



Role Of 'Pravahikahara Yoga' In The Management Of Pittaja Pravahika W.S.R. To Amoebic Dysentery: A Clinical Trial.

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ABSTRACT:

Pravahika is one of the most common diseases in the tropical countries and its severity varies from mild to severe fulminating type including life threatening complications sometimes. In modern parlance it is closely related with amoebic dysentery which is a national health problem in India and other developing and tropical countries, which is caused by *Entamoeba histolytica*, a parasite amoeba found in 25% of Indian population in their colon. Only a small proportion of all those harboring *E. histolytica* in the colon suffer with invasive form of amoebiasis. Here, the efficacy of *Pravahikahara Yoga* which contains

INTRODUCTION

Amebiasis is highly endemic in the Tropics especially Africa, Latin America, India and South-east Asia.^[1] It affects mainly those people who belongs to such family, society or place where the dietary habit and personal hygiene and sanitation are poor.^[2] The reason for being more prevalent in

dried powder of seeds of *Kutaja* (*Holarrhena antidysenterica*), herb of *Mustak* (*Cyperus Rotandus*), Fruit pulp of unripened *Bilwa* (*Aegle marmelos*), bark of *Babool* (*Acacia arabica*), Epicarp of *Dadima* fruit (*Punica granatum*) and the fruit pulp of *Amaltas* (*Cassia fistula*), is tested in the treatment of *Pittaja Pravahika*. 8 patients of *Pittaja Pravahika* were registered and were given *Pravahikahara Yoga* 2 tea spoons full (approx. 5 gm) 3 times a day with *Dhanyaka Him* as *Anupana* for 45 days. The result was calculated statistically for different assessment criteria and found to be significant. It may be new academic contribution to research workers and beneficial to the whole medical field.

tropical areas of the world is poor sanitation which allows food and water supplies to be exposed to

fecal contamination. The similar cause is described by our *Acharyas* in *Ayurvedic classics* which are *Ahitashana* & *Krimi*.^[3]



According to *Sushruta*, *Pravahika* is a clinical condition which is characterized by *Pravahan* (Tenasmus) during defecation, increased frequency of defecation and passing out small amount of faeces.^[4]

On the basis of *Rupa* (Prominent clinical features) *Pravahika* has following types:^[5]

- (a) *Vataja Pravahika*
- (b) *Pittaja Pravahika*
- (c) *Kaphaja Pravahika*
- (d) *Raktaja Pravahika*

These are aggravated by *Ruksha* and *Sheet*, *Ushna* and *Tikshna*, *Snigdha* and *Sheeta*, *Ushna* and *Tikshna* respectively.

The basic cardinal symptoms of *Pravahika* are given as (i) Tenasmus (ii) Increased frequency of defecation and (iii) decreased amount of faeces in defecation.^[6] Along with these cardinal features if fever and burning sensation in the body are the prominent features, it is known as *Pittaja* type of *Pravahika*.

Amoebiasis is the second leading cause of death from parasitic diseases worldwide.^[7] The causative protozoan parasite – *Entamoeba histolytica* is a potent pathogen.^[8] The genus ENTAMOEBA contains many species, some of which (i.e., E HISTOLYTICA, ENTAMOEBA DISPAR, ENTAMOEBA MOSHKOVSKII, ENTAMOEBA POLECKI, ENTAMOEBA COLI, and ENTAMOEBA HARTMANNI) can reside in the human interstitial lumen. Of these, E HISTOLYTICA is the only one definitely associated with disease; the others are considered non-pathogenic.^[9] In other words Amoebiasis is the infection of human

gastrointestinal tract by *E.histolytica*, a protozoan parasite that is capable of invading the intestinal mucosa and may spread to the other organs mainly to the liver.^[10] Once inside the body, amoeba clump together to form a cyst that is protected by the stomach's digestive acid. When the cyst passes through the intestines it breaks open infecting the body. The amoebae burrow into the intestinal wall and cause small ulcers or abscesses. Cysts exit the body via faeces but are still able to live outside, that is why many people become infected. Amebic colitis affects both sexes equally.^[11] However, invasive amebiasis is much more common in adult males than in females. In particular, amebic liver abscess is 7-12 times more common in men than in women, with a predominance among men aged 18-50 years.^[12] Spread of amebiasis to the liver occurs via the portal blood. The findings according to a study suggest that E HISTOLYTICA organisms are able to kill hepatocytes without direct contact.^[13]

