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Combined Effect of *Vidanga* & *Kampillaka* on *Krimi Roga* w.s.r. to Round Worms

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ABSTRACT

Krimi have been considered a major public health problem through out the world (WHO, 1967 Wandan, 1983 McLaren, 1984). In our country this problem is equally significant. It effects the children more frequently than adult (CCRAS 1987). *Krimi* hamper growth and development of a person, create malnutritional condition and decrease immunity thus the effective solution of this problem is necessary. *Krimi* may be a cause of death of a diseased person. Of all the herbs used in treating worm infestation, *Vidanga Beeja Churna* (*Embelia ribes*) and *Kampillaka Phalraja Churna* (*Mallotus philipensis*) were used for the present comparative study. In most of patients, who are suffering from worm infestation have an *Vivarnata* on the face. "*Vivarnata*" had been described by *Acharya Charaka* under the *Lakshana* of *Purishaja Krimi* and it has been also described in *Rasavaha Srotodusti Lakshana*. *Krimis* robe the digestive nutritive assets through the intestinal wall, which we are making with high effort. So the deficiency of *Rasa Dhatu* created. According to *Dhatu Poshana Nyaya* if the *Rasa Dhatu* is not sufficient then other *Dhatu* can't form properly and ultimate weak resistance and poor immunity develops.

Key words: *Vidanga*, *Embelia ribes*, *Krimi*, Worm infestation, *Krimighna*.

INTRODUCTION

Parasitic infection remain as a major health hazard in tropical developing countries. The success of eradication of these infectious disease gravely depends to a large extent upon various environmental, social and economical factors. Effective and specific treatment followed by personal and group hygiene may be necessary for the control and prevention of these disorder. In a country like India where a high magnitude of population are

illiterate and people are living under poor hygienic condition curative treatment is equally important as preventive measures. Though effective drugs are available for the treatment of particular parasite but the present knowledge of parasitology is not satisfactory. Therefore, introduction of specific vernifugal drugs which are free from side effects is the prime motto of the medical world.^[1]

Clinical trial of drugs or a therapy have very much important part in the work specially in clinical subject. So trial of two single drugs was planned here in this study.

Ayurveda which literally means 'The Science of Life' is one of the most ancient medical sciences of the world. Ayurveda advocates a complete promotive, preventive and curative system of medicine. Ayurveda treats the patient as a whole rather than treating his ailment as separate entity. Ayurveda has stated three *Shashwat Sutr*as in which entire Ayurveda is described.

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These are 'Hetu Sutra', predisposing factors for the formation of the diseases. Second one is 'Linga Sutra', signs and symptoms of the diseases. And the third one is 'Aushada Sutra', the medicine through which the disease will be cured.

Among the three, third one is more important because the success of *Chikitsa* entirely depends on medicine without which the physician is totally helpless to treat the patient; and that's why medicine occupies an important position to *Bhishaga*.^[2]

Since long our *Aacharyas* have given proper attention towards the drug and that can be seen in our *Brihatrayi Granthas* in the form of *Mahakashayas* and *Ganas* which was arranged according to the best way in which one can use it in practice easily. This tradition was kept continuous by later on *Nighantu Granthas* and knowledge of *Nighantu*.

All the *Nighantu Granthas* deals with proper identification, collection, storage and processing of the drugs on one hand and their actions and properties on the other hand. The Ayurvedic science has been taking care of mankind since ancient time and there is no doubt that Ayurveda is still potent as it was 5000 years back and it will remain forever due to its *Anadi, Ananta, Shashwat Sutras*. But the modern medical science is always hanging their concepts with advancement, it crossed all the limitations and the modern medical fraternity started to use extracts of medicinal plants for curing of the human ailments. The higher market prices of such drugs lured the Business Magnets and they started to manipulate drugs as well as their manufacturing processes. This greed of the manufacturers adversely affected the public health in general and the adverse reactions of the synthetic drugs added fuel to make it worst than ever before. This whole picture compelled the so called modern and sophisticated man to adopt the Ancient Science, Ayurveda. Its simplicity, promotive, preventive, curative aspect and holistic approach made it to return its aboriginal path. And nowadays Ayurveda is once again the centre of pride, flourishing and is making its position stronger with the passing of time.

OBJECTIVES

To evaluate the *Krimighna* action of combination of *Vidanga Churna* and *Kampillaka Churna* and to study the complication if any occurs during the course of treatment.

