



KRIMI VIZ A VIZ HELMINTH AND MICROBES

Ayurveda

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ABSTRACT

In *Vedas*, a wide range of worms and microorganisms, both visible and invisible, harmful and non-pathogenic are referred to as “*krimi*”. Since its depiction may be traced back to the *Vedic* era, the idea of *krimi* is not new. *Samhita Kala* analyses *krimi* in great detail, giving a comprehensive account of its causes, symptoms and treatment. *Acharyas* have defined *krimi roga* as independent disease and as a cause of other diseases as well like *pandu*, *shiroroga* and *hridayaroga*. *Krimi* can be correlated to helminths and microorganisms, which further comprise bacteria, viruses, fungi and protozoa which are responsible for a wide range of disorders. In contemporary science there are separate branches viz. helminthology and microbiology to study the same. The correlation of *Krimi* with the contemporary infectious microbes may be done by examining the resemblance of their habitat, morphology and effect on the host. But it is a gruelling task to correlate *Krimi* with modern microbes and parasites due to lack of detail description of individual *Krimi*. This article elaborates concept of *Krimi* from *Vedic* and *Ayurvedic* perspective, which can be useful for its clinical application and for the treatment of various diseases.

KEYWORDS

Krimi, Worm, Microbes, *Aupasargika roga*.

INTRODUCTION

In *Ayurveda*, the term “*krimi*” refers to all worms and microorganisms. There have been descriptions of *Krimi* since the *Vedic* era. The writings of *Ayurveda* describe the subtle, visible or invisible organisms that impact living and non-living objects in the biosphere in a very scientific manner. Elaborate description of *Bheda*(classification), *Nidana*(causes) and *Chikitsa* (treatment) of *Krimi* was done in the *Samhita* period. *Samhita Granthas* even described infectious or contagious diseases as *Aupasargika rogas*. As stated by Otto Braun-Falco et al in chapter 9 of the textbook – *Dermatology* - “Diseases caused by worms”, “there is no organ or organ system in which either worms or their larvae are not capable of establishing themselves”.¹ India accounts for 65% of soil-transmitted helminth(parasitic worms) cases in South East Asia, and 27% of cases globally.² Considering the fact that the term *Krimi* is used for all the microorganisms the data related to cases of *krimi* disorders will rise manyfold times.

AIM

To review, analyse and systematically compile the literature on *krimi* from *Vedas* and available *ayurvedic* texts.

OBJECTIVES

- To study the *Vedas* thoroughly for description of *krimi*.
- To study *ayurvedic* literature related to *krimi* for classification, morphology and pathogenesis of *Krimi*.
- To analyse for any possible co-relation between *krimi* and worms or microbes.

MATERIALS AND METHODS

The details of the concerned information were retrieved from various sources such as literatures of both classical as well as modern, web-based database searches and published papers.

Literary Review

Etymology:

In *Shabdakalpadruma* “*Krimi*” word has been told to derive from “*Bhrame samprasarane cha*” which means to move with *Pada* or *legs*(podia).³ In *Sidhantakaumudi* the word *Krimi* is said to be derived from *dhatu* “*KujnaHimsayam*” which means to kill or to yield harmful effect.⁴ *Amarakosa*, *Halayudhakosa* and *Vacchaspathyam* states that the word *Krimi* is derived from the root “*Kramu*”- which means to step or to walk. (*Halayudhkosha* - P- 253)

Acharya Yashka has defined *Krimi* in the following way:

- Those organisms which grow on raw flesh.
- Those organisms which have some movement. (*Yaskacharya Niruktaam*, 6/4/12).