E HISTOLYTICA is transmitted primarily through the fecal-oral route. Infective cysts can be found in fecally contaminated food and water supplies and contaminated hands of food handlers. Sexual transmission is possible, especially in the setting of oral-anal practices (anilingus). Poor nutrition, through its effect on immunity, has been found to be a risk factor for amebiasis.^[14]



Amoebiasis is an important health problem, especially in developing countries.^[15]

Symptoms of amoebic dysentery:

Clinical presentation can vary from fulminant colitis to mild, intermittent episodes of blood-tinged diarrhea. Associated symptoms include fever (< 40% of patients), weight loss, dehydration, and anorexia. Symptoms can persist for months to years with asymptomatic intervals.^{[16],[17]} Amoebic dysentery is just an intestinal manifestation and the infection can also result in serious extra-intestinal manifestations to affect the basic function of the body like liver abscess, brain abscess, pericarditis, etc.^[18]

Amoebic dysentery is primary stage of amoebic infection and may have very dangerous complications to affect the basic function of the body.

Although many single drugs clearly indicated for 'Pravahika' but we have tried a compound formulation for the better efficacy on the patients of 'Pravahika'. Temporarily this trial drug has been given the name 'Pravahikahara Yoga' for easy identification. 'Pravahikahara Yoga' contains six drugs as shown in Table 1.

MATERIAL AND METHODS

A. Aims and Objectives

E. Drug

Table I. Contents of the *Pravahikahara Yoga*

S. No.	Name	Guna	Rasa	Virya, Vipaka	Part used
1.	<i>Bilwa</i> (<i>Aegle marmelos</i>)	<i>Laghu,</i> <i>Ruksha</i>	<i>Kashaya,</i> <i>Tikta</i>	<i>Ushna,</i> <i>Katu</i>	Pulp of fruit

Evaluation of efficacy of Pravahikahara Yoga in the management of Pittaja Pravahika.

B. Figures and Tables

Conceptual Study: This work consisted of critical review of relevant literatures available in Ayurvedic classics, previous research works & different modern medical textbooks & journals; regarding Pravahika and its related drugs.

Clinical Study: Total 8 Patients having Pittaja Pravahika were selected from O.P.D / I.P.D of Dept. Of Kaya-Chikitsa Sir Sunderlal Hospital B.H.U.

C. Inclusion Criteria

1. Patients of Pittaja Pravahika' were diagnosed according to symptoms and signs described in Ayurvedic texts.
2. Symptoms presented for a maximum of one month i.e. short history.
3. Patients of amoebic dysentery are diagnosed clinically as described in modern texts and stool examination and sigmoidocolonoscopy.

D. Exclusion Criteria

1. Presence of other organic disorder and its requisiting treatment.
2. Previous abdominal surgery affecting G.I. tract.
3. Abuse of alcohol or drugs.



2.	<i>Mustak</i> (<i>Cyperus Rotandus</i>)	<i>Laghu,</i> <i>Ruksha</i>	<i>Kashaya, Tikta</i> <i>Katu</i>	<i>Sheeta</i> <i>Katu</i>	<i>Panchang</i> (whole plant)
3.	<i>Kutaj</i> (<i>Holarrhena</i> <i>antidysenterica</i>)	<i>Ruksha</i>	<i>Tikta, Kashaya</i>	<i>Sheeta</i> <i>Katu</i>	Seeds (<i>Indrayava</i>)
4.	<i>Aragvadha</i> (<i>Cassia fistula</i>)	<i>Guru,</i> <i>Mridu, Snigdha</i>	<i>Madhura, Tikta</i>	<i>Sheeta</i> <i>Madhura</i>	Fruits pulp
5.	<i>Babbula</i> (<i>Acacia arabica</i>)	<i>Guru</i>	<i>Kashaya</i>	<i>Sheeta,</i> <i>Katu</i>	Bark & Fruits
6.	<i>Dadima</i> (<i>Punica granatum</i>)	<i>Laghu,</i> <i>Snigdha</i>	<i>Madhura,</i> <i>Kashayam, Amla</i>	<i>Anushna,</i> <i>Madhura</i>	Epicarp of Fruit

F. Posology

The drug '*Pravahikahara Yoga*' was prepared in the form of powder and packed in 100 gms of packs and was given to the patient.

Dose: 2 Tea spoon full (approx. 10 gm) after meal 3 times per day with *Dhanyaka Hima* as *Anupana*.

Duration of Study: 45 Days.

G. Clinical Trial

Table II. Grading system of different symptoms of *Pravahika*.

