



CLINICAL EVALUATION OF SUSHVIKADI VATI IN PURISHAJA KRIMI(PIN WORM) (A STUDY PROTOCOL)

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ABSTRACT

The term "*Krimi*" in *Ayurveda* refers to all worms and microbes. The concept of *krimi* is not new; references to it date back to the Vedic era. The literature on *Ayurveda* describes the visible and invisible, or macro and micro, organisms that impact both living and non-living objects in the biosphere. In contemporary medical science, worms and bacteria are studied under different branches called helminthology and microbiology, respectively. However, in *Ayurveda*, the term "*Krimi*" refers to both types of worms and microbes. All *acharyas* in *Ayurveda* used the name "*Krimi*," and the majority of authors explained the term's classification, causes, symptoms, and treatments.

Ayurvedic doctors have an understanding of *Krimis* and *Krimi rogas* ; they have identified as different varieties of *Krimis*. Thus, in the present study *Purishaja Krimi*(Pin worm) is taken as the subject of intervention with the drug '*Sushvikadi Vati*' mentioned in a *Arogya Raksha Kalpadrumah, krimi rog chikitsa adhyaya 10*)

MATERIALS AND METHODS : This prospective, open label, randomized clinical trial will be conducted at, School Of Ayurveda D.Y. Patil Deemed To Be University Navi Mumbai. A total of 60 children of aged 4-13 years irrespective of gender with classical symptoms of *Purishaja Krimi* (Pin worm)will be enrolled in the study. The outcome will be assessed according to the subjective and objective parameters established respectively for the study on each visit. Safety will be assessed based on the incidence of adverse events.

DISCUSSION AND CONCLUSION: *Krimi* is the disease of GIT, and it has *aaharaj* and *viharaja Nidana* and its *samprapti* involves vitiation of *Tridosha* . Its *samprapti* involves *agnimandya* and *mala dravata* and the Ayurvedic formulation chosen for this study, “**SUSHVIKADI VATI**” usually have *Krimighna* property outcomes of this trial will suggest probable therapeutic options for the effective management of *krimi* of children.

Keywords: *Ayurveda, Krimighna, Tridosha, Agnimandya, Mala dravata, Aaharaj, Viharaja*

INTRODUCTION

A vast description about *Krimi*, its *hetu* and management is explicitly found in Ancient *Ayurvedic* texts. As per *Ayurveda*, *Krimi* are 20 in number of which 7 types of *Purishaja Krimi* (Pin worm) have been classified by *Acharya Sushruta*. *Ayurvedic* texts have also quoted a wide variety of *Krimighna Dravya* that are competent in treating *Krimi*. *Acharya Charak* has specifically mentioned *Krimighna Mahakashaya* which is a group of antihelminthic herbs exhibiting antihelminthic properties. Pin worm can be co-related with ‘*Purishaja Krimi*’.

Pin worm is one of the most common types of human intestinal worm infection in India. Pin worm is also called 'Seat Worm' or 'Thread Worm'. It belongs to species *Enterobius* or *Oxyuris*, *vermicularis* belonging to the family *Oxyuridae* in the Order *Ascaridida* Phylum-Nematoda.

Pinworm infestation affects millions of people particularly school going kids and spreads from child to child. Pin worms are thin and white measuring about 2-5 mm in males and 8-13 mm in females. The long tails of the worms give them a pin like appearance. They can live in the colon and rectum at nighttime the female pin worm leaves the intestine through the anus and lay eggs on nearby skin.

Acharyas gave a really wonderful description of *Krimi*, an organism that inhabits different parts of our bodies, causes various maladies, and invades those specific locations.

There is no comprehensive list of helpful *Krimi*, despite the *Samhita* period's previous mention of some good and some toxic bacteria, according to modern research.