MATERIALS AND METHODS

Criteria for selection of patients

Inclusion Criteria

The patients attending the O.P.D. and I.P.D. of Kayachikitsa and Research Unit of Govt. Ayurvedic Hospital, Patna having classical symptomatology of *Krimi roga*. Careful elucidation and evaluation of medical history of patients. The patients having classical symptomatology of *Krimiroga* and present ova / cyst / worm in stool examination. Detailed physical and clinical examination on the basis of proforma specially prepared for this purpose. The patient under 70 years irrespective of caste, religion, sex, habits, Socioeconomic status and those who fulfill the diagnosis were selected for the study.

Exclusion Criteria

Present study was carried out on *Kosthagata Krimi* i.e. *Purishaja* and *Kaphaja Krimi*, so if patient, who have complaints of excessive skin disease or *Raktadusti* (severe) and any other severe illness were excluded from the study. Pregnant women, Patients above 70 years, Patients of other worm infestation (other than Round Worm) are excluded. This study was focused on patients of Round worms because there are many types of worms present in human beings.

Laboratory Investigation

The following laboratory investigation were undertaken in each case just before beginning of drug trial and after completion of the study.

- Stool - Routine and microscopic examination
- Urine - Routine and microscopic examination

- Blood - Hb%, TLC, DLC, ESR & PCV.

Above mentioned all pathological investigation were done in hospital attached laboratory.

Study design : Single arm clinical study.

- Drug - *Vidanga Beeja Churna + Kampillak Phalraja Churna*
- Dose - *Vidanga Churna 1.5gm + Kampillaka Churna 1.5gm*
- Route of administration - oral
- Duration of therapy - 2 weeks
- *Anupana - Guda*

Diet advised

They were advised to follow the dietary restriction, like avoid taking of Milk, *Guda, Dadhi, Oil, Masha, Tila*, etc. excessive in quantity.

Method of Study

1. Selection of the patient on the base of complaints and stool report.
2. Routine laboratory investigation and sign and symptoms scoring have been carried out before and after treatment.
3. Proper administration of the drug should be done perfectly during treatment time (2 weeks).
4. Trial drugs were assessed on the basis of clinical observation in course of the treatment, especially the sign and symptoms beside the laboratory investigation before and after the course of treatment.
5. The result were assessed and comparison of both drugs were done.

Criteria for Assessment

1. **Cured :** This was decided on the basis of following two points. Complete relief in the initial chief complaints of the patient along with the positive

improvement (100% relief in signs and symptoms). And complete microscopic absence of ova / cyst. Stool confirmed by stool Examination by three subsequent stool test.

2. **Markedly relief :** More than 60% relief in sign and symptoms.
3. **Moderately improvement :** 30-59% relief in sign and symptoms.
4. **Mild improvement :** below - 30% relief in sign and symptoms.
5. **No relief :** This was the group of patients in our series which did not report either symptomatic relief in their basic complain and not have negative stool examination report after treatment.

Statistical Analysis

The information gathered on the basis of observation was subjected to statistical analysis and the obtained results were thus interpreted as,

- $P > 0.05$ - Insignificant
- $P < 0.05$ - Improvement
- $P < 0.01$ - Significant Improvement
- $P < 0.001$ - Highly Significant

OBSERVATIONS AND RESULTS

Table 1: Number of patients registered.

Drug administered	No. of patients		
	Total Registered	Completed	Dropped Out
<i>Vidanga Churna + Kampillaka Churna</i>	20	18	02

Out of 20 Patients, 18 Patients Complete the whole Therapy. 2 Patients left the therapy in between the trial

Table 2: Effect of Mix Churna of Vidanga and Kampillaka on Cardinal Sign & Symptoms of Krimi.

Cardinal Symptoms	N	Mean score		Diff	% Relief	SD	SE	t	p
		BT	AT						
<i>Bhaktadwasha</i>	03	2.25	0.87	1.37	76.11	0.51	0.18	7.51	<0.001
<i>Vivarnata</i>	04	2.0	0.57	1.428	78.42	0.53	0.202	7.07	<0.001
<i>Gudakandu</i>	06	2.5	0.25	2.25	90.00	0.5	0.25	9	<0.001
<i>Purishbheda</i>	07	2.66	0.33	2.33	87.5	0.57	0.33	7	<0.005

The mean initial symptoms score for *Bhaktadwasha* was 2.25 which is reduced to 0.87 after the treatment. Thus *Bhaktadwasha* was reduced to 76.11 % which was highly significant (P<0.001). For the symptoms of *Vivarnata*, the mean score before treatment was 2.0 which reduced to 0.57 after the treatment. This relief was 78.42 % which was highly significant (P<0.001). For the symptoms of *Gudakandu*, the mean score before treatment was 2.5 which reduced to 0.25 after the treatment. This relief was 90.00 % which was highly significant (P<0.001). For the symptoms of *Purishabheda*, the mean score before treatment was 2.66 which reduced to 0.33 after the treatment. This relief was 87.5 % which shows statistical improvement (P<0.01).(table 2)

Table 3: Effect of Mix Churna of Vidanga and Kampillaka on General signs & Symptoms of Krimi.

