

EXTERNAL APPLICATIONS OF JAYAPALA (*CROTON TIGLIUM* LINN.): A CRITICAL ANALYSIS THROUGH AYURVEDA CLASSICS

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ABSTRACT

Introduction: *Jayapala* (*Croton tiglium* Linn.) one of the known purgative drugs of Ayurveda is categorised under *Upavisha* (semi poisonous drugs) and reported with huge therapeutic values. Seeds and seed oil of this drug are being used as solitary or as an ingredient of in multi dosage forms both herbal and herbo-mineral formulations of Ayurvedic Pharmaceutics to treat various disease conditions. **Aim:** In present paper, the attempt has been made to summarize all the specifics regarding the external applications of *Jayapala* (*Croton tiglium* Linn.) from the Ayurveda classics. Though a single hand data on formulation about usage of *Jayapala*, externally in various ailments is unavailable. **Materials & Methods:** *Jayapala* as a single drug or as content in formulations in the 52 Ayurveda classical texts were critically analysed with respect to formulations, *Bhavna dravya*, parts used, their dosage form and indications. **Results & Conclusion:** This review portrays the wide usage of *Jayapala* in the form of external administration. About 63 formulations are reported used an external application with 8 dosage forms in almost 29 varied diseases.

Keywords: *Croton tiglium* Linn., External application, *Jayapala*, *Lepa*

INTRODUCTION

Jaypala (*Croton tiglium* Linn.) is one of the plant classified under the semi-poisonous medicinal plants by seers of Ayurveda termed as *Upavisha*.¹ *Jayapala* is generally administered only after proper *Shodhana* (purificatory measures) for therapeutic purpose.² Though it is included in semi-poisonous group, it has been ad-

vocated with external and internal applications in various formulations for different ailments. Single handed data on the external application of usage of *Jayapala* does not exist. The review was carried out to evaluate and analyse critically of the formulations which are used externally. Hence, a thorough review was done for the same

through various classical treatise and compendia and texts related to *Rasashastra*.

MATERIAL AND METHODS

In this review, information from various texts in chronological order like *Charaka Samhita*;³ *Sushruta Samhita*;⁴ *Ashtanga Samgraha*;⁵ *Kashyapa Samhita*;⁶ *Ashtanga Hridaya*;⁷ *Bhela Samhita*;⁸ *Rasendramangala*;⁹ *Vrindamadha-va*;¹⁰ *Chikitsakalika*;¹¹ *Rasahridayatantra*;¹² *Ra- jamartanda*;¹³ *Chakradutta*;¹⁴ *Harita Samhita*;¹⁵ *Gadanigraha*;¹⁶ *Vangasena*;¹⁷ *Rasarnav naam- rasatantra*;¹⁸ *Rasendrachudamani*;¹⁹ *Ay- urvedaparakasha*;²⁰ *Sharangadharasamhita*;²¹ *Rasaprakashasudhakara*;²² *Rasaratnasam- muchaya*;²³ *Rasapaddhati*;²⁴ *Anandakanda*;²⁵ *Rasachintamani*;²⁶ *Rasamanjiri*;²⁷ *Bhavapraka- sha samhita*;²⁸ *Rasa sanketkalika*;²⁹ *Rasendra chintamani*;³⁰ *Rasendra sara samgraha*;³¹ *Rasakaumudi*;³² *Rasakamadhenu*;³³ *Yogata- rangini*;³⁴ *Vaidyarahasya*;³⁵ *Yogaratnakar*;³⁶

