



# Rare Case Scalp Cyst –Histopathology Report- Dirofilaria (Nematode) - A Case Report

Dr.Rajeshkumar Gupta<sup>1</sup>.Dr. Bapu Sawant<sup>2</sup>. Dr.Shivani Gavande<sup>3</sup>.

<sup>1</sup>Professor, Department of Surgery, Bhaisaheb Sawant Ayurved Mahavidyalaya, Sawantwadi

<sup>2</sup>Director, Siddhartha Nursing Home, Sukalwad, Malvan.

<sup>3</sup> Professor, Department of Kayachikitsa, Bhaisaheb Sawant Ayurved Mahavidyalaya, Sawantwadi.

## Abstract:

Happiness lies in healthy state of body and mind. In spite of scientific advances and researches, incidences of various diseases in early age have become global issues. Altered food habits, adulteration of food, various vegetables and animal products prepared with artificial fertilizers and chemicals collectively causes vitiation of Doshas and to certain extent formation of krimi in body. In ancient Indian sciences, Krimi has broad terminology which encompasses various types of helminthes, microorganisms like bacteria, viruses, and protozoa causing a large variety.

Even in the time before 2500-2000B.C. when microscopic examination was not available, similar concept of Krimi is elaborated in ancient Indian Vedic literature and Ayurvedic texts in the form of hymns. Remedy for Krimi is explained in second and fifth khandas of Atharvaveda

In Atharva Veda, while describing types of Krimi and their locations, Inside the human body—  
Avantrayam (आवन्त्रयम्) (residing in the intestines - Atharva Veda 4);

Shirshantayam (शीर्षान्त्रयम्) (residing in head – Atharva Veda 4);

Parshteyam (पार्श्वेयम्) (residing in ribs – Atharva Veda 4)

Surgical removal of worm from the scalp has again proved the statement stated by Otto Braun-Falco et al in the 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.<sup>1</sup>

Key words: Nematodes, Dirofilaria, Surgery, Krimi, Worm infestation

## Introduction:

As per WHO, current prevalence rate of worm infestation in adults in India is 4.92%. This figure is projected to rise at 2030. Worms are proved to be a causative factor of various diseases like helminthiasis, liver cirrhosis, acid-peptic disorders (caused due to H. pylori) and guinea-worm disease as per modern medical sciences. The major pathogenic worms include nematodes, roundworm, pinworm, whipworm, hook-worm and dwarf round worm, guinea worm, tapeworm, flat worm, flukes and liver flukes.

Ayurveda explains total 20 types of Krimi. These Krimi are again classified on the basis of their site, sex, colour, gait, activity, pathological status and pathogenicity for various diseases.

Poor hygiene, environmental conditions, water contamination contribute to a spectrum of infections caused by worms. All these infections are more common in subtropical and tropical countries. Over 150 types of worms infect human and causes diseases

This case report reveals again the importance of deworming in childhood, else can land up in life threatening consequences in children.

## Case Report:

A Female child, age 3 years having cystic swelling on the scalp along with pain was brought in hospital for surgical removal of cyst.

The cyst was near sagittal suture on the head. Patient had history of domestic cat and dogs in the family of a farmer from villages Tirawade, Malvan.

She didn't have any history of other major illness.

As it was a procedure under short GA, baby got admitted at Siddhartha Hospital one hour before surgery with NBM and got operated by Dr.Rajeshkumar Gupta and Dr. Bapu Parab.





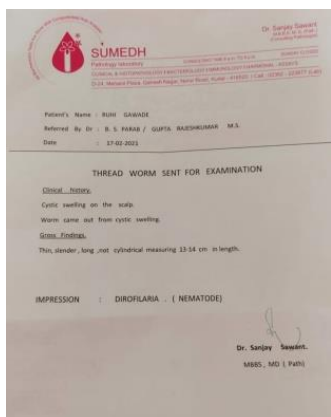
When the cyst was opened, live thin, slender, long, noncylindrical worm measuring 13 to 14 cm in length came out the cyst.



removal of worm vdo.MP4



The thread worm sent to pathological laboratory for identification. It was found that worm was DIROFILARIA (nematode)



## Discussion:

Literature review about Krimi, their synonyms, classifications and pathogenesis was done from ancient Vedic and Ayurvedic literature like Nirukt, Amarakosh, Vachaspatyam, Shabdakalpadruma, Girvan Laghukosh, Apte Dictionary, Ayurvedeeya Shabdakosh, Rugved, Atharvaved, Charak Samhita, Sushrut Samhita, Ashtanga Hrudaya, Ashtanga Sangraha, and Harit Samhita

In Vedic literature, there is a description of certain entities, which can be correlated to the concept of Krimi

Apsara – Meaning fairy that makes noise.

