



AYURVEDIC PERSPECTIVE OF SHLESHMAJA KRIMI WSR TO INTESTINAL HELMINTHS

[Rashi Dhasmana](#)¹, [Sanjay KumarSingh](#)², [Ila Tanna](#)³

MD Scholar¹ Associate Professor² Associate Professor³
Department of Rog Nidan Evum Vikriti Vigyan
Rishikul Campus, UAU, Haridwar, Uttarakhand, India

Corresponding Author: ukrashi007@gmail.com

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ABSTRACT

Krimi has been known as disease causing agent since ancient times. The vast details of pathology of each *Krimi* is not found in our classics but the classification, morphology, etc are very well described. *Acharya Charaka* classified *Krimi* into twenty types which come under two broad groups -*Bahya* and *Abhyantara*. *Abhyantara Krimi* being sub-classified into *Shleshmaja*, *Purishaja* & *Raktaja Krimi*. Among these varieties of *Krimi*, *Shleshmaja Krimi* can be closely correlated with Intestinal Helminths. Modern Pharmacology consists of a variety of anthelmintic drugs which are efficient enough to treat helminthic infections but still recurrence of these infections is seen very commonly. The three-fold treatment of Ayurveda – *Apkarshana*, *Prakruti Vighata* & *Nidana Parivarjana*, as mentioned in *Charaka Samhita* can prove to be very helpful in eradicating such infections or *Shleshmaja Krimiroga*. Present study is an attempt to understand about *Shleshmaja Krimi* wsr to Intestinal Helminths.

Keywords: *Shleshmaja*, *Krimi*, Intestinal, Helminths, Treatment.

INTRODUCTION

The derivation of the word *Krimi* is available in various lexicons. Popular Sanskrit dictionaries *Amarakosa*, *Halayudhakosa* and *Vachaspathyama* state that the word is derived from the root “*Kramu*” which means to step or to walk.¹The different Acharya have made Classifications of *Krimi* under various headings. Acharya Sushruta categorized *Krimi* as *Drishta* and *Adrishta* variety as in Vedic literature. Acharya Charaka categorized them as *Sahaja* and *Vaikarika*, with detailed description of *Vaikarika* variety. The Acharya mentioned the number of *Krimi* as twenty while Harita stated as thirteen. Sharangdhara mentioned as twenty-two. While rest of *Acharya*, like Vagbhata, Madhavakara and Bhavamishra followed Acharya Charaka. Based on site of localization, Acharya Charaka and Acharya Harita further made divisions like *Bahya* and *Abhyantara*. The *Abhyantara* variety being further classified by Acharya Charaka as *Shleshmaja*, *Raktaja* and *Purishaja Krimi*. Among these varieties, *Shleshmaja Krimi* can be closely correlated with Intestinal helminths based on its morphology, site of localization and signs & symptoms produced by it. There are a variety of broad spectrum modern anthelmintic drugs through which such infections can be treated efficiently. But recurrence of helminthic infections is seen very commonly in the society. So, there is a need of an alternative treatment approach to arrest the recurrence of helminthic infections and eradicate them. Acharya Charaka has given a threefold line of treatment of *Krimiroga* as: *Apakarshana*, *Prakruti Vighata*, & *Nidana Parivarjana*. This can prove to be an alternative treatment of Intestinal helminthic infections or *Shleshmaja Krimiroga* in order to completely arrest their recurrence.

MATERIAL AND METHODS

For this conceptual study, various *Ayurvedic Samhitas* like *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*, *Madhavnidana*, *Bhavaprakash* and some articles have been reviewed.

INTESTINAL HELMINTHS²/WORM INFESTATION

The Helminths are multicellular, bilaterally symmetrical animals having three germ layers. Based on their

shape, they are divided into two broad groups belonging to the Phylums- Nematelminths (Class Nematoda – *Ascaris lumbricoides*, *Ancylostoma duodenale*, etc.) and Platyhelminths (Class Trematoda – *Fasciola hepatica*, etc. and Class Cestoda – *Taenia solium*, *T. saginata*, etc.). Worm infestation refers to the worms that live as parasites in the human body and are one of the main causes of diseases associated with health and nutrition problems beyond just Gastro-intestinal tract (GIT) disturbances. More than 1.5 billion people, or 24% of the world’s population, are infected with helminth infections worldwide. Infections are widely distributed in tropical and subtropical areas, with the greatest numbers occurring in sub-Saharan Africa, the Americas, China & East Asia. Over 267 million pre-school-age children and over 568 million school-age children live in areas where these parasites are intensively transmitted and need treatment and preventive interventions.³The infections may be transmitted in several ways. For instance, while some of the parasitic worms (larvae) such as *Taenia solium* infects human beings following ingestion of contaminated pork, others, like some species of nematodes, are soil-transmitted and often affect younger children. The lesions caused by such parasites may be localized or may extend to distant parts of the host’s body. The way in which damage may be produced includes trauma or physical damage, lytic necrosis, stimulation of host’s tissue reactions, toxic and allergic phenomena, and the opening of pathways for entry of other pathogens into the tissues. Also, the masses of large worms like *Ascaris* may produce acute intestinal obstruction, may occlude the lumen of the appendix or the common bile duct, may cause perforation of the intestinal wall or may penetrate liver parenchyma and even the lungs. Hence, they not only cause symptoms related to GIT like nausea, vomiting, diarrhea, etc., but others also like anaemia, skin irritation, cough, fever, weight loss or emaciation, etc. Infections may range from mild to serious life-threatening ones. Though most of the helminth infections can be prevented by good hygiene, there are a wide range of anthelmintic drugs mentioned in Modern Pharmacology