Synonyms:

In *Atharvaveda* the following synonyms are used for *Krimi*:

- Rakshas*: which drinks blood.⁵
- Asura*: which destroys life.⁶ They do not stay at single place. They are the leaders of attacking microorganisms.⁷
- Apsara*: which makes noise. They don't stay at one place.⁸ They can go anywhere in the body. They can be visualized clearly.⁹
- Pishacha*: which eat raw flesh.¹⁰
- Yatudhana*: which causes pain.¹¹
- Gandharva*: also termed as '*Yatana Sharira*' or '*Gupta Prani*'¹² which means one which produce agony in the body or invisible creature respectively.
- Kimidi*: which can penetrate. (*Nirukta* 6/11)

Etiology:

- The etiological factors of *Krimiroga* can be divided into two namely, *Samanya Nidana* and *Vishesha Nidana*. *Samanya Nidana* includes those general factors which are responsible for the entry and growth of *Krimi* in human host and *Vishesha Nidana* constitutes all the specific factors that certainly cause the infestation of any of the *Krimi* designated as *Bahya*, *Pureeshaja*, *Sleshmaja* and *Raktaja*.
- The *Samanya* or general causative factors include *Ajeernabhojana*, regular intake of *Madhura* and *Amla rasa*, excessive consumption of *Drava* substances, *Guda*, *Virudha bhojana* etc. Some physical factors are also mentioned like *Divaswapna* and *Avyayama*.¹³
- Vishesh* or specific causative factors for various *krimi*:
- For *Bahya Krimi*- in the opinion of *Acharya Charaka*, *Vagbhata*, *Madhavakara*, *Bhavaprakasha* and *Vangasen* are caused due to unhygienic and dirty habits (*Mrijaverjanam*).¹⁴
- For *Kaphaja Krimi*- *Dugdha*, *Guda*, *Tila*, *Matsya*, *Anupa mansa*, undercooked, incompatible and unwholesome articles.¹⁵
- For *Pureeshaja Krimi*- *Acharya Charaka* has mentioned the same etiological factors those are described in *Kaphaja Krimi*. Apart from these *Acharya Susruta* added *Vidala*, *Parnasaka*, *Masa*, *Pistanna* etc.¹⁶
- For *Raktaja Krimi*- *Acharyas* have mentioned that the etiological factors of *Kustha* and *Raktaja krimi* are same. Incompatible food and vegetables, change from cold to hot and vice versa, sudden change of diet, improper *Santarpana* and *Apatarpana*, excessive use of honey and molasses, fish, *lakucha*, *chilichima* fish with curd, sour berry, *Kulattha*, *Masa*, suppressing the urge of vomiting etc. are mentioned as etiological factors for *Raktaja Krimi*.¹⁷

Classification:

In *Atharvaveda* *Krimi* is classified into *Drishta* and *Adrishta* type which indicates meaning visible and invisible. *Durnama* and *Sunama*

Krimi are also mentioned which may be accepted as pathogenic and non-pathogenic.¹⁸

According to function: *Sahaja & Vaikarika*

According to location: *Bahya & Abhyantra*

According to cause: 1. *Purishaja* 2. *Kaphaja* 3. *Raktaja* 4. *Malaja*

These are further classified into:

Bahya- 1. *Yuka* 2. *Liksha*

Abhyantra:

1. *Purishaja-Kakeruka, Makeruka, Leliha, Sashulak, Sausarad*
2. *Raktaja: Kesad, Lomad, Lomdipa, Sauras, Udumbara, Jantumata*
3. *Kaphaja:Antarad, Udarad, Hridayad, Churu, Mahaguda, Darbhakusuma, Saugandhika*¹⁹

Sign and Symptoms:

Both general and specific signs and symptoms of *Krimi Roga* are described in *Samhitas*.

General sign and symptoms:

Jvara(fever), *Vivarnata*(skin discoloration), *Shula*(acute pain in abdomen), *Hridroga, Bhrama*(vertigo), *Bhaktadvesa*(anorexia), *Atisara*(diarrhoea), *Sadana*(malaise) and *Chardi*(vomiting).²⁰

Specific sign and symptoms:

Bahya Krimi- Itching and urticarial rashes in the body.²¹

Kaphaja Krimi-

Hrillasa, Asyasamsravana, Avipaka, Arochaka, Jvara, Murchha, Jrimbha, Kshavathu, Anaha, Angamarda, Chhardi, Karshya, Parusya, Kasa, Pinasa, Sula, Svayathu, Hridroga, Pratisyaya, Siroroga.²²

