



CONCEPTUAL STUDY ON KRIMI NIDAN AND ITS MANAGEMENT

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ABSTRACT-

Recent global estimates indicate that more than a quarter of the world's population are infected with one or more of the parasitic and helminth infection. Most of the developing countries show high prevalence of worm infestation due to poor personal and environmental hygiene. Ayurvedic medicinal system is oldest in origin with treasures of knowledge about practices. In Ayurveda all acharyas mentioned the term Krimi and most of the authors described the classification, causes, symptoms and treatment of the Krimi. Ayurvedic physicians were well aware about Krimis and Krimirogas. Word 'Krimi' is used as broad sense for all worms and microorganisms' perspective of modern science The description of Krimi done in Vimansthana is mainly deals with the description of Sthula Krimi wherein the regimen pertaining to extract them out the body is detailed. The description of Sukshma Krimi is made specific to the pathology they cause and are explained with context of those diseases. This is done because the presence of Sukshma Krimi denotes the dushti of Kshetra wherein there is no need for a separate treatment regimen, treatment of that particular pathology caused by them is in itself is its cure. Acharya Charak mentions a common list of aetiology of Udara Krimi (Shleshmaja and Purishaja).

KEYWORDS- *Ayurveda, Microorganism, Krimi, Nidan, chikista, pathya*

INTRODUCTION-

CONCEPT OF KRIMI IN VEDIC PERIOD

The word 'Krimi' mentioned in Vedic literature has broad based meaning. There are four Vedas viz. Rigveda, Samaveda, Yajurveda & Atharvaveda. Description of Krimi & Krimiroga available in three Vedas except Samaveda. More details about Krimis are available in Atharvaveda. In Atharvaveda the existence of krimi is mentioned in trees, water, mountains and in living being which cause various diseases, in other words we can say that presence of bacteria in environment has been mentioned very clearly. Some other types of krimis which cause disease in eyes, nose, and teeth are also mentioned. Different types of krimi and its particular names eg. Rakshasa, Pisacha, Yatudhanas have also been used in various places. Visible-invisible and pathogenic-non-pathogenic organisms also mentioned in Vedic literature. Acharyas described Krimi very beautifully which lives in our body in different site means the organism invading in our body and locate in some particular site and produced various diseases. Modern science is said that there are some beneficial microorganisms and some are harmful, this is previously mentioned in Samhita period but there is no broad description of beneficial Krimi. For this they are using the word Sahaja Krimi which means avakarika (non-pathogenic).

KRIMI IN SANGRAHA PERIOD

Ashtanga Sangraha and **Ashtanga Hridaya**, supposed to compiled the Charaka and Sushruta Samhitas and explains the Nidana (causes), Classification and Lakshanas (symptoms) of Krimi in Nidana Sthana and treatment of the Krimi in Chikitsa Sthana 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". **Sharangadhara Samhita** has explained twenty-one types of Krimis according to etiology. References of Snayuka and Vrana Krimis are first told in this Samhita.

“ Krimi Kitetyadi Krumaya Kosta Purishadi Baspasambhava” (Dalhan, 0Sushruta Samhita - Su.1/30).

The description of Nidanarthkara Roga is mentioned in Charak Nidana. The clinical condition where in already pre-existing disease is potentiated by other disease specific etiological factors; giving rise to a clinical complex¹. The description of Krimi is done¹ in Charak Vimansthana which

in itself is suggestive of its importance. The Nidana and Chikitsa of Krimi is different from the diseases mentioned in Chikitastana; hence the description is done in Vishita sthana Vimansthana.

i) Ashtang Hridaya (4TH CENT.A.D.) and Asthang Samgraha:

Explained Nidaan, classification, lakshana of Krimi in the Nidansthan. The treatment is given in the Chikitsa sthan.

ii) Sharangdhar ^[2] -

Described Krimiroga in Prathama Khanda, seventh chapter. Number of Krimi stated is 20, etiology, classification, symptomatology is also mentioned. Here the snayuka krimi and vrana krimi are additions.

iii) Bhavaprakasha Samhita ^[3]:

In this classification, etiology, symptomatology is explained in Madhyama Khanda, Adhyaya7.

iv) Madhavanidana (7th cent.A.D.)^[4]:

The 7th chapter “Krimi Nidan” mentions the external and internal types of Krimis; internal Krimi further classified into three such as Raktaja, Purishaja and Shleshmaja. Total 20 Krimis described according to their origin and habitat.