KRIMI IN SANGRAHA PERIOD :

Ashtanga Sangraha and *Ashtanga Hridaya*, supposed to compile the *Charaka* and *Sushruta Samhitas* and explains the *Nidana* (causes), Classification and *Lakshanas* (symptoms) of *Krimi* in *Nidana Sthana*^{1, 2} and treatment of the *Krimi* in *Chikitsa Sthana*^{3, 4}, respectively. *Madhava nidana* mentioned the twenty types of *Krimis* according to the origin and habitat with the treatment of *Krimi* borne diseases in “*Krimi Nidana*”.⁵ *Sharangadhara Samhita* has explained twenty-one types of *Krimis* according to etiology. References of *Snayuka* and *Vrana Krimis* are first told in this *Samhita*.⁶

TYPES OF KRIMI IN AYURVEDA :

There is disagreement over where they should be located in the body, even though the majority of writers have stated that there are twenty in total. Three sub classifications of *Abhyantara*, also known as internal *krimi*, exist: *Raktaja*, *Kaphaja*, or *Shlesmaja*, and *Purisaja*. The precise number of *krimis* in each of these sub classifications varies depending on the author, as the table indicates :-

Table 1: Total number of Krimi and their type as mentioned in different Ayurvedic classics-

Sl. NO.	Name of the Text	Bahya or Malaja Krimi (External)	Abhyantara krimi (Internal)				Total No. of krimi
			Kaphaja	Raktaja	Purishaja	Shlesmaraktaja	
1.	Charaka Samhita ⁷	2	7	6	5	-	20
2.	Sushruta Samhita ⁸	-	6	7	7	-	20
3.	Vagabhata	2	7	6	5	-	20
4.	Bhela Samhita	-	-	-	-	-	20
5.	Harita Samhita	7	6	-	-	-	13
6.	Madhava	2	7	6	5	-	20
7.	Sarangdhara	2	7	6	5	-	21
8.	Bhava Prakasha ⁹	2	7	6	5	-	20
9.	Yoga Ratnakara ¹⁰	2	7	6	5	-	20

NOMENCLATURE OF PURISHAJA KRIMIS MENTIONED IN DIFFERENT CLASSICS :

Sr. no.	Charaka	Sushruta	Vagbhata	Harita
1.	Kakeruka	Ajwa	Kakeruka	-
2.	Makeruka	Vijya	Makeruka	-
3.	Sausurada	Kipyra	Sausurada	-
4.	Sasulaka	Chipya	Saluna	-
5.	Lehiha	Gandupad	Lehiha	-
6.	-	Churu	-	-
7.	-	Dvimukha	-	-

MATERIAL AND METHODS –

Aim of the study-

1. To evaluate the efficacy of **SUSHVIKADI VATI** in **PURISHAJA KRIMIS** (Pin worm) .
2. To provide an economic, safe and cost effective Ayurvedic formulation in the management of **PURISHAJA KRIMIS** (Pin worm).

Selection of patients : Patients will be selected on the basis of classical symptoms of *Purishaja krimi* from OPD, PG Dept of *Kaumarbhritya*, D.Y. Patil Deemed to Be University Nerul Navi Mumbai.

1. **Inclusion criteria:** • Children having two or more symptoms of E. VERMICULARIS.

- Children of age group 4 years - 13 years.
- Children having ova /or cyst of E.VERMICULARIS in microscopic Scotch Tape Test

OBJECTIVE CRITERIA:

Ova or cyst of E.vemicularis in microscopic Scotch Tape Test	Score
Absent	1
Present	2

2. **Exclusion criteria:** Children below age group of 4 years and above 13 years

- Children with other parasitic infestation.
- Children with other peri-anal infections.
- Known case of systemic disorders.

3. **Withdrawal criteria:** Aggravation of symptoms, personal matters and LAMA (leave against medical advice).

On the basic of **subjective parameter-**

- *Purishbheda*
- *Gudakandu*
- *Gudnishkramana*
- *Shula*
- *Vishtambha*
- *Lomaharsha*

SAMPLE SIZE: 60

TYPE OF THE STUDY: Open label single clinical trial

LEVEL OF STUDY: OPD level

DURATION OF STUDY: 15 days

ASSESSMENT AND FOLLOW UP: A. Screening phase: Baseline assessment of E. VERMICULARIS will be done for screened children and those falling in the inclusion criteria will be enrolled for the study.