General Symptoms	N	Mean Score		Diff	% Relief	SD	SE	t	p
		BT	AT						
Loss of Appetite	06	2.4	0.71	1.71	70.58	0.75	0.28	6	<0.001

Abdominal pain	10	2.14	0.57	1.57	73.33	0.53	0.20	7.7	<0.001
Itching in Anal Region	10	2.2	0.6	1.6	78.72	0.54	0.24	6.53	<0.001
Discolouration of skin	04	2.4	0.2	2.2	81.66	1.09	0.48	4.49	<0.005
Anorexia	02	2.6	1.3	1.3	60.00	0.57	0.33	4	>0.05
Weight Loss	10	2.3	0.5	1.8	78.57	0.75	0.30	5.96	<0.001
Headache	01	2.5	0.5	2	80.00	1.41	1	2	>0.05
Anaemia and Pale Face	10	2.1	0.8	1.3	61.53	0.51	0.21	6.32	<0.001
Fever	04	3	0.5	2.5	83.33	0.7	0.5	5	>0.05
Bloating	02	3	0.5	2.5	83.33	0.7	0.5	5	>0.05

The mean initial symptoms score for Loss of Appetite was 2.42 which reduced to 0.71 after the treatment. Thus it was reduced to 70.58 % which was significant (P<0.001). For the symptoms of Abdominal pain, the mean score before treatment was 2.14 which reduced to 0.57 after the treatment. This relief was 73.33 % which was significant (P<0.001). For the symptoms of Itching in anal Region, the mean score before treatment was 2.2 which reduced to 0.6 after the treatment. This relief was 78.72 % which was moderately significant (P<0.001). For the symptoms of Discolouration of skin, the mean score before treatment was 2.4 which reduced to 0.2 after the treatment. This relief was 81.66 % which was significant (P<0.05). The symptoms Anorexia was relieved by 60% which was Significant. And Rest Symptoms Like Weight loss Relieved by

78.57%($P>0.001$), Headache relieved by 80%; Anaemia and Pale face reduced by 61.53% ($P<0.001$); Fever relieved by 83.33%; Bloating relieved by 83.33%. (table 3)

Table 4: Effect of Mix churna of Vidanga and Kampillaka on Hematological parameters.

Haematological Test	Mean Score		Diff	% Relief	SD	SE	t	p
	BT	AT						
Hb%	77.12	80.12	3.25	4.21	3.61	1.27	2.54	>0.05
T.L.C.	9558.75	8462.5	1096.25	11.46	1191.56	421.2	2.60	>0.05
Neutrophil	63.87	60.12	3.75	5.87	5.36	1.89	1.97	>0.05
Lymphocytes	30.25	26.25	4	13.22	3.42	1.21	3.30	>0.05
Eosinophils	5.12	4.75	0.37	2.08	7.31	1.50	0.53	>0.05
Monocytes	2	1.37	0.62	31.25	0.74	0.22	2.37	>0.05
E.S.R.	23.43	17.05	5.76	24.58	0.70	0.5	50	<0.01
n=18								

The mean haemoglobin percentage increase from 77.12 gm% to 80.12 gm% which was statistically significant ($P>0.05$). Initial score in the total leucocyte count was 9558.75 which was decreased to 8462.5 was moderately significant ($P>0.05$). There was an decrease observed in the mean neutrophil form 63.87 to 60.12 which was significant ($P>0.05$). The initial mean score of lymphocytes was 30.25 which was decreased to 26.25 which was statistically significant ($P<0.05$). The mean eosinophil count was decrease from 5.12 to 4.75 which was statistically significant ($P<0.05$) and monocyte decrease from 2 to

1.37 was statistically significant ($P<0.05$). The ESR decreased from mean score of 23.43 to 17.05 which was statistically significant ($P<0.05$). (table 4)

Table 5: Effect of Mix Churna of Vidanga & Kampillaka on intestinal parasite based on stool examination.

