sup>11</sup> (Maricha) ( <i>Piper nigrum</i> )	Katu	Laghu Ruksha	Ushna	Katu	Kapha-vatahara	Deepana (Gastro-stimulant) Pachana (Digestive)
Ela <sup>12</sup> ( <i>Elettaria cardamomum</i> )	Katu Madhura	Laghu Ruksha	Sheeta	Katu	Kapha-vatahara	Deepana (Gastro-stimulant) Rochana (Enhances taste) Hridya (Cardio protective)
Nepali <sup>13</sup> (manasheela) ( <i>Arsenic disulphide</i> )	Katu Tikta	Guru Snigdha Ushna	Ushna	Katu	Kapha-vatahara	Vishanashaka (Anti-poisonous) Lekhniya (Aids in reducing corpulency) Varnya (Enhance skin complexion)
Vacha <sup>14</sup> ( <i>Acorus calamus</i> )	Katu Tikta	Laghu Teekshna	Ushna	Katu	Kapha-vatahara	Lekhaneeya (Aids in reducing corpulency) Medhya (Enhances memory power)
Yashtimadhu <sup>15</sup> ( <i>Glycyrrhiza glabra</i> )	Madhura	Guru Snigdha	Sheeta	Madhura	Tridosahara	Rasayana (Rejuvenation of body) Vrushya (Aphrodisiac) Chakshushya (Improves eyesight)
Utpala <sup>16</sup> ( <i>Nymphaea stellata</i> )	Madhura Kashaya Tikta	Laghu Snigdha Pichila	Sheeta	Madhura	Kapha-pittahara	Varnya (Enhance skin complexion) Vishaghna (Anti-poisonous) Visarpanashaka (Anti-herpetic) Jwaraghna (Anti-pyretic)
Sindhuvara <sup>17</sup> (Shwetha Nirgundi) ( <i>Symphorema polyandrum</i> )	Tikta Katu Kashaya	Laghu Ruksha	Ushna	Katu	Kapha-vatahara	Vishaghna (Anti-poisonous) Krimighna (Antimicrobial) Shoolaghna (Reduces pain) Vedanasthapana (Analgesic)
Mandara mula <sup>18</sup> (Paribhadra) ( <i>Erythrina variegata</i> )	Katu Tikta	Laghu	Ushna	Katu	Kapha-vatahara	Krimighna (Antimicrobial) Deepana (Gastro-stimulant)
Karanja <sup>19</sup> ( <i>Pongamia pinnata</i> )	Tikta Katu Kashaya	Laghu Teekshna	Ushna	Katu	Kapha-vatahara	Shothahara (Anti-inflammatory)
Jyothishmathi <sup>20</sup> ( <i>Celastrus paniculatus</i> )	Katu Tikta	Teekshna	Ushna	Katu	Kapha-vatahara	Deepana (Gastro-stimulant) Medhya (Enhances memory power) Rasayana (Rejuvenation of body)
Nata <sup>21</sup> (Tagara) ( <i>Valeriana wallichii</i> )	Tikta Katu Kashaya	Laghu Snigdha	Ushna	Katu	Kapha-vatahara	Vishaghna (Anti-poisonous)
Kushtha <sup>22</sup> ( <i>Saussurea lappa</i> )	Tikta Katu Madhura	Laghu Ruksha Teekshna	Ushna	Katu	Vata-kaphahara	Lekhaneeya (Aids in reducing corpulency) Vrushya (Aphrodisiac)
Shwetha girikarnika <sup>23</sup> ( <i>Clitoria ternatea</i> )	Katu Tikta Kashaya	Laghu Ruksha	Sheeta	Katu	Tridosahara	Vishaghna (Anti-poisonous) Medhya (Enhances memory power)
Gritha Kumari <sup>24</sup> ( <i>Aloe Barbadensis</i> )	Tikta	Guru Snigdha Pichila	Sheeta	Katu	Tridosahara	Vishapranuth Destroys the poison) Rasayana (Rejuvenation of body)
Kshoudra <sup>25</sup> (Honey)	Madhura Kashaya	Laghu Vishada Ruksha	Ushna	Madhura	Kapha-pittahara	Vishaprasamana (Natural detox agent) Prasadana (Improves skin qualities) Sandhana (Heals wound quickly)
Gopitta <sup>26</sup> (Ox bile)	Tikta	-	Ushna	-	Vata-kaphahara	Vishahara (Anti-poisonous)