B. Trial phase: *Sushvikadi vati* will be administered in BD dose for 15 days.

METHOD OF TREATMENT:

Serial no.	Name of the drug	Proportion	Part used
1.	<i>Shushvi</i>	1 part	Extract
2.	<i>Shigru</i>	1 part	Extract
3.	<i>Udhumbar</i>	1 part	Extract
4.	<i>Sita</i>	1 part	Extract

Panchbhautika guna of the drug –

- Shushvi** - *NIGETLA SATIVA* due to its *Laghu, Ruksha guna; Katu rasa ; Ushna virya, Katu vipaka* acts as *krimighna, Stanyavardhak*
- Shigru** - *MORINGA OLEIFERA* due to its *Katu, Tikta rasa; Laghu, Ruksha Tiksana guna; Ushna virya ; Katu vipaka* acts as *Krimighna, Kapha vataghna*

Drugs and their pharmacological actions -

DRUGS	PHARMACOLOGICAL ACTIONS
▪ <i>Nigella Sativa</i>	Anti-convulsant, Antimicrobial, Antibacterial
▪ <i>Moringa Oleifer</i>	Antioxidative, Inflammatory actions, Antibiotic, Antimicrobial
▪ <i>Ficus Glomerata</i>	Hepatoprotective, Antifungal, Antiulcer, Antidiuretic

4. Route of administration: Oral

5. Preparation of medicine: Identification of the drugs will be done in *Dravyaguna* department & preparation will be done in *Ras Shastra Evam Bhaishya Kalpana*. Drug will be prepared according to method of preparation of *Vati*.

Weight (in range)	Dose (mg)	No. Of Tablets (pulverized form)
10-14 kg	400-500 mg	1 tab
15-19 kg	660 mg	2 tabs
20- 24 kg	950 mg	2 tabs
25-29 kg	1.1 gm	2 tabs
30-34 kg	1.3 gm	2 tabs

1. Selected drug : *Sushvikadi Vati*

2. Form of medicine: *Vati*

3. Composition of medicine: *Shushvi (Kalajaji), Shigru, Udumbar, Sita (Sharkara)*

अंभः सुषविकाकाण्ड शिग्रुदुम्बर वारिणी । द्रोणे पलाष्टकं दत्त्वा सितायास्तदधिश्रयेत् घनीभूते अवनार्याथ तस्मिन् स्पर्शक्षमे सति। कोल प्रमाणमुद्दर्य भाजने स्थापयेच्छुभे एकैक मह्नो रात्रेश्च मुखयोः खादयेच्चतत् । एकपक्षप्रयोगेण नश्येयुः कृमयोखिलाः ।

(*Arogya Raksha Kalpadrumah.Krimi rog chikitsa adhyaya 10*)¹¹

3. **Udumbar** - *FICUS GLOMERATA* due to its *Ka-saya rasa; Guru, Ruksha guna; Sheet virya; Katu vipaka* acts as *Kaphapittaghna*.

4. **Sita** - Due to its *Madhur rasa, Guru guna, Sheet virya, Madhura vipaka* acts as *Ruchikar, Dahprashamak*.

6. Storage of medicine: The medicine will be stored in airtight containers.

7. Drug dose: The pediatric dose will be calculated as per the Clark`s rule.

$$\frac{\text{Weight (KG)} \times \text{Adult dose}}{68}$$

35-40 kg	1.5 gm	3 tabs
40-45 kg	1.7 gm	3 tabs

Safety Outcomes :

Safety will be assessed based on the occurrence of adverse events on each follow-up visit. The adverse events, if any, will be recorded as per Good Clinical Practice guidelines.

Ethical considerations :

The study is approved by the Institutional Ethics Committee of the D.Y. Patil Deemed to Be University Nerul Navi Mumbai. Written informed consent will be obtained from the parents of eligible children by the investigator before enrollment .