निरुक्त –अप्सारीणि । अपि वा ।अप्सः । (नि.घ.३/७/६)

They don't stay at one place. They can go anywhere in the body. They can be visualized clearly.

Yatudhaan – Yatudhaan is a synonym of Krimi meaning one which causes pain<sup>2</sup>.

Sarpa - In Chhandogyopanishad, Bhootvidya be an assumption of Krimi Vidnyan. Saptapath Brahman, Maitreya Samhita, Taittareey Upanishad recognize the description of Krimi as 'Sarpa'.

Charmayukika, Krishna, Shweta – Krimi which have skin like leather are termed as Charmayukika. Those having black colour are termed as Krishna and white colour are named as Shweta<sup>3</sup>.

लोमद्विप (Lomadwipa) – Type of Krimi which reside in body hairs i.e. Loma

Viyava (वियव) – A type of Krimi which is moving constantly  
वियति चाकाशे चरतीति ।

Inside the human body—Avantrayam (आवन्रयम्) (residing in the intestines - Atharva Veda 4)<sup>4</sup>;  
Shirshantayam (शीर्षान्रयम्) (residing in head – Atharva Veda 4);  
Parshteyam (पार्श्वयम्) (residing in ribs – Atharva Veda 4)

Prevention and treatment of Krimi as explained in Vedas

Prevention and treatment of Krimi is explained in Vedas. Various Mantras recommending worship of Maruta, Megha, Agni, Surya, Vidyut and Jala are described in Vedas with the aim of destroying Krimi. The principle behind this enchanting may be the following-

- Maruta (Wind) –Worship of wind to prevent microbes in the atmosphere which get scattered with blow of wind.
- Megha (Clouds) – Worship of Megha for rain to clear the environment and make it free from most of the microorganisms as they are washed away with showers.
- Agni (Fire) – Fire is thought to be the most important source for disinfection from the ancient time.
- Sheela (Stone) – Stones are used to destroy Krimi by crushing them.
- Surya (Sun) – Sunrays with presence of ultraviolet rays (as per modern science) are potent enough to kill microbes in the atmosphere.

## Ayurvedic concept of Krimi

Charakacharya has explained twenty types of Krimi which can be grouped into four on the basis of their source. Malaja born of external excreta, Purishaja born of feces, Shleshmaj born of phlegm and Shonitaj born in blood<sup>5</sup>.

Sushrutacharya has described in-depth etiology, pathology and treatment of Krimi in Uttaraashtaka 5<sup>th</sup> chapter. Twenty types of Krimi are classified with various categories as i) Drishta (दृश्य) (visible) and Adrushta (अदृश्य) (non-visible) ii) Purishaja (arose from feces), Shleshmaja (arose from Kapha dosha-phlegm) and Raktaja (रक्तज) (Arose from Rakta-blood) Krimi. Ashtang Sangraha and Ashtang Hrudaya Samhita explained causative factors and pathogenesis of Krimi in Nidansthana and its treatment in Chikitsasthan.

Table 1: Types of Kaphaja Krimi according to Samhitas (Brihatrayee) in Ayurveda

Sr. No.	CHARAK	SUSHRUT	VAGBHAT
1	ANTRAD (अन्त्राद)	MAHAPUSHPA (महापुष्प)	ANTRAD (अन्त्राद)
2	UDARAD (उदराद)	CHIPIT (चिपिट)	UDARAWESHTA (उदरावेष्ट)
2	HRIDAYAD (हृदयाद)	PRALOON (प्रलून)	HRIDAYAD (हृदयाद)
4	CHURU (चुरु)	PIPPILIKA (पिप्पिलिका)	CHURU (चुरु)
5	MAHAGUD (महागुद)	DARUN (दारुण)	MAHAKUHA (महाकुह)
6	SOUGANDHIK (सौगन्धिक)	--	SOUGANDH (सौगन्ध)
7	DARBHAKUSUM (दर्भकुसुम)	DARBHAPUSHPA (दर्भपुष्प)	DARBHAKUSUM (दर्भकुसुम)

There is no organ or organ system in which either worms or their larvae are not capable of establishing themselves. Therefore, the manner of transmission, degree of involvement, and type of therapy all are complicated.

