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CASE STUDY

Rajanyadi Lepa in *Lootha Visha* - A Review

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ABSTRACT

The *Visha Chikitsa* has been given prime importance and explained by all *Acharayas*. There are various *Agada* formulations explained in *Visha chikitsa* by many *Acharyas.* Among them some are under clinical practice and some are unexplored due to lack of research works. One such formulation *Rajanyadi Lepa* explained in *Yogaratnakara Vishadhikara* 73rd chapter in the context of *Lootha Visha Chikitsa*. It comprises of 5 ingredients and administered as *External application. Lepa* is extensively used by *Visha Vaidya* as a mode of treatment even i in this present era. This paper is an attempt to make a review on the formulation *Rajanyadi Lepa*.

Key Words *Visha Chikitsa, Lootha Visha, Rajanyadi lepa*

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INTRODUCTION

Agada tantra is branch of *Ayurveda*, which deals with *Visha Chikitsa*. *Visha* has been classified into *Stavara, Jangama, Kritrima, Akritrima* etc. Manifestation of these poisoning is seen on human body as systemic and local symptoms. *Lootha Visha* is one of the *Jangama Visha*, which give rise to local symptoms and worsens day by day. Hence meticulous management is needed by *Vaidya* well versed in it. *Antahaparimarjan* & *Bahiparimarjana* are two types of *Chikitisa* i.e., mode of treatment. *Abhyanga, Swedana, Parisheka, Unmardana* are included in *Bahirparimarjan Chikitsa. Lepa* treatment is one of the important *Bahiparimarjana Chikitsa*[1]**.** That which nullifies the poisonous effect is called *Vishaghna Lepa*, and *Lepa is* one among *Chaturvimshati Upakrama* according to *Charaka*[2], *Sushruta*[3] and *Vagbhat*[4] also had given prime importance. It is extensively used by *Visha Vaidya* even in this present era.

The references related to *Lootha Visha* are available in *Brihatrayees, Laghutrayees* and *Kerliya Visha Chikitsa* text books. One such formulation *Rajanyadi Lepa* explained in *Yogaratnakara Vishaadhikara* in *Lootha Visha Chikitsa*. In this article an attempt is done to review the ingredients, method of preparation, feasible mode of action and utility of *Rajanyadi Lepa.*

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Table 1 Ingredients of *Rajanyadi Lepa* with Botanical name and Family

Drugs	Botanical name	Family
Haridra	Curcuma longa	Zingiberaceae
Daruharidra	Berberis aristata	Berberidaceae
Manjistha	Rubia cordifolia	Rubiaceae
Patanga	Caesalpinia sappan	Fabaceae
Nagakeshara	Mesua Ferrea	Mesua Ferrea

REVIEW OF LITERATURE

Name of the formulation – *Rajanyadi Lepa*[5]

The reference of this formulation is mentioned *in Yogaratnakara Vishaadhikara* 73rd chapter in *Lootha Visha Chikitsa.* It comprises of 5 ingredients such as *Haridra, Daruharidra, Manjistha, Patanga and Nagakeshara*. Mode of administration as *Lepa.*

Table 2 *Rasapanchaka* of *Rajanyadi Lepa*

Drugs	*Rasa*	*Guna*	*Virya*	*Vipaka*	*Karma*
Haridra[6]	*Tikta Katu*	*Ruksha laghu*	*Ushna*	*Katu*	*Kaphavatahara Twakdoshagna, Raktadoshahara, Vranaropaka, Vishagna*
Daruharidra[7]	*Tikta, Kashaya*	*Laghu, Ruksha*	*Ushna*	*Katu*	*Kaphapittahara, Shothahara, Vedanasthapana, Vranashodhana, Vranaropana, Raktashodhaka, Twakdoshahara, Rasayana*
Manjistha[8]	*Kashaya, Tikta, Madhura*	*Guru*	*Ushna*	*Katu*	*Kaphapittahara, Vishagna,Varnya, Shothagna, Kushtagna, Visarpagna*
Patanga[9]	*Kashaya, Tikta, Madhura*	*Ruksa*	*Sita*	*Katu*	*Kaphapittahara, Raktasangrahi, Dahaprashamana, Vranaropana*
Nagakeshara[10]	*Tikta, Katu, Kashaya*	*Laghu, Ruksa*	*Ushna*	*Katu*	*Kaphapittahara Jwaragna, Kandugna, Kustagna, Visarpahara, Vishagna*

Various studies on the pharmacological activities of the individual drugs supporting the action of *Rajanyadi Lepa;*

Haridra[11] **fig 01:**

Anti-allergic activity:

Curcumin suppressed compound 48/80- induced rat peritoneal mast cell degranulation and histamine release from rat peritoneal mastcells. 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.