Arkaprakasha;³⁷ *Bhaishyajaratnavali*;³⁸ *Brihat rasaraja sundara*;³⁹ *Rasarajamahodadhi*;⁴⁰ *Rasayanasara*;⁴¹ *Rasayogasagara*;⁴² *Rasa jala nidhi*;⁴³ *Siddhabheshajamanimala*;⁴⁴ *Rasopani- shat*;⁴⁵ *Rasamitra*;⁴⁶ *Sahastrayogam*;⁴⁷ *Rasata- rangini*;⁴⁸ *Rasendrasambhava*;⁴⁹ *Anupanaman- jiri*;⁵⁰ *Vaidyaratnam*;⁵¹ *Abhinava navajeevani- yam*;⁵² *Bharat Bhasishyajya Ratnakara*;⁵³ *Rasadipika*;⁵⁴ has been compiled and noted down. *Jayapala* as a single drug or as content in formulations in the above mentioned 52 classi- cal texts were critically analysed with respect to formulations, *Bhavna dravya*, parts used, their dosage form and indications. Formulations were categorised and accordingly tables have been prepared to present the information.

RESULTS

On keen observation, formulations which con- tain *Jayapala* as an ingredient are listed in the table below.

Table 1: Formulations containing *Jayapala* as an ingredient:

Sr. No.	Formulations	Part used	<i>Bhavna dravya</i>	Indications	Dosage Form	References
1.	<i>Adhimansahara lepa</i>	Seed	<i>Nimbu swarasa</i>	<i>Arbuda</i>	<i>Lepa</i>	30
2.	<i>Anjanabhairava rasa</i>	Seed	<i>Nimbu swarasa</i>	<i>Jwara</i>	<i>Anjana</i>	30, 53, 31, 38
3.	<i>Anjanabhairava rasa</i>	Seed	<i>Nimbu swarasa</i>	<i>Sannipata</i>	<i>Anjana</i>	48, 42
4.	<i>Ardhanari nateshwara rasa</i>	Seed	-	<i>Jwara</i>	<i>Nasya</i>	39, 53
5.	<i>Ardhanarinateshwara rasa</i>	Seed	<i>Jaypala kwatha</i>	<i>Jwara</i>	<i>Anjana</i>	42
6.	<i>Ardhanarinateshwara rasa</i>	Seed	-	<i>Jwara</i>	<i>Anjana</i>	42, 53, 33
7.	<i>Ardhanarishwar rasa</i>	Seed	<i>Triphala Swarasa-5 times</i>	<i>Jwara</i>	<i>Nasya</i>	49,53
8.	<i>Ashvakanchuki rasa</i>	Seed	-	<i>Sarvaroga</i>	<i>Anjana, le- pa[switra]</i>	42
9.	<i>Ashvakanchuki rasa</i>	Seed	-	<i>Jwara</i>	<i>Anjana, Le- pa[switra]</i>	42
10.	<i>Bhairavanjana</i>	Seed	<i>Nimbu Swarasa- 8 day</i>	<i>Jwara</i>	<i>Anjana</i>	53, 33,35
11.	<i>Bindu ghrita</i>	Fruit	-	<i>Udararoga</i>	<i>Lepa</i>	21