The sequence further deals with ‘Pandu Nidaan’, giving a clue of relation between these 2 conditions.

v) Kalyankaraka ^[5]:

Krimiroga and its treatment with Pathya-Apathya is described in 17th Pariccheda named Krimi Rogadhikara. vi) Ras-Ratna Samucchaya:

The 20th Chapter, “Krimi Chikitsa” describes Krimi. Ras Aushadhis were described with Kasha Aushadhi in treatment.

Classification of krimi in general: ^{6,7,8}

Classifications under various headings are made by Acharyas. Sushruta has categorised as Drishta and Adrishta variety as in Vedic literature.

Charak states as Sahaja and Vaikarika. Has a description in details of Vaikarika variety. Charak and Sushrut mention as twenty while Harita stated as thirteen. Sharangdhara mentioned

as twenty-two. While rest of workers, like Vagbhata, Madhavkara and Bhavmishra followed Charak.

Table no 1 - Morphological Classification of Udara Krimi according to Charak

	Colour	Size	Shape
Shleshmaja	Shweta	Pruthu, Brughna	Charmalata
	Shweta- Tamravabhascha	Vrita Parinaha	Gandupadakritayah
	Shweta	Anavah	Dirghstantvakritaya
Purishaja	Shweta	Sukshnavritta Parinaha	Dirghaurnanshusankasha
	Shyava-Nila- Harita- Pita	Sthula vritta Parinaha	-

Table no - Nomenclature of Abhyantar krimi (Udar krimi)^{9,10}

	Charak	Vagbhat	Sushruta	Harita
Shleshmaja	1 Antrada	Antrada	Mahapushpa	-
	2 Hridayada	Hridayada	Praloon	-
	3 Udarada	Udarveshta	Chipita	-
	4 Churu	Churu	Pippilika	-
	5 Mahaguda	Mahaguha	Daruna	-
	6 Saugandha	Saugandha	-	-
	7 Darbhakusuma	Darbhakusuma	Darbhakusuma	-

Purishaja	1	Kakeruka	Kakeruka	Ajawa	Pruthumunda
	2	Makeruka	Makeruka	Vijawa	Dhanyakuranibha
	3	Sausurada	Sausurada	Kipya	Suchimukha
	4	Sashula	Sashula	Chipya	-
	5	Leliha	Leliha	Gandupada	Kinchuk Sannibha
	6	-	-	Churu	Anawah
	7	-	-	Dwimukha	Sukshmah

The above chart is evident that Vagbhata has followed Charak with few modifications in some nomenclature. No similarity is noted in names mentioned by Charak and Sushruta except Churu but Charak and Vagbhata has stated it as Shleshmaja while Sushruta mentions it in Purishaja variety.

Madhavkar, Sharangdhar and Bhavmishra followed Charak in this regard. On the contrary Harita come up with completely different names under heading of Purishaja variety.

Analysing the names described by various Acharyas we can summarise they denote various aspects of Krimis. Can be understood under 5 broad headings.

- **Names according to morphology and colour -**

- **Nidaan:**

- The general etiological are mentioned by Sushruta, Madhavkara, Bhavmishra, Harita and Vangasen followed by specific for Shleshmaja, Purishaja. But surprisingly Charak and Vagbhata have not mentioned such a differentiation, wherein both mentions only specific causative agents. To add on Charak mentions a common list of etiology of Udara Krimi (Shleshmaja and Purishaja).

Table no 2. General Aetiological factors of Udara Krimi ¹¹

Article	Harita	Sushruta	Madhava, Bhavmishra, Sharangdhara
• Vihararaja			
Avyayama	-	+	+
Divaswapna	+	+	+

• Aharaja			
Grains			
Godhuma	+	-	-
Masha	-	+	
Vidala	-	+	
Pishtanna	+	+	+
Prithuka	-	+	-
Pinyaka	-	+	-
Vegetables			
Bisa	-	+	-
Shaluka	-	+	-
Kaseruka	-	+	-
Parnashaka	-	+	-
Animal Products			
Kshira	+	+	
Dadhi	-	+	
Sugar candy and its Products			
Guda	+	+	+
Sura	-	+	