DISCUSSION & CONCLUSION

Intestinal worm infestation is widely prevalent in tropical and subtropical countries and occur where there is poverty and poor sanitation. Soil transmitted helminth infections from the most important group of intestinal worms affecting two billion people worldwide and the main species which infect are ascaris lumbricoideis, round worms, ring worms. According to WHO globally there are 1221-1472 million cases of ascariasis 750- 1050 million cases of trichuriasis. These STHs are also considered Neglected Tropical disease as they inflict considerable morbidity and mortality through entirely preventable. So, there is a need of reliable, safe and cost effective formulation for *Krimi* in *ayurveda*. Therefore, *Sushvikadi Vati* described by *Acharya* for *Purishaja Krimi* (Pin worm) has been selected has been selected for the study. The formulation includes contents like *Shushvi* (*Nigetla sativa*), *Shigru* (*Moringa oleifera*), *Udumbara* (*Ficus glomerata*) which have Antimicrobial, Antimicrobial, Antifungal properties which will help in breaking the *samprapti* of *Purishaja Krimi* (Pin worm).

Shigru, *Shushvi* and *Udumbar* have the *Krimighna* properties. Thus, it is expected that *Sushvikadi Vati*

will promising results in children with manifestation of *Purishaja Krimi* (Pin worm).

REFERENCES

1. *Ashtanga Samgraha Nidana Sthana; Kushthakriminidanam*; Chapter 14 verse 45-58, *Ashtanga Samgraha, Kaviraj Atridev Gupt, Hindi Vyakhya, Part-I, Krishnadas Academy, Varanasi, 1993.*
2. *Astanga Hridaya Nidana Sthana; Kushthashvitrakriminidanam*; Chapter 14 verse 42-56, *Ashtanga Hridaya, Vidyotini Hindi Commentary by Kaviraj Atrideva Gupta, Chaukhambha Prakashan, Varanasi, reprint year; 2012.*
3. *Ashtanga Samgraha Chikitsa Sthana; Shvitrakrimi chikitsitam*; Chapter 22 verse 25-35, *Ashtanga Samgraha, Kaviraj Atridev Gupt, Hindi Vyakhya, Part-II, Krishnadas Academy, Varanasi, 1993.*
4. *Astanga Hridaya Chikitsa Sthana; Shvitrakrimichikitsitam* ; Chapter 20 verse 19-35, *Ashtanga Hridaya, Vidyotini Hindi Commentary by Kaviraj Atrideva Gupta, Chaukhambha Prakashan, Varanasi, reprint year; 2012.*
5. *Upadhyaya Yadunandana*(editor). *Commentary : Madhukosha of Vijayarakshit on Madhava Nidanam of Madhavakara, chapter 7, verse no. 16, 1st part, Varanasi: Chaukhamba Publication; 2002.*
6. *Sharangadhar Samhita, Purvakhand, Chapter 7 verse 14-18, Jivanaprada hindi commentary by Dr. Smt. Shailja Srivastava, Published by Chaukhambha Orientalia, Varanasi, reprint edition: 2011.*
7. *Charaka Samhita Sutra Sthana; Aushtaudariyam Adhyaya: Chapter 19 verse 9, Charaka Samhita, Vidyotini hindi commentary by Kashinath Shastri & Gorakhnath Chaturvedi , Part-I, Published by Chaukhambha Bharati Academy, Varanasi, India, reprint year; 2009*
8. *Sushruta Samhita Uttarantra; Krimirogapratisheha Adhyaya: Chapter 54 verse 7, Sushruta Samhita edited with "Ayurveda Tattva Sandipika" Hindi commentary by Kaviraj Ambikadatta Shastri, Part-II, Chaukhambha Sanskrit Sansthan, Varanasi, edition reprint; 2012*
9. *Bhavaprakasha Madhyam khand, Chapter 7 verse 1, Part-II, Vidyotini hindi commentary by Shri Harihar Prashad Pandey, Published by Chaukhambha Sanskrit Bhawan, Varanasi.*
10. *Yoga Ratnakara Purvardha Krimiroganidanam-1,2; yogaramakara with Vidyotini hindi commentary by Vaidya Laksmipati Sastri; edited by Baisagratna Brahasankar Sastri, Chaukhambha Sanskrit Sansthan, Varanasi, 1973*
11. *Arogya Kalpadrumam krimi rog chikitsa adhyaya 10 edited by Dr. Lal krishnan.*

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