Purishaja Krimi-

Purishabheda, Karshya, Parusya, Lomaharsa, Gudaniskramana, Gudakandu, Sula, Agnimandya, Pandu, Visthambha, Balakshaya, PrasekaAruchi, Hridroga.²³

Raktaja Krimi-

Raktaja vyadhi, Kesa Samshru Nakha Loma Pakshma Dhvamasa, Harsa, Kandu, Toda, excessively grown *Krimi* eat away skin, vessels, ligaments, muscles, cartilages and tissues.²⁴

Treatment

Ayurvedic Samhitas have described three treatment modalities for *Krimi* - *Apakarshana, Prakriti vighata* and *Nidana parivarjana*.²⁵

Apakarsana is the first line of treatment. In this expulsion of *Krimi* and the allied *Malas* from the host is carried out through mechanical means or by therapeutic measures.

Under *Prakriti Vighata*, destruction of the favourable environment for the growth of *Krimi* is done. External medicaments like *Abhyanga, Sveda, Pradeha* etc., and some internal medicines of antimicrobial nature are given to destroy the *Krimi*.

Nidana parivarjana includes avoidance of dietetic regimens as well as those habits which are conducive for the formation of *Krimi*. It inhibits the growth of microbes and parasites and also prevents the secondary infection or reinfestation.

DISCUSSION:

Since the advent of microscope, it has now become easier to understand and correlate the *Anumana gamya* parasites and microbes of our *Acharyas* to the modern parlance. Lots of efforts have been made to correlate *Krimi* with various microbes and parasites.

Bahya Krimi, Yuka can be compared with louse present in head, body and pubic areas and *Leeksha* to the eggs of louse which stick to the root of hairs. *Kaphaja Krimi* resides in upper part of gut and have different shapes like thick, flat, elongated, rounded, ring like etc. They produce nausea, salivation, anorexia, indigestion, fever, syncope, vomiting, emaciation etc.²⁶ The following parasites can be compared with *Kaphaja Krimi*.²⁷

Parasite -

Ancylostoma duodenale, Taenia solium, Taenia saginata, Trichinella spiralis, Ascaris lumbricoides

Raktaja Krimi resides in *Raktavahi Sira*, they are very minute, without legs, round and *tamra varna* (coppery colour). Some of them can't be visualized by naked eyes. These are 6 in number and produce *Kushta* like diseases.²⁸ Some microbes which are found in blood stream and resemble the description of *Ayurvedic* texts are:²⁹ **Bacteria** -e.g. *staphylococcus aureus, Betahaemolytic streptococci, Klebsiella pneumonia* etc. **Virus**-e.g. *HIV, Epstein Barr, Cytomegalo virus. Fungi-e.g. *Candida, Cryptococcus, Coccidioidesimmitis* etc. **Parasites**-e.g. *Plasmodium, Trypanosome, Babesia, Wucheria* etc.*

Purishaja Krimi resides in intestine and causes *Malabheda, Shoola, Krishata, Agnimandya* etc. In modern science there are some microbes which are found in intestine and causes gastroenteritis. Some examples of micro-organisms causing such conditions are:³⁰ [55] **Bacteria** -*Vibrio cholera, E. coli, Salmonella species, Shigella species* etc. **Virus**-*Rotavirus, Adenovirus, Astrovirus, Norwalk virus. Fungi*-*Candida albicans. Parasites*-*E. histolytica, B.coli, T. solium, H. nana, Trichuris trichiura, Enterobius vermicularis, Giardia lamblia* etc.

CONCLUSION:

The concept of *Krimi* is not at all new. Vedas depicts the true knowledge of our ancient Acharyas. In fact, *Vedas* are the first text in the world to record nexus between microbes and diseases. *Rigveda, Yajurveda & Atharvaveda* followed by *Ayurveda* provide rich insight into microbial sciences that existed in India many thousands of years ago. The three-fold treatment mentioned in our *Samhitas* can truly change the dynamics of the *Krimi* diseases if applied universally.

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