Shukta	-	+	
Meat			
Palala	-	+	
Pishita	-	+	
Anupamamsa	-	+	
Taste and Quality of diet			
Madhura	+	+	+
Amla	-	+	+
Ruksha	+	-	-
Guru	-	+	-
Picchila	+	+	-
Drava	+	+	+
Shitala	-	+	-
Tapodaka	+	-	-
Diet habits			
Asatmya	-	+	-
Viruddha	-	+	+
Malina	-	+	-
Adhyashana	-	+	-
Ajeerna	+	+	+

Table no -3 Specific Classical Aetiological Factors of Udar Krimi¹²

Shleshmaja	CH	SU	VA	MA
Kshira, Guda	+		+	+
Tila, Taila	+	+	-	+
Mamsa, Masha	-	+	+	+
Matsya, Anupamamsa, Pishtanna, Parmanna, Kusumbha	+	-	-	-
Snehajeerna, Putiklinna, Sankirna, Viruddha, Asatmya bhojan	+	-	-	-
Dadhi	-	+	+	+
Shukta	-	-	+	-
Purishaja				
Same as Shleshmaja	+	-	-	-
Masha, Pishtanna	-	+	-	+
Vidala	-	+	-	-
Parnashaka	-	+	+	+
Dhanya, Ulaka	-	-	+	-
Guda, Amla, Lavana	-	-	-	+

Charaka mentioned origin of Purishaja Krimi from that of aetiology of Shleshmaja. Sushruta added Vidala, Parnashaka which is also stated by Vagbhata and Bhavmishra Vangasen opined as Shaka.

Samprapti -

The pathogenesis of Krimi roga is as such not clearly described in classics. Vijatiya bhava like Krimi is tried to explain on basis of Dosha, Dushya, Agni, Aam and Srotas.

As described in Nidana prakaran, etiological factors if analysed are mainly causing

- Mandagni
- Kapha Prakopa

Also, the classification is made as Shleshmaja indicating produced by Kapha while Purishaja indicating disturbed metabolism leading to production of more Mala Bhaga especially Purisha helping its growth.

These are Vyanjak Hetu which creates a suitable environment for growth.

Charak and Harita further on the basis of site of location made divisions like Bahya and Abhyantar.

Table no 4- showing total no of krimi and their varieties according to various acharyas

Name of Acharya	Bahya krimi (total no)	Abhyantar krimi				Grand Total
		Shleshmaja	Raktaja	Purishaja	Total no.	
Charaka (CH)	2	7	6	5	18	20
Sushruta(SU)	-	6	7	7	20	20
Bhela(BH)	-	-	-	-	-	20
Harita(HA)	7				6	13
Vagbhata(VA)	2	7	6	5	18	20
Madhava(MA)	2	7	6	5	18	20
Sharangdhara(SA)	2	7	6	5	18	20*
Bhavaprakash(BP)	2	7	6	5	18	20

*Sharangdhara has retained original number 20 with additions of Snayuka and Vrana Krimi.

The numerology used is same by Charak and Sushruta but names are different. Total number goes to 37 if only names are counted. On the contrary Harit mentions 13 varieties which include 7 external and reduction is seen in number of internal varieties to 6.

Further Sharangdhara opines total number as twenty but states further that there are many others as for e.g. Snayuka and Vrana Krimi totalling to 22.

Table no 5. Contraindications in Krimi Roga¹³

Sushruta	Amla, Madhura rasa, Shitodaka, Mamsa, Milk, Ghrita, Leafy Vegetables, Dadhi.
Vagbhata and Bhavmishra	Amla, Madhura rasa, Mamsa, Milk, Ghrita, Leafy Vegetables, Dadhi
Yogratnakara	Amla, Madhura rasa, Mamsa, Milk, Ghrita, Leafy Vegetables, Dadhi, Sauvira and Kshara.
Bhaishjya Ratnavali	Amla, Madhura rasa, Mamsa, Milk, Ghrita, Leafy Vegetables, Dadhi, Vaman veg Dharan, Diwaswpna, Ajeerna, Pishtamaya padarth, Urada, Liquid diet articles.

All Acharyas have stated to avoid Amla, Madhura rasa, Mamsa, Milk, Ghrita, Leafy Vegetables and Dadhi, thus can be said as general contraindications.

Treatment of Krimi –

Prophylatic and curative regimens mentioned were:

Adhidaivic-Variou s Mantras worshipping the God are found. Oblations to Agni, Indra, Jala, Megha as Kriminashaka.