e.g., Broad spectrum Benzimidazoles (Albendazole and Mebendazole), Macrocyclic lactones (such as Ivermectin), Praziquantel, Oxamniquine, Pyrantel, Artemisinins and derivatives, etc.⁴

Though all these drugs efficiently act on the Helminths still all the available data of prevalence of helminths remains almost the same even after aggressive implementation of eradication programs with mass administration of anthelmintic drugs to the popu-

lation. And there is a need for an alternative treatment which can help eradicate these infections.

SHLESHMAJA KRIMI

The different aspects of *Shleshmaja Krimi* like number of types, their names, site of localization, morphological features and their colours have been described by different Acharya with a few variations in them. All these aspects have been incorporated into the following table -

Table 1: Different aspects of *Shleshmaja Krimi*

Aspect	Charaka	Sushruta	Vagbhata
No. of Types	7	6	7
Name	Antrada Udarada Hrudayachara Darbhapushpa Saugandhika Mahaguda Curu	Mahapushpa Praluna Cipita Pipilika Daruna Darbhapushpa	Antrada Hrudayada Udaravesta Curu Mahaguda Sugandha Darbhakusuma
Site	Amashaya, spreads up & down	Amashaya	Amashaya, spreads everywhere
Morphology	Prithu, Bradhna, Vritta, Gandupada, Anu, Dirgha, Tantu	Romasha, Sapucha, Dhanyankurakara, Tanu	Prithu, Bradhna, Gandupada, Anu, Dirgha, Tantu, Dhanyankurakara
Colour	Shweta, Tamravbhasa	Shukla, Shyava Mandal	Shweta, Tamravbhasa

NIDANA (ETIOLOGICAL FACTORS)