Anti-inflammatory activity:

A study on Curcumin has shown that it inhibits a number of different molecules that are 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 have proven bisdemethyl curcumin is more potent 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

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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.

***Daruharidra*[12] fig 02:**

Analgesic activity:

The analgesic action was studied by acetic acid induced writhing, tail flick and hot plate method. In each experiment animals were divided into 5 groups of 6 animals each. 1st group was given normal saline in dose of 5ml/kg, 2nd standard analgesic drug and 3rd 4th and 5th group Berberis aristata in doses of 50, 100 & 200 mg/kg respectively. Normal saline group serves as a control. In all experiments drugs were given orally. B. aristata showed significant analgesic activity ($p<0.05$) in all three models used to evaluate analgesic activity as compared to saline treated group.

***Manjista*[13] fig 03:**

Anti-oxidant activity:

R. cordifolia extracts were also evaluated for antioxidant and lipid peroxidation inhibitory activity by 1, 1-diphenyl-2- picryl-hydrazyl and TBARs Thiobarbituric acid reactive substances method respectively. Extract of R. cordifolia showed a significant inhibitory activity against Propioni bacterium acnes standardized culture. The evaluation was carried out by broth dilution method; suggested MIC of R. cordifolia extract was 600µg/ml. The methanolic extract of R. cordifolia showed significant lipid peroxidation inhibitory activity. The IC50 value of 138µg/ml and R2 was 0.9921.The result was compared with curcumin as standard (IC50 50µg/ml, R2 0.9469).

Anti-inflammatory and Analgesic activity

The present study was aimed to investigate the analgesic and anti-inflammatory effect of the methanolic extract of root of Rubia cordifolia in rats. Rubia cordifolia (100-300 mg/kg, p. o.) was evaluated for its antiinflammatory activity by carrageenan induced rat paw edema and Rubia cordifolia (200-400 mg/kg) for its analgesic activity by tail flick method. Rubia cordifolia (100-300 mg/kg, p. o.) showed significant ($P<0.05$) increased reaction time in tail flick test.

***Patanga*[14] fig 04:**

Antioxidant activity of Caesalpinia sappan heartwood was studied both by in vitro and in vivo models. The ethyl acetate, methanol and water extracts exhibited strong antioxidant activity as evidenced by the low IC50 values in both 1,1-diphenyl-2-picryl hydrazyl (DPPH) and nitric oxide methods. The values were found to be less or comparable to those of ascorbic acid and rutin, the standards used. Administration of the successive methanol and water extracts at 50 and 100 mg/kg body weight given for four days prior to carbon tetrachloride (CCl_4) treatment caused a significant increase in the level of superoxide dismutase (SOD) and catalase and a significant decrease in the level of thiobarbituric acid reactive substances (TBARS), when compared to CCl_4 treated control in both liver

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and kidney. These changes observed at 100 mg/kg body weight treatment were comparable to those observed for standard vitamin E at 50 mg/kg treatment. The results support significant antioxidant nature of Caesalpinia sappan heartwood extracts.

***Nagakeshara*[15] fig 05:**

Antioxidant & Immunomodulatory Activity

The present study was performed to evaluate immunomodulatory activity of mesuol isolated from M. ferrea seed oil in experimental animals. In humoral immune response model, mesuol evoked a significant dose dependent increase in antibody titer values in cyclophosphamide (50 mg/kg, i.p., 9th and 16th day) induced immunosuppression which was sensitized with sheep red blood cells (SRBC) on the 7th and 14th day of experiment. In cellular immune response model, an increase in paw volume was recorded on the 23rd day in cyclophosphamide-induced immunosuppressed rats treated with SRBC (0.03 ml 2% v/v, s.c.) on the 21st day. Mesuol restored the hematological profile in cyclophosphamide induced myelosuppression model. Mesuol potentiated percentage neutrophil adhesion in neutrophil adhesion test in rats and phagocytosis in carbon clearance assay. The study indicated immunomodulatory activity of mesuol.

METHOD OF PREPARATION

All the drugs are taken in equal quantity, powdered separately and mixed together. Lepa is prepared mixing it with cold water and applied externally.