Scientific name	Common name
Nemathelminthes	Roundworms
Nematodes	Roundworms or thread
	Worms
<i>Enterobius vermicularis</i>	Pinworm
<i>Ascaris lumbricoides</i>	Intestinal roundworm
<i>Trichuris trichiura</i>	Whipworm
<i>Ancylostoma duodenale</i>	Hookworm
<i>Necator americanus</i>	Hookworm
<i>Ancylostoma braziliense</i> ,	Dog and cat hookworm,
<i>A. caninum</i>	cause cutaneous larva
	Migrans
<i>Strongyloides stercoralis</i>	Dwarf round worm
<i>Trichinella spiralis</i>	
<i>Wucheria bancrofti</i>	
<i>Brugia malayi</i>	
<i>Dirofilaria sp.</i>	Zoonotic filarial
<i>Toxocara canis</i> , <i>T. cati</i>	Dog and cat round-
	Worms
<i>Gnathostoma spinigerum</i>	
<i>Loa loa</i>	
<i>Onchocerca volvulus</i>	
<i>Dracunculus medinensis</i>	Guinea worm
<b>Plathelminthes</b>	Flat worms
Cestodes	Tapeworms
<i>Taenia saginata</i>	Cow tapeworm
<i>Taenia solium</i>	Pig tapeworm
<i>Hymenolepsis nana</i>	Dwarf tapeworms

<i>Diphyllobothrium latum</i>	Fish tapeworm
<i>Echinococcus granulosus</i>	Dog tapeworm
<i>Echinococcus multilocularis</i>	Fox tapeworm
Trematodes	Flukes
<i>Schistosoma mansoni</i>	
<i>Schistosoma japonicum</i>	
<i>Schistosoma haematobium</i>	
<i>Trichobilharzia</i>	Animal schistosomes
<i>Clonorchis (Opisthorchis)</i>	Chinese liver fluke
<i>Sinensis</i>	
<i>Opisthorchis felineus,</i>	Cat and dog liver flukes
<i>Opisthorchis viverrini</i>	
<i>Fasciolopsis buski</i>	
<b>Annelida</b>	Segmented worms
Hirudinea	Leeches

Looking at the residential place of patient, according to Ayurved, The Desh is Anupa. Krimi are more common in Anupa Desha. Also with statistical data, it was found that Filarial cases are more common in Malvan Taluka which has more sea shores in Sindhudurg District, Maharashtra, India.

With this surgical removal of thread worm from cyst on the scalp, it is again proved the activity and importance of worm infestation all over the body in humans.

### **Conclusion:**

Unhygienic behavioral pattern can cause worm infestation in childhood. Regular deworming and ant filarial treatment is necessary to control the epidemic in the located area where there is high prevalence of worm infestation. Worms can travel anywhere in body through lymphatic drainage or circulatory system. So since childhood regular deworming should be done in more aquatic habitat.

### **Declaration of competing interest:**

The authors declare that they have no competing interest.

### **Funding statement:**

This study did not receive any specific grants from funding agencies in the public, commercial or not-for-profit sectors.

**Ethical Approval:**

This study was exempt from ethical approval .Informed consent was obtained from the patient's relatives for the use of their health information.

**References:**

1. <http://www.bookmetrix.com/detail/chapter/2b7d63c3-2925-4155-9a5c-2b2f2ffec0a5>
2. Shabdakalpadrum,by Syaar-Raja Radhakantdev-Bahaduren virachit Shreevaradaprasaad-vasuna tadanujen Shreeharicharanavasunaa cha, Kanda 1 to 5 ,published by Choukhamba Sanskrit Series Varanasi. Dwiteeya Kandam pp. 431
3. Vachaspatyam (Brihat Sanskritaabhidhaanam) Shree Taranatha TarkaVachaspatiBhattachaaryena Sankalitam, Published by Choukhamba Sanskrit Series, Varanasi. Dwiteeya Bhagah pp. 558
4. Atharvaveda, Translated to English by William D White Whitney, First Edition, Delhi; Nag Publishers 1987 Shashtha Kanda ,Navama Anuvaak,Sukta 83
5. Charak Samhita ,vol.1,Tripathi B(2003),Choukhamba Sanskriti Prakashan, Varanasi, Charak Viman sthana 7/4-13