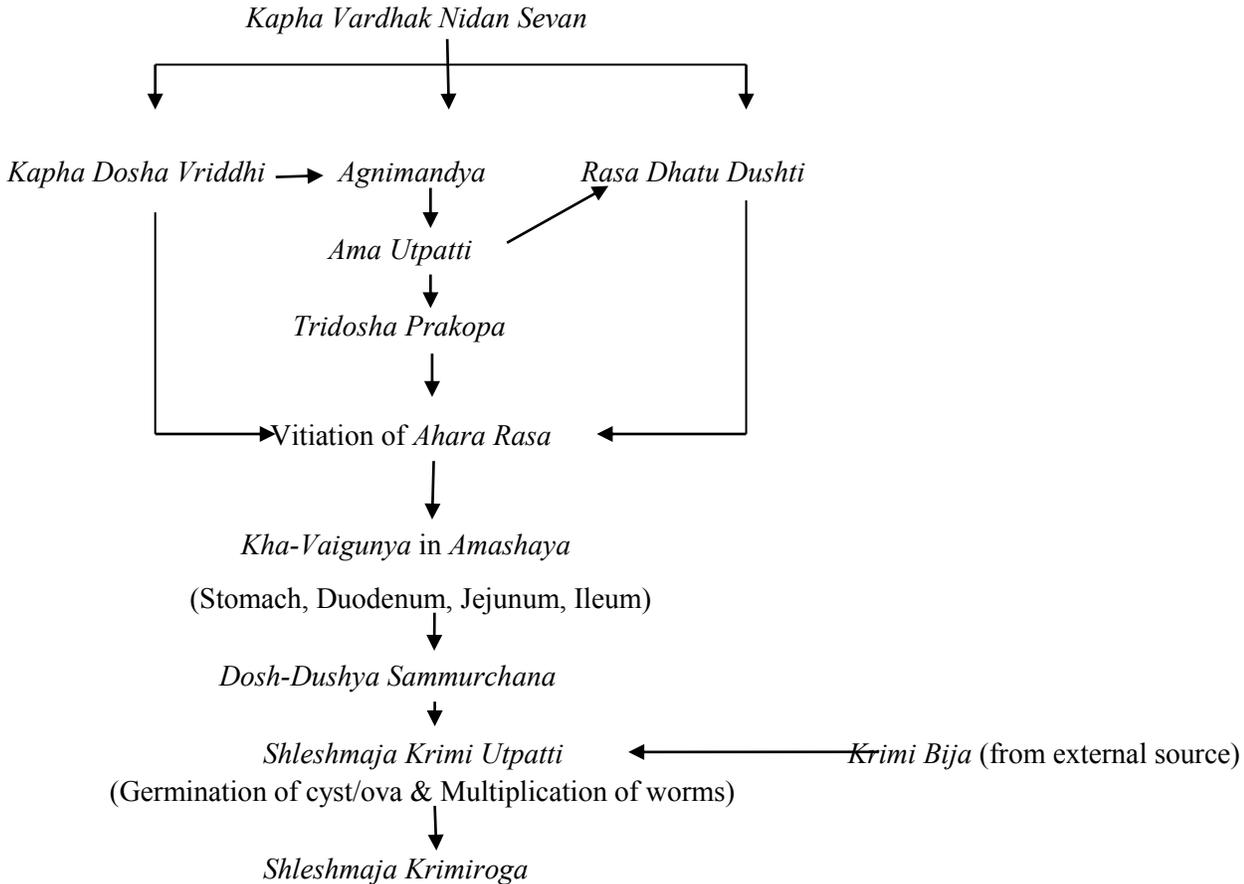
The *Nidana* of *Shleshmaja Krimi* mentioned by different Acharya actually contribute in increasing and vitiating the *Kapha Dosha*. For example, Acharya Charaka included *Ksheer* (Milk and milk products); *Gudh* (Jaggery); *Tila* (Sesame); *Matsya* (Fish); *Anoopa Mamsa* (Flesh of aquatic animals); *Pishtanna* (Flour of *Urad* or other heavy grains); *Kusumbhasneha*; *Ajeerna* (Partially cooked), *Puti* (Putrefacted), *Klinna* (Fermented), *Sankeerna* (Contaminated), *Virudha* (Incompatible) and *Asatmya* (unwholesome) *Bhojana* as *Nidana* of *Shleshmaja Krimi*.⁵ Acharya Madhava added *Dadhi* and *Shukta*⁶ to this list. Along with this, *Saktu*⁷ (powdered barley) and *Navodana* (newly harvested rice) have been included by Acharya Vagbhata.

LAKSHANA (SYMPTOMS)

Acharya Charaka mentioned *Hrillasa* (Nausea), *Asyasamsravana* (Excessive Salivation), *Arochaka* (lack of appetite), *Avipaka* (Indigestion), *Jvara* (Fever), *Murchha* (Unconsciousness), *Jrimbha* (Yawning), *Kshavathu* (Sneezing), *Anaha* (Distension of abdomen with constipation), *Angamarda* (Bodyache), *Chhardi* (Vomiting), *Karshya* (Emaciation/weight loss) and *Parushya*⁸ (Dryness of skin) as *Lakshana* of *Shleshmaja Krimi*. Other than these, Acharya Madhava added *Peenasa*⁹ (Chronic Rhinitis) also to this and *Kasa*¹⁰ (cough) has been included in this by Acharya Bhavaprakasha. While Acharya Sushruta mentioned *Shiroroga* (headache or other disorders related to head), *Hridroga* (palpitation or other heart related disorders), *Vamathu* (vomiting) and *Pratishyaya*¹¹ (runny nose) as some other *Nidana*.

SAMPRAPTI

The *Samprapti* of *Krimiroga* has not been described by any of the *Acharya*. But it can be derived like this :



SAMPRAPTI GHATAKA (PATHOLOGICAL FACTORS)

- *Dosha*: *Kapha Pradhana Tridosha*
- *Dushya*: *Rasa*
- *Srotasa*: *Rasavaha, Annavaha*
- *Adhishtana*: *Amashaya*
- *Srotodushti*: *Sanga*
- *Agnidushti*: *Mandagni*.

TREATMENT OF KRIMI: Acharya Charaka has given a 3-fold line of treatment of *Krimi* as: *Apakarshana, Prakruti Vighata, & Nidana Parivarjana*.¹²

1. **Apakarshana:** It means expulsion of *Krimi* from the gut with the help of various purification procedures like *Shirovirechana, Vamana, Virechana* and *Asthapanavasti*.
2. **Prakruti Vighata:** Here *Prakruti* word is used for *Utpadaka Karana* i.e., causative factor and *Vighata* means destruction of the causative agent.

Drugs having *Katu* (pungent), *Tikta* (bitter), *Kashaya* (astringent) *Rasa* (taste), *Ushna* (hot) *virya* (potency) and *Kshara* (alkali)-like properties are advised to be used here. *Kapha* provides favourable environment for growth of *Krimi*. Hence, the drugs acting against such environment does the action of *Prakruti Vighata*.