12.	<i>Bramastra rasa</i>	Seed	<i>Dhattura, Bhringaraja, Nimba, Vasa, Nimbu swarasa – 10 times</i>	<i>Kushtha</i>	<i>Nasya</i>	42
13.	<i>Chintamani rasa- Taila</i>	Seed	-	<i>Vibandha</i>	<i>Lepa, Nasya</i>	24, 42
14.	<i>Churna with ghrita kalka</i>	Seed	-	<i>Shvadansha</i>	<i>Lepa</i>	40
15.	<i>Churna yoga</i>	Seed	-	<i>Bhangadara</i>	<i>Lepa</i>	40
16.	<i>Dantyadi lepa</i>	Seed	<i>Jala</i>	<i>Pitika</i>	<i>Lepa</i>	53
17.	<i>Dhanurvatabhanjana rasa</i>	Seed	-	<i>Dhanurvata</i>	<i>Udgharshna</i>	42
18.	<i>Gadadi lepa</i>	Seed	-	<i>Granthi</i>	<i>Lepa</i>	53
19.	<i>Gajavirechana taila (jaypala seed + jaypalataila)</i>	Seed	-	<i>Virechana</i>	<i>Lepa</i>	42
20.	<i>Garudadago rasa</i>	Seed	<i>Arka kshira, Trikatu, Chitraka, Amla swarasa – 8 days</i>	<i>Visha</i>	<i>Lepa, Nasya, Anjana</i>	42
21.	<i>Garuda anjana</i>	Seed	<i>Nimbu swarasa</i>	<i>Visha</i>	<i>Anjana</i>	53, 36
22.	<i>Jayapala anjana</i>	Seed	<i>Nimajjana in Nimbu-phala swarasa</i>	<i>Sarpavisha</i>	<i>Anjana</i>	35
23.	<i>Jayapalabeeja lepa</i>	Seed	<i>Jala</i>	<i>Visha</i>	<i>Lepa</i>	48
24.	<i>Jayapala kalka</i>	Seed	-	<i>Shirashoola</i>	<i>Lepa</i>	40
25.	<i>Jayapaladi anjana</i>	Seed	<i>Nimbu swarasa- 1week</i>	<i>Sannipata</i>	<i>Anjana</i>	35
26.	<i>Jaypalapatra vati</i>	Leaf	<i>Jala</i>	<i>Visha</i>	<i>Lepa</i>	53
27.	<i>Jaypalapatra vati</i>	Leaf	<i>Nimbu swarasa</i>	<i>Adhimasa</i>	<i>Lepa</i>	53
28.	<i>Jaypalapatra vati</i>	Leaf	<i>Jaypala patra swarasa</i>	<i>Gandamala</i>	<i>Lepa</i>	23, 53,36
29.	<i>Kalka Yoga</i>	Seed	<i>Kanji</i>	<i>Switra</i>	<i>Lepa</i>	40
30.	<i>Kalka Yoga</i>	Seed	<i>Ghrita</i>	<i>Kandu</i>	<i>Lepa</i>	40
31.	<i>Kalka Yoga</i>	Seed	<i>Jala</i>	<i>Vrischika Visha</i>	<i>Lepa</i>	36,35,51, 49
32.	<i>Kanakakshiri taila</i>	Fruit	-	<i>Kustha</i>	<i>Abhyanga</i>	3
33.	<i>Karaviratvagadi lepa</i>	Seed	-	<i>Shanadhatva</i>	<i>Lepa</i>	53
34.	<i>Ksharagada</i>	Seed	-	<i>Visha</i>	<i>Lepa</i>	4
35.	<i>Lepa yoga</i>	Seed	-	<i>Visha</i>	<i>Lepa</i>	42
36.	<i>Lepa yoga</i>	Seed	-	<i>Granthi</i>	<i>Lepa</i>	36
37.	<i>Maheshwer dhupa</i>	Seed	<i>Ajadugdha, Ajamutra</i>	<i>Unmada</i>	<i>Dhumpana</i>	43
38.	<i>Naracha rasa</i>	Seed	<i>Snuhi ksheera</i>	<i>Udavartanaha</i>	<i>Lepa</i>	38
39.	<i>Naracha rasa</i>	Seed	-	<i>Virechana</i>	<i>Lepa</i>	42