### Method of preparation

All drugs are to be taken in equal quantity, powdered separately and sieved through cloth to get fine powder of all drugs. Then Gritha Kumari swarasa, Kshoudra and Gopitta are added and mixed properly to get samyak bhavitha lakshana semi-solid consistency. Then they are made into Varti form, preserved well in an air-tight container, and used for both internal and external applications.<sup>4</sup>

### Indications

This agada destroys the poison of snakes, rats, wasps, jackals, cats and pythons. And cures possession by evil spirits, fevers,

epilepsy, insanity due to seizures by evil spirits, abdominal tumours, indigestion and visuchika. Hence, indicated in both somatic and psychological diseases.<sup>4</sup>

### DISCUSSION

**Lodra:** The best organic extractant and significant groups of phytoconstituents were tested for their antimicrobial activity against reference microbial strains and drug-resistant clinical isolates and suggested *Symplocos racemosa* bark could act as a potential source of antimicrobial as well as antiproliferative metabolites.<sup>27</sup>

**Shirisha:** The extract of the bark of *Albizia lebbek* Benth. obtained by cold extraction of a mixture of equal proportions of petroleum ether, ethyl acetate and methanol were chosen for pharmacological screening. *Albizia lebbek* Benth. possesses significant analgesic and anti-inflammatory activity.<sup>28</sup>

**Manjishta:** *Rubia cordifolia* root methanol extract showed antibacterial activity against two Gram-positive bacteria, which showed resistance to all antibiotics used in agar well diffusion method using the pour plate technique.<sup>29</sup>

**Hingu:** Antibacterial activity was carried out against *Bacillus subtilis*, *Staphylococcus aureus*, *Klebsiella pneumoniae*, and *Escherichia coli* and the antifungal activity was evaluated against *Aspergillus niger* and *Candida albicans* done by well diffusion method. The results showed that ethyl acetate, ethanol, and methanol extract have significant antimicrobial activity.<sup>30</sup>

**Harenu:** The antibacterial activity of the fresh and aqueous extracts of leaves of *Vitex negundo* was tested against three types of bacteria Viz., *Staphylococcus aureus*, *Escherichia coli* and *Klebsiella Pneumoniae* were found to have antibacterial activity against the three bacteria.<sup>31</sup>

**Pippali:** *In vitro*, antioxidant studies were carried out for the *Piper longum* proteins using the superoxide radical scavenging method and anti-inflammatory studies were performed using membrane stabilization assay for *Piper longum* proteins possessing significant antioxidant and anti-inflammatory activity, and it may be due to the presence of proteins.<sup>32</sup>

**Maricha:** The study explored the antimicrobial activity of black pepper chloroform extract (BPCE) against *Escherichia coli* and *Staphylococcus aureus*. BPCE inhibited the tricarboxylic acid pathway of the bacteria. Thus, it possesses antibacterial activity.<sup>33</sup>

**Ela:** Diethyl ether extract of cardamom seed was tested on *Pseudomonas aeruginosa*, *Mycobacterium smegmatis*, *Klebsiella pneumoniae*, *Staphylococcus aureus*, *Escherichia coli*, *Salmonella typhimurium*, *Enterococcus faecalis*, *Micrococcus luteus* and *Candida albicans* by the paper disc agar diffusion method and displayed a variable degree of antimicrobial activity.<sup>34</sup>

**Manashila:** The infection model *in vivo* was established by using *Enterococcus faecalis* to attack *Caenorhabditis elegans*, and then realgar was used to treat the infected worms to investigate its effects on infectivity and the underlying mechanism. Realgar increased defences against *E. faecalis* in *C. elegans* by inducing immune and protective responses.<sup>35</sup>

**Vacha:** The ethanolic extract of the *Acorus calamus* exhibited antimicrobial activity moderately on *Pseudomonas sp.*, *Staphylococcus aureus*, and *Aspergillus flavus*. Both the antibacterial and antifungal activity was demonstrated by the well diffusion method.<sup>36</sup>

**Yastimadhu**<sup>38</sup>: The ethanolic root extract of *Glycyrrhiza glabra* was screened against *Streptococcus mutans*, *Streptococcus sanguis*, *Streptococcus salivarius*, *Streptococcus mitis*, and *Lactobacillus acidophilus*. The antibacterial activity of the ethanolic extract was found to be effective against various microorganisms.<sup>37</sup>

**Utpala:** The antimicrobial activity of the extract at five different concentrations was tested through HPTLC analysis and found a

potential source of a natural antimicrobial agent that supports the traditional use of the plant in the treatment of infections.<sup>38</sup>

