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**KRIMIGHNA DASHEMANI – AN AYURVEDIC ANTHELMINTIC COMPOUND
FOR HYMENOLEPIS NANA - A CASE STUDY**

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ABSTRACT:

Hymenolepis nana is one of the most common tapeworm (Intestinal cestode) found worldwide in humans and also known as dwarf tapeworm due to its small size (adults are only 15–40 mm long). This worm infestation can be considered as Purishaja Krimi in Ayurveda. The infection is most commonly seen in children, although adults are also infected. It is estimated that as much as 60% of the world's population is infected with gut parasites, which may play a role in morbidity due to intestinal infections. Latest estimates indicate that more than 880 million children are in need of treatment for these parasites. Concomitant infections with other parasite species are frequent and may have additional effects on nutritional status and organ pathology.

Methods: In current study a single male child patient of 12 yrs of age presenting with symptoms of Atisara, Vivarnata, Siroshula, Putimalapravruti, Udarshula (pain in lower quadrant) since 6 months. The patient was asked to do the laboratory test which revealed with stool positive with ova of Hymenolepis nana. The patient was treated with Ayurvedic medicines Krimighan Kashaya Vati (Krimighna Dashemani) for a period of 28 days and the investigations like stool routine and microscopic, CBC with ESR and AEC were repeated after a completion of 28 days.

Result: The patient has shown remarkable improvement in all the signs and symptoms of the disease and also investigations were done in regular periods which are showed ova is negative in stools after the treatment than the previous reports. Thus the result of the treatment was very much encouraging. Further neither side effects nor adverse affects observed during the period of therapy.

Conclusion: This line of treatment provided a good clinical improvement in a patient with

Hymenolepis nana.

KEY WORDS: Anthelmintic, Hymenolepis nana, Krimighna Dashemani, Purishaja

INTRODUCTION

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Soil-transmitted helminths (worms) infections are among the most common infections worldwide and affect the poorest and most deprived communities. They are transmitted by eggs present in human faeces which in turn contaminate soil in areas where sanitation is poor.¹ Dwarf tapeworm (*Hymenolepis nana*, also known as *Vampirolepis nana*, *Hymenolepis fraterna*, and *Taenia nana*) as it is known due to its size (adults are only 15 – 40 mm long) is found throughout the world and one of the most common Cestode parasite of the phylum Platyhelminths that infects a wide range of domesticated and wild animals, humans and especially children; in temperate zones children and institutionalized people are infected more often. Autoinfection can also occur when gravid proglottids release eggs inside the gut. Eggs hatch in the small intestine, liberating the oncospheres embryo, which

then penetrates the lamina propria of the intestinal villi². The life span of adult worms is 4 to 6 weeks, but internal autoinfection allows the infection to persist for years³. *Hymenolepis nana* infection can cause emaciation and diarrhoea and can even be life-threatening. It is a zoonotic parasite, and its principal definitive hosts are rodents^{4, 5}. The fact that an intermediate host is not required in the life cycle was determined in the late 1800s⁶. For this reason, *Hymenolepis nana* has been considered to be the most common tapeworm throughout the world. Latest reports shows that incidence of disease affected in more than 880 million children and they are in need of treatment for these parasites⁷. In India overall prevalence rates range from 12.5% to 66%, with varying prevalence rates for individual parasites^{8,9,10,11}.

This intestinal worm infestation and clinical features can be compared with *Krimi-roga* in Ayurveda. The word *Krimi* has wide range including all *Apada-Bahupada*, pathogenic - non pathogenic, movable and alive organisms in it. *Acharya* Dalhana described its origin¹². *Acharya* Caraka explained *Krimi-roga* based on *Hetvadi saptakagana* (seven specific aspects)¹³. In classics of Ayurveda the main line of treatment for *Krimi-roga* is

mentioned under the three vital principles *Apakarsana*, *Prakritivighata* and *Nidanaparivarjana*. These three principles can be implemented on patients either by avoiding the cause or by the specific treatment procedures or by administering drugs. This study mainly contains comprehensive approach by administering the Ayurvedic Broad spectrum *Krimighna* (anthelmintic) for *Hymenolepis nana*.