Adhibhautic- involves management by Parthiv and Vanaspati forms of dravya. Parthiv group includes Shankha-Mani, sisak, Anjana etc. While Vanaspati includes Vacha, Guggulu, Apamarga, Prishnaparni etc

Acharya Charak has given a 3-fold line of treatment in Vimansthan 7 as:

- Apakarshan,
- Prakruti Vighata
- Nidaan Parivarjan.

Apakarshan- means expulsion. Word is made up of ‘Krusha-Vilekhane Dhatu which imply to stretch out or to purge out, mainly Dosha, Mala and Krimi Sanghat. The regimen includes two modes- Bahya and Abhyantar.

Bahya is Apakarshan of external krimi which are driven off manually or with the help of surgical appliances.

Table No. 6: List of Compound Preparation.^[14]

S. N.	Formulation Name	Doses/ Anupana
1	Somrajyadi Churna	3 to 6g. is to be taken with 50ml. water twice a day.
2	Vidangadi Churna	1g. is to be taken with honey in sufficient quantity to make a paste twice a day.
3	Krimi mudgar Rasa	1 to 2 vati is to be taken with 50ml. water twice a day.
4	Krimi-kuthara Rasa	1 to 2 pills is to be to taken with 50ml. water twice a day.
5	Vidangarista	14 to 28ml. is to be taken with equal quantity of water after meal, twice a day.
6	Krmisutra	5 to 10grs. With water, 2 to 3 times a day. It kills the intestine worm and expels it out.
7	Krimikantak Churna	This is given to children suffering from intestine worms, dose: 3 to 7grs. With honey.
8	Mustadi Yoga	1 to 2 pills, 7 to 21 days with the decoction of mustadi kwatha.

PATHYA AND APATHYA IN KRIMI ROGA-[15]

Bhaishya Ratnavali has recommended use of some herbs like-Patola, Vetagra, Rasona, Chitraka, Kantakari, Vidanga, Haritaki, Tada, Bhallataka, Hingu, Yavakshara, Ajmoda, Khadira, Kutaja, Jambhira, Ajmoda, Devdaru, Agarau.

Harita mentioned Shatpushpa, Jivanti and Shunthi while Sushruta has opined Tambula.

- Samshodhana Karma, above mentioned herbs and some grains with meat and animal products perhaps work as Agni Pradipaka and create Prakruti Vighata.
- Some fermented articles are also accepted as Pathya may be perhaps to effect on parasites from intestine so that they dislodge faster.

DISCUSSION-

The present study is basically related to Abhyantar Krimis hence concentrating on the aspect; they are mentioned to be of three varieties: Kaphaja, Purishaja and Raktaja. Among them Kaphaja and Purishaja can be considered as Udara Krimi as the habitat mentioned is Amashaya and Pakwashaya respectively.

This classification as Kaphaja and Purishaja does not seem maintained further. The etiologies mentioned are common to both varieties and also the treatment portion shows no specificity pertaining to classification. Thus, the motto of classification is limited upto bgiving an idea of the Prakruti (causative factor) or Yoni (origin) of Krimi.

CONCLUSION- Concept of Krimi and Krimi Roga are available since Vedic period, but detailed descriptions are found in samhita period along with three fold treatment of krimiroga. According to time era depth of literature varies which had more detail description regarding Krimiroga. Krimi word shows the all microorganism helminthes, protozoa, bacteria and virus in the Ayurvedic literature. So it is very difficult to understand the correlation between the term krimi and modern science because of lack of detail description of individual krimi. Although management of krimi roga described by text of Ayurveda are step by step in proper way but it is not well established practically because it is difficult to follow the all steps of management especially in children. A list of Pathyas for the Krimi Roga is also available in the classics mentioned (wherein categorisation is done under suitable headings. By analysing it gives a impression that they might be helping in Prakruti Vighata and some also perform action of Agni enhancer. The preventive measures in modern parasitology are concerned with sanitation and contamination of food etc as they stress upon source of infection whereas Ayurveda gives more

importance to soil (body) rather than seed (Krimi). The combination of both is the key to freedom from invading Helminths. Ayurveda has also emphasized on the sanitation aspect by stating to wash paad (feet), Malayana (all external opening including anus) frequently.¹⁰

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