40.	<i>Narayanastra rasa</i>	Seed	-	<i>Jwara</i>	<i>Udgharshna</i>	42
41.	<i>Nikumbhabejadilepa</i>	Seed	<i>Jala</i>	<i>Visha</i>	<i>Lepa</i>	13
42.	<i>Pashupatasro rasa</i>	Seed	<i>Arkaksheera</i> - 1 yama, <i>Sarpa pita</i>	<i>Sannipata</i>	<i>Lepa</i>	42
43.	<i>Rajavallabha gutika</i>	Seed	<i>Snuhi ksheera</i> -3 days	<i>Anaha</i>	<i>Lepa, Nasya</i>	53
44.	<i>Rasadi lepa</i>	Seed	<i>Kanji</i>	<i>Shoola</i>	<i>Lepa</i>	53
45.	<i>Saindhvadi taila</i>	Seed	-	<i>Amavata</i>	<i>Abhyanga</i>	38
46.	<i>Sajnaprabodhana rasa</i>	Seed	<i>Nimbu swarasa</i> - 7 times	<i>Sannipata</i>	<i>Anjana</i>	53, 42
47.	<i>Sanjeevakarana rasa</i>	Seed	<i>Vatsanabha kwatha</i> - 3 days	<i>Sannipata</i>	<i>Udagharshana</i>	42
48.	<i>Sannipatajana rasa varti</i>	Seed	<i>Nimbu swarasa</i> - 7 days	<i>Jwara</i>	<i>Anjana</i>	23, 22, 42, 21
49.	<i>Sheegravadi taila</i>	Seed	-	<i>Nasaroga</i>	<i>Nasya</i>	53
50.	<i>Sheetajwar anjana</i>	Seed	<i>Nimbu swarasa</i>	<i>Sheetajwara</i>	<i>Anjana</i>	42
51.	<i>Shigravadi taila</i>	Seed	-	<i>Nasaroga</i>	<i>Nasya</i>	36
52.	<i>Soochimukha rasa</i>	Seed	<i>Sarpa pita</i>	<i>Sannipata</i>	<i>Lepa</i>	42, 47, 49, 43, 23
53.	<i>Suchikabharana rasa</i>	Seed	<i>Madhukabeeja taila</i> - 3 days, <i>Krishnasarpa pita</i>	<i>Sannipata</i>	<i>Lepa</i>	42
54.	<i>Taila</i>	Root	-	<i>Kushtha</i>	<i>Abhyanga</i>	40
55.	<i>Taila</i>	Seed	-	<i>Dhwajabhanga</i>	<i>Lepa</i>	40
56.	<i>Taila</i>	Seed	<i>Aavi ghrita</i>	<i>Dhwajabhanga</i>	<i>Abhyanga</i>	40
57.	<i>Taila</i>	Seed	-	<i>Napunsakata</i>	<i>Lepa</i>	40
58.	<i>Taila</i>	Root	-	<i>Vatajaroga</i>	<i>Lepa</i>	40
59.	<i>Trayushnadi vati</i>	Seed	-	<i>Rasayana</i>	<i>Anjana</i>	42
60.	<i>Tridosahari rasa</i>	Seed	<i>Sarpa pita</i> - 3 times	<i>Tridosha</i>	<i>Prachchhana</i>	42, 30, 39
61.	<i>Vishamrita rasa</i>	Seed	<i>Narikelodaka</i>	<i>Jwara</i>	<i>Anjana</i>	42
62.	<i>Vishhari varti</i>	Endosperm	<i>Nimbu swarasa</i> - 21 times	<i>Visha</i>	<i>Lepa</i>	30, 41, 49,21, 53, 43, 51
63.	<i>Yonivarti yoga</i>	Seed	-	<i>Yoniroga</i>	<i>Varti</i>	38

Table no. 2: External applications of *Jayapala* in various diseased conditions

Sr.no.	Disease conditions	No. of times
1.	<i>Visha</i> (Poison)	11
2.	<i>Jwara</i> (Fever)	11
3.	<i>Sannipata Roga</i> (Disease due to vitiation of all <i>Dosha</i>)	9
4.	<i>Kushtha</i> (Skin Diseases)	3
5.	<i>Granthi</i> (Cyst), <i>Virechanartha</i> (For purgation), <i>Udavrta- anaha</i> (Distension of abdomen due to obstruction to passage of urine and stools), <i>Dhwajabhanga</i> (Failure of penile erection), <i>Nasaroga</i> (Disease of nose)	2