Figure 1 *Haridra*

Figure 2 *Daruharidra*

Figure 3 Manjista

Figure 4 *Patanga*

Figure 5 *Nagakeshara*

Figure 6 *Rajanyadi Lepa*

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DISCUSSION

On exploring the *Rasapanchaka* of *Rajanyadi Lepa (Table 2)* 39% of drugs are *Tikta Rasa*, 31% are *Kashaya Rasa*, 15% are *Katu Rasa* which help to pacify *Kapha Dosha*. 15% are *Madhur Rasa* (Diagram 1) which pacify *Pitta Dosha*. *Tikta* and *Katu Rasa* possess *Vishgna* property as per *Chraka Acharya* and *Katu Rasa* possess *Vishagna* property as per *Sushruta Acharaya*. On observing guna (Diagram 2), 50% are *Ruksha Guna*, 37% are *Laghu Guna* which help in easy spreading of drug. On considering *Virya* (Diagram 3) 80% are *Ushna Virya*, 20% *Sheeta Virya* which carry out *Kaphapittahara* property of this combination. 100% of drug possess *Katu Vipaka* which pacify *Kaphadosha*. While considering the *Karma (Diagram 5)* of this formulation 23% of drugs possess *Vishagna*, *Raktadoshahara*, *Vranaropana* property along with *Visarpahara*, *Kustagna* (16%), *Shothahara*, *Twakdoshahara* (15%). Which help in reducing the lesions, *Oedema*, pain caused by *Lootha Visha*. *Kaphapittahara* (Diagram 5) property of this formulation helps in reducing the *Daha*, *Srava*, *Kleda* etc. Skin manifestations are predominantly seen in *Lootha Visha*, so local application is given prime importance which helps in reducing the symptoms.

CONCLUSION

Lootha Damsha is condition which may turn fatal, hence need meticulous management by *vaidyas* well versed in it. Predominantly skin manifestations are observed in *Lootha Visha* hence *Lepa* (local application) is given prime importance. *Rajanyadi Lepa* is probably potential in pacifying the *Lootha Visha*.

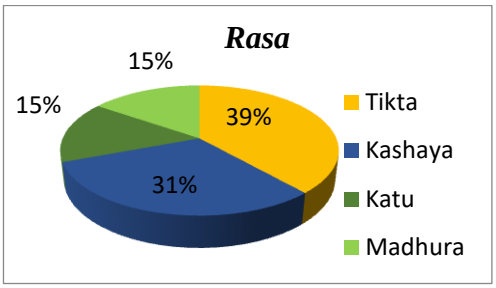

Diagram 1 Analysis of *Rasa* of ingredients

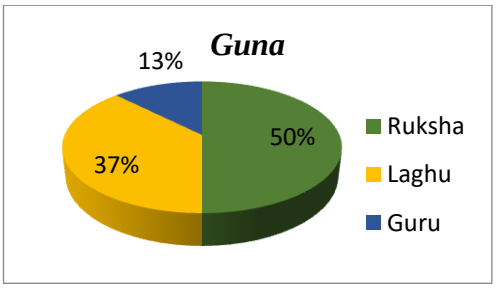

Diagram 2 Analysis of *Guna* of ingredients

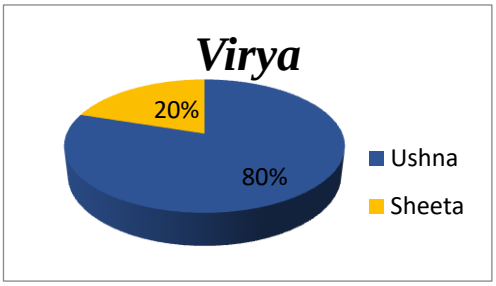

Diagram 3 Analysis of *Virya* of ingredient

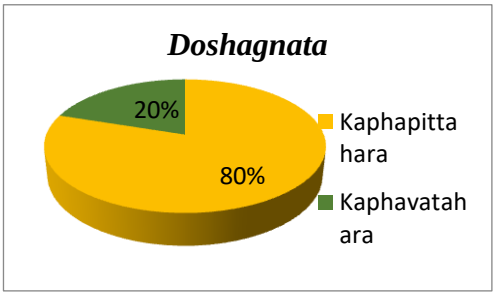

Diagram 4 Analysis of *Doshagnata* of ingredients

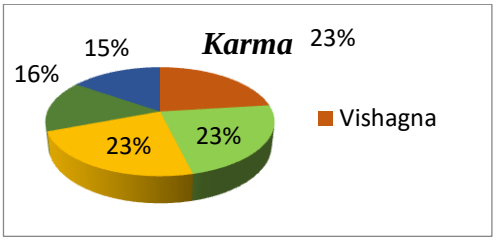

Diagram 5 Analysis of *Karma* of ingredients

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