CASE STUDY

A male child of age 12 yrs presenting with symptoms of *Atisara* (diarrhoea), nausea, *Vivarnata* (hypo pigmentation on face), *Siroshula* (headache), *Putimalapravruti*, *Udarshula* (pain in lower quadrant) since 6 months, visited in *Kaumarbhritya* OPD, IPGT&RA, Gujarat Ayurved university, Jamnagar. Finding the clinical features of *Krimi*, the patient was asked to do the laboratory tests which revealed stool positive with ova of *Hymenolepis nana*. The patient was treated with Ayurvedic medicine *Krimighna Kashaya Vati* (*Krimighna Dashemani*).

METHODS

In this case study clinical features along with investigations like stool routine and microscopic for ova, CBC with ESR and AEC were done. Later *Krimighna Kashaya Vati* (*Krimighna Dashemani*) for a period of 28 days and the investigations.

TREATMENT

Drug: *Krimighna Kashaya Vati*

(Preceded by *Haritaki Churna* 3 grams at night for 3 consecutive days may useful as a laxative which help for the *Apkarshana*)

Dose: Adult Dose x Wt. in Pounds (1kg =2.2 pounds)/150= **7 grams** (Clerk's Rule)

Anupana: *Koshna Jala* (Luke warm water)

Kala: *Bhojanottara*, in three divided doses

Duration: For maximum 28 days for every 7 days follow-up.

The patient visited the OPD in regular intervals of 7 days, after 15 days, he had only hypo pigmentation on face and all other clinical presentations were absent. After 28 days, patient visited the OPD with no complaint. After 28 days of drug intervention, blood investigation for CBC with ESR and AEC were done along with stool routine and microscopic examination repeated for 3 consecutive days.

RESULTS

The patient has shown remarkable improvement after 28 days drug intervention in all the signs and symptoms and the consecutive investigations showed stool ova negative than the previous reports after therapy. Thus the result of the treatment was very much encouraging and

there were no side effects during the therapy.

DISCUSSION

In present era increasing demand of herbal as well Ayurvedic medicines, maintaining quality standards is the prime need of hour. Plenty of single and compound formulations are mentioned in Ayurvedic classics, one among them is *Krimighana Kashaya Vati*; it has *Dipana*, *Pachana*, *Anulomana* and *Krimighana* properties to act as broad spectrum anthelmintic combination. The WHO reports says morbidity is directly related to worm burden: the greater the number of worms in the infected person, the greater will be the severity of disease¹⁴. Looking on these demands, safe and effective formulation is the need of the hour and *Krimighna Kashaya Vati* possess all¹⁵.

There are 10 ingredients in *Krimighana Kashaya Vati* viz., *Aksiva* (*Sigru - Moringo olefera* Lam.), *Maricha* (*Piper nigrum* Linn.), *Gandira* (*Khadira- Acacia catechu* Willd.), *Kebuka* (*Costus spesiose-Koeing*), *Vidanga* (*Embelia ribes* Burm.f.), *Nirgundi* (*Vitex nirgundo* Linn.), *Kinihi* (*Sweta shirisha- Albezzia procera* Benth.), *Gokshura* (*Tribulus terrestris* Linn.), *Vrishparni* (*Vasa- Adhatoda vasica* Ness), and *Aakhuparnika* (*Merremia emarginata* Burm.f)¹⁶. It is reported in a study that,

the total methanol extract of the seed and cold aqueous infusion of root bark of *Moringo olefera* Lam. possess significant anthelmintic activity against the *Hymenolepis nana*¹⁷. In the present single case study too, remarkable results in all the cardinal and associated symptoms of *Hymenolepis nana* was observed supported with negative stool reports. There were no much change observed in all hematological parameters, except for slight increase in Hb%, and decrease in ESR level. The trial drug shows 100% results by removing *Hymenolepis nana*.

By observing the efficacy of treatment on various parameters it can be understood that after administration of *Haritaki churna* for 3 days with Lukewarm water at bed time before commencing of *Krimighana Kashaya Vati* helped significantly in elimination of *Hymenolepis nana* out of the body easily by creating an unfavorable condition for its prosperity. The ten ingredients of *Krimighana Kashaya Vati* shows its efficacy by eradicating the *Hymenolepis nana* from the gut by its pharmacodynamic properties and also due to its *Prabhava*.

CONCLUSION

According to Ayurveda, *Hymenolepis nana* infestation can be closely correlated to *Purishaja Krimi*. The *Krimighna Kashaya Vati* was successful in eradicating the *Hymenolepis nana* infestation in the

single case studied, and hence a well designed clinical evaluation with a higher sample size is suggested to prove its anthelmintic activity.

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