6.	<i>Arbuda</i> (Tumor), <i>Udararoga</i> (Diseases of abdomen), <i>Vibandha</i> (Constipation), <i>Bhangadara</i> (Fistula-in-ano), <i>Pitika</i> (Carbuncle), <i>Dhanurvata</i> (Tetanus), <i>Shira-shoola</i> (Headache), <i>Adhimansa</i> (Cancer), <i>Switra</i> (Vitiligo), <i>Kandu</i> (Itching), <i>Shandhatva</i> (Impotence), <i>Unmada</i> (Mania), <i>Shoola</i> (Pain), <i>Amvata</i> (Rheumatism), <i>Napumsakata</i> (Impotency), <i>Vataroga</i> (Disease due to <i>Vatadosha</i>), <i>Rasayana</i> (Rejuvenation), <i>Yoniroga</i> (Disorder of Vagina), <i>Gandamala</i> (Cervical lymphadenitis)	1
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Table no. 3: List of different dosages forms of *Jayapala*:

Sr. No.	Mode of administrations	No. of time repeated
1.	<i>Lepa</i> (Paste)	36
2.	<i>Anjana</i> (Corrylium)	15
3.	<i>Nasya</i> (Nasal administration of medications)	8
4.	<i>Abhyanga</i> (Massage)	4
5.	<i>Udgharshna</i> (Massaging the body with powders)	3
6.	<i>Prachchhana</i> (Scrapping)	1
7.	<i>Dhumpana</i> (Medicated smoke)	1
8.	<i>Varti</i> (Suppository)	1

DISCUSSION

Jayapala is administered in various forms both internally and externally. Most of the references found for *Jayapala* are of internal use only. A small number of external uses i.e. 63 are found in 52 classical texts (Table no.1). Most of the formulations containing *Jayapala* are mainly indicated in *Visha* and *Jwara* (11) followed by in *Sannipata* (9), in *Kushtha* (3), in *Granthi*, *Udavrta- anaha*, *Dhvajabhanga*, *Nasaroga* (2) etc (Table no.2). Externally *Jayapala* is administered in different forms like, *Nasya*, *Anjana* *Dhumpana*, *Lepa*, *Abhyanga* etc. where *lepa* occurred maximum time i.e. 36 followed by *Anjana* (15), *Nasya* (8), *Abhyanga* (4), *Udgharshna* (3), *Dhumpan* (1), *Varti* (1) (Table no.3). Maximum numbers of formulations found in *Rasayogasagara* followed by *Bharta Bhashijya Ratnakara*. *Vishhari Varti* is repeated 8 times in different texts. Frequently quoted by different texts reflects efficacy of yoga in treating particular conditions. Seed is used extremely in the formulations having *Jayapala* as *Danti-*

beeja is the one of the synonym of *Jayapala*, while leaf, root, fruit also have been used. *Jayapala Kwatha* (decoction) and *patraswarasa* (expressed juice) are used as a *Bhavnadravya* in *Ardhanarinateshwara rasa*, *Jaypalapatra vati*. The ethanolic extracts of stem or seed of *C. tiglium* exhibit strong antidermatophytic activities and could be considered for application on treating skin fungal infections after appropriate processing. The ethanolic extract of *C. tiglium* did possess strong antifungal activities against dermatophytes, including *T. mentagrophytes*, *T. rubrum*, and *E. Aoccosum*. GCMS analysis revealed that the major components in the stem or seed extracts of *C. tiglium* were long-chain organic acids and their ester derivatives.⁵⁵ Croton oil, prepared from the seeds of *C. tiglium*, was used to treat some skin diseases, including ringworm.^{56,57}

CONCLUSION

Jayapala revealed in 63 external applications in almost 29 disease conditions but as The plant contains some poisonous compound,

therefore, side effects and safety measures should be taken before administration to human. More thorough clinical data can suffice the validation of these external uses of *Jayapala*.

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