Intestinal parasite	Mean score		Diff	% Relief	SD	SE	t	p
	BT	AT						
Ascaris Lumbricoides	2.25	0.87	1.37	61.11	0.51	0.18	7.51	<0.001
n=18								

The Mean score of *Ascaris lumbricoides* 2.25 before the treatment which was reduced to 0.87. Percentage relief is 61.11% which is significant. ($P<0.001$).

DISCUSSION

Krimiroga is most common and slow killing disease, probably 1/3rd patients who are attending the O.P.D. of *Kaya Chikitsa* and Research Unit are suffering from this *Krimiroga*. The incidence of *Krimiroga* is very high due to the unhygienic condition, illiteracy, child's dependant age. *Krimiroga* hamper the growth and development of human beings, decreases immunity and creates many allergic phenomena and cause recurrent cough and cold.^[3]

Krimi is a wide subject and require still more exploration for near perfection in this subject. Effective remedies on *Krimiroga* is one important part in the management of *Krimiroga*. So we thought about many plants and then decided to use two single drugs. Because of large numbers of parasites are coming under *Krimiroga* if compound *Yoga* would have been selected then it would be very difficult to decide that which drug effect on which different type of parasite accurately. In case of single drug, it is easy to prove the effect of drug on specific type of parasite. So after thinking this concept in depth we

selected to study the combined effect of *Vidanga* and *Kampillaka* on *Krimiroga* w.s r. to round worms.

Most of Ayurvedic drug with the help of their properties effect on *Agni* and than correct the imbalance of *Dosha*, *Dhatu*, and *Mala* and clear srotodusti and ultimate does *Sampraptivighatan* and *Samprapti Vighatan* is a synonym of *Chikitsa*.

In the present study, eradication of the *Krimi* is main aim, So two single drugs were selected for this study, *Vidanga Beeja Churna* & *Kampillaka Phalraja Churna*. By going through the *Samprapti* of *Krimiroga*, it became evident that the *Kapha Dosha* plays an important role in it. It is a *Kapha* predominant *Vyadhi*, with the involvement of *Vata* and *Dusya* involved are *Rasa*, *Annarasa*, *Purisha* and *Rakta*. The *Srotodusti* "Sanga" is seen here. Considering all these, a drug which opposes the *Kapha* and *Ama* does *Shodhana* of *Ruddha Srotas* and corrects the status of *Agni* should be ideally prescribed to cure the *Krimi Roga*.

Vidanga has *Rasa Katu*, *Tikta*, *Laghu*, *Ruksha*, *Teekshana Guna*, *Ushna Virya* and *Katu Vipaka*.^[4] *Katu Rasa* does *Deepana*, *Pachana*, *Kaphahara*. *Katu Rasa* is mentioned as a *Krimighna* also.^[5] The *Ushna Virya* of the drug again help in *Agni Pradeepana*, correction of *Dushta Kapha* and *Ama*. It also acts as *Kaphvatahara*. The presence of *Katu Vipaka* and *Katu Rasa* also helps in *Srotoshodhan*. Thus in total the drug stimulates the *Agni*, relieves *Agnimandya*, reduces the *Ama* formation and thus relieves *Srotorodha*. All are opposite with the *Guna* of *Kapha* and thus works as *Kapha Vata Samaka*. *Katu Rasa* is also mentioned by *Acharya Charaka* in *Sutrasthana* 26 as *Krimin Hinasti*. *Vidanga* has *Krimighna*, *Kushthghna*, *Deepana*, *Pachana*, *Anulomana*, *Shirovirechana*.^[6] *Vidanga* has anthelmintic, astringent, carminative, alternative and stimulant action.^[7]

Kampillaka Churna has *Katu Rasa*, *Ushana Virya*, *Katu Vipaka*, *Laghu*, *Ruksha*, *Tikshana Guna* all are opposite with the *Guna* of *Kapha* and thus works as *Kapha Vata Samaka*.^[8] *Kampillaka* has *Rechaka* properties thus

corrects *Srotodusti*.^[9] *Katu Rasa* corrects *Agni Mandya*.^[10] *Acharya Charaka* also described *Katu Rasa* as "Krimin Hinasti" and *Acharya Bhavamishra* and *Dhanvantri Nighantu* mentioned *Kampillaka* as *Krimi Nasaka*.^[11]

CONCLUSION

Having analysed the result on statistical parameters, we can conclude that *Vidanga* and *Kampillaka* are highly effective for the treatment of *Krimi* (intestinal parasite especially round worms). The drugs are easily available so helpful in the treatment of *Krimi*. Both drugs i.e. *Vidanga* and *Kampillaka* positively worked on intestinal parasite. There was no side effect observed in patients registered and so it is free from various drug hazards.

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