3. **Nidana Parivarjana:** This forms an important mode of treatment. It includes avoidance of diet and habits which favour the production of *Krimi* in the body. It stops the growth of *Krimi* as well as reduces the chances of reinfection. All the factors mentioned under the heading of *Nidana* fit into this category.

CORRELATION¹³: Some previous workers have tried to correlate Ayurvedic nomenclature of *Shleshmaja Krimi* with those of the recognized Intestinal Helminths as per modern science.

Table 2: Correlation made by previous research workers.

S. No.	Name of <i>ShleshmajaKrimi</i>	Name of Helminth correlated with	Name of Previous Worker
1.	<i>Antrada</i>	Hookworm	Ghai Y.S., Pandey M.P., Goyal H.R., Shastri S., Lathiya V.N.
2.	<i>Churu</i>	<i>E.vermicularis/T.saginata</i>	Adhikari Y./Sharma O.P.
3.	<i>Chipita</i>	<i>T. solium</i> and <i>saginata</i> , <i>H.nana</i> , <i>D.latum</i>	Ghai Y.S., Sharma O.P., Lathiya V.N.
4.	<i>Darbhakusuma</i>	Threadworm	Pandey M.P.
5.	<i>Hridayachara</i>	<i>A.duodenale</i> , <i>T. solium</i> , <i>T.saginata</i> , <i>E.vermicularis</i> , <i>A.duodenale</i> , <i>A.lumbricoides</i>	Sharma R.D. Solanki S.S.
6.	<i>Mahaguha</i>	<i>A.lumbricoides</i>	Pandey M.P., Goyal H.R., Shastri S., Tiwari L.K., Pandey R.N., Vajpai D.K.
7.	<i>Praluna</i>	Tapeworms	Sharma O.P.
8.	<i>Saughandhika</i>	Whipworm	Pandey M.P.
9.	<i>Udarada</i>	<i>T.saginata</i> , <i>T.solium</i> , <i>H.nana</i>	Sharma R.D.
10.	<i>Udarveshta</i>	<i>T.saginata</i> , <i>T.solium</i> , <i>H.nana</i>	Sharma R.D.

Although most of the scholars do not explain the basis of this correlation. But the *Shleshmaja Krimi* and Intestinal helminths have many aspects in common like-

- ✓ **Site of localization:** *Amashaya* i.e. stomach, duodenum, jejunum and ileum.
- ✓ **Some morphological features:** e.g., *Gandupada* – Roundworm i.e., *A. lumbricoides*.
- ✓ **Signs & symptoms:** e.g., *Hrillasa* (Nausea), *Chhardi* (Vomiting), *Jwara* (Fever), *Karshya* (Emaciation), *Kasa* (Cough), etc.

DISCUSSION

From the above description we can conclude that *Krimi* has been one of the causes of sickness since ages. The vast details of pathology of each and every *Krimi* is not found in our classics, may be due to lack of sophisticated devices or investigations as available at present times. But there is a lot of description about various aspects of *Krimi* like their classification, sites of localization, etiological factors, morphology and signs & symptoms produced by them on entering the human body. Among the different types of *Krimi*, the *Shleshmaja Krimi* has been correlated with Intestinal helminths due to similarities in their various aspects

like their site of localization in the infected body, some morphological features and the signs & symptoms caused due to their infection. There are many broad-spectrum anthelmintic drugs mentioned in Modern Pharmacology which are efficient enough to kill these organisms. But still recurrences of such infections are seen all the time especially in school-going children of developing countries. So, there is a need for a different approach and Ayurveda can be very helpful in that. The line of treatment of *Krimi* as described by Acharya Charaka is three fold which includes *Apkarshana* (expulsion or removal of the *Krimi* or worm from the body), *Prakruti Vighata* (destruction of the favourable environment for the growth of *Krimi*) and *Nidana Parivarjana* (avoiding the factors required for growth or entrance of *Krimi* into the body). This threefold treatment can definitely help eradicate helminthic infections or *Shleshmaja Krimiroga*.

CONCLUSION

In medical science, sickness and death have always generated challenge to the human intellect. From very early times, it is speculated that diseases may result

from invasion of the body by external infectious organisms acknowledged as *Krimi*. *Shleshmaja Krimi* which are correlated with Intestinal Helminths have been a major cause of infections associated with health and nutrition problems especially among school-going children. It is a silent epidemic that destroys the health, well-being & learning potential of millions of children in many developing countries today. Even after mass administration of modern anthelmintic drugs under eradication programs, recurrence of helminthic infections is very common. In this scenario, the Ayurvedic approach which includes *Aparshana*, *Prakruti Vighata* and *Nidana Parivarjana* can prove to be very beneficial to the society and can help eradicate this mammoth challenge.

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