**Sindhuvara:** Analgesic activity was evaluated in formalin-induced paw licking and tail flick methods, and inflammatory activity was evaluated in Carrageenan-induced paw oedema, Cotton Pellet Induced Granuloma Formation. And shows that the stem part of *Symphorema polyandrum* (Wight). has significant anti-inflammatory and analgesic activities, while the root has mild anti-inflammatory and analgesic activities.<sup>39</sup>

**Paribhadra:** The antibacterial activity of crude extract from the leaves of *E. variegates* evaluated by the zone of inhibition and possesses significant antibacterial activity against Gram-positive and Gram-negative bacterial pathogens.<sup>40</sup>

**Karanja:** The chloroform, ethyl acetate and methanol extracts displayed significantly higher antibacterial activity than streptomycin. And suggest that *P. pinnata* may have potential use in the food industry as an antimicrobial agent and pharmaceutical interest.<sup>41</sup>

**Jyothishmati:** Alcoholic extract of powdered seeds was prepared, and Anti-inflammatory activity was evaluated in a carrageenan-induced acute plantar inflammation model in Wistar rats. *Celastrus paniculatus* seeds have significant anti-inflammatory activity.<sup>42</sup>

**Tagara:** The aqueous and methanolic rhizomes extracts were assessed for Anti-inflammatory activity in rats and exhibited significant anti-inflammatory effects. *Valeriana wallichii* showed anti-inflammatory properties similar to those observed for non-steroidal anti-inflammatory drugs, such as aspirin.<sup>43</sup>

**Kushta:** The plant extracts of *Saussurea lappa* have a more robust and broader spectrum of antimicrobial activity against several foods-borne bacteria, and the extracts may be used to discover bioactive natural products that may serve as a basic source for the development of new antimicrobial compounds.<sup>44</sup>

**Shwetha girikarnika:** The effects on wound healing were investigated using excision, incision and dead-space models in rats. Seed and root extracts significantly improved wound healing properties when administered orally by gavages and applied topically as an ointment comparable to cotrimoxazole ointment.<sup>45</sup>

**Kshoudra:** The antimicrobial agents in honey are predominantly hydrogen peroxide, of which the concentration is determined by relative levels of glucose oxidase, synthesized by the bee and catalase originating from flower pollen. The topical antimicrobial agent against the infection of antibiotic-resistant bacteria and in treating chronic wound infections that do not respond to antibiotic therapy.<sup>46</sup>

**Gritha Kumari swarasa:** *Aloe vera* has potent antibacterial, antifungal, and antiviral properties. The antimicrobial effects of *Aloe vera* have been attributed to the plant's natural anthraquinones, which have demonstrated *in vitro* inhibition of *Mycobacterium tuberculosis* and *Bacillus subtilis*.<sup>47</sup>

**Gopitta:** By culturing technique, it is found that the minimum inhibitory concentrations (MIC) of ox bile to microorganisms were estimated and were smaller than those determined for bile salts in the same species estimated by other investigators. The graded MIC values are highly suggestive of a bactericidal activity.<sup>26</sup>

Based on the research conducted on the individual drugs, we can understand that different activities like antibacterial, anti-inflammatory, analgesic and wound healing properties etc., have been proven. Hence, this formulation works better in conditions caused by the poisonous effects of snakes, rats, wasps, jackals, cats and pythons. And cures possession by evil spirits, fevers, epilepsy, insanity due to seizures by evil spirits, abdominal tumours, indigestion and *visuchika*.

## CONCLUSION

Lodryadi agada is herbo-mineral preparation which is mentioned under sarpavisha pratisheda. It is indicated in somatic disorders caused by the bite of animal poisoning and psychiatric disorders. Aushadha prayoga is mentioned among the Chaturvimshti upakrama, which is indicated to remove *visha* from the body or alleviate the further spreading of poison. Further scope of this study is as there is less availability of *Agada yoga* in the market, there is necessary to bring *agada* formulations into daily practice to cure both poisoning and other psycho-somatic disorder. As the practice of *Agada tantra* does not mean the treatment of snake poison alone, there is still ample scope for this branch of Ayurveda and its practice with various skin diseases, allergic manifestations and manifold psychological problems caused by food, drug and pollution under inanimate poisons and artificial poisons and treat them accordingly. It has been stated that every material in the universe becomes toxic when used indiscriminately.

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