Symptoms	Grade (0)	Grade (1)	Grade (2)	Grade (3)
<i>Tenasmus before defecation</i>	Nil	Mild & Occasional	Moderate & Frequent	Severe & Continuous
<i>Increased frequency of defecation</i>	1-2 times	2-3 times	3-6 times	6-9 times
<i>Urgency of defecation after</i>	No	Mild & Occasional	Moderate & Frequent	Moderate & Definite

Total 8 patients of *Pittaja Pravahika* were registered.

All patients were treated with '*Pravahikahara Yoga*' with *Dhanyaka Hima* as *Anupana*. Simultaneously microbial study of stool was carried out for the assessment of intestinal amoebiasis.

H. Parameters of Assessment

Subjective Assessment: Table II shows grading of different symptoms of *Pravahika*.



meals				
Pain in lower abdomen & anal region	Nil	Mild, relieved after defecation	Moderate & decreased after defecation	Severe & not relieved after defecation
Burning sensation in anal region	No	Mild	Moderate	Severe
Amount of mucous with stool	No	Occasional	Moderate amount & often	Large amount and always
Stool mixed with blood	No	Occasional	Often	Always

Microbiological Study: All the patients were subjected to microbial examination of stool to find out Trophozoites, ova or cysts of *Entamoeba Hystolytica*. Out of 8 patients

ova/cysts of *E. Hystolytica* were found in the stool of 1 patient.

I. Selection of Cases

Total 8 cases of *Pittaja Pravahika* were registered.

OBSERVATIONS AND RESULTS

On the basis of clinical features it was observed that among 8 patients of *Pittaja Pravahika* all had tenasmus, increased frequency of stool and

urgency of defecation after meals. Whereas 2 patients out of 8 had pain in lower abdomen and anal region, all had burning sensation in anal region and 03 out of 8 had stool with mucus. Also, none of the patients had stool with blood.

Table III. Occurrence of the different symptoms of *Pravahika* in the patients of *Pittaja Pravahika*.

Clinical Features	Total no. of patients	No. of Patients having symptoms	%
Tenasmus	08	08	100
Increased frequency of stool	08	08	100



<i>Urgency of defecation after meals</i>	08	08	100
<i>Pain in lower abdomen & anal region</i>	08	02	25
<i>Burning sensation in anal region</i>	08	08	100
<i>Stool with mucus</i>	08	03	37.5
<i>Stool with blood</i>	08	0	0

After the administration of the medicine, results were noted down after each follow up of the two. Also, the results were recorded after the completion of the treatment. The results in case of main distinguishing features were as follows:

1. Tenasmus before defecation

Table IV. Showing evaluation of results after each follow up on the symptom of Tenasmus.

Group	BT M+ SD	F1	F2	AT	Within group comparison paired 't' test (BT- AT)	S.D.	S.E.	't' Value	P Value
<i>Pittaja Pravahika (n=8)</i>	2.67 ± 0.52	2.00 ± 0.63	0.83 ± 0.41	0.17 ± 0.41	2.50	0.74	0.26	t= 11.18	P<0.001HS

2. Increased frequency

Table V. Showing evaluation of results after each follow up on the symptom of Increased frequency

Group	BT M+SD)	F1	F2	AT	Within the groups comparison paired 't' test (BT-	S.D.	S.E.	't' Value	P Value



					AT)				
<i>Pittaja</i>	3.00	2.00	0.83	0.17	2.83	0.53	0.18	t =	P <
<i>Pravahika</i> (n=8)	± 0.00	± 0.63	± 0.75	±0.41				17.00	0.001HS

3. Urgency of defecation after meal

Table VI. Showing evaluation of results after each follow up on the symptom of urgency of defecation.

Groups	BT (M+SD)	F1	F2	AT	Within the groups comparison paired 't' test (BT-AT)	S.D.	S.E.	't' Value	P Value
<i>Pittaja</i>	2.17	1.17	0.50	0.00	2.17	0.64	0.22	t = 13	P <
<i>Pravahika</i> (n=8)	± 0.41	± 0.41	± 0.55	± 0.00					0.001 HS

4. Burning Sensation in anal region

Table VII. Showing evaluation of results after each follow up on the symptom of Burning sensation in Anal Region.

Group (B)	BT	F1	F2	AT	Within group comparison paired 't' test (BT- AT)	S.D.	S.E.	't' Value	P Value
<i>Pittaja</i>	3.00	2.67	1.50	0.50	2.50	0.75	0.27	t =	P < 0.001 H.S.
<i>Pravahika</i> (n=8)	± 0.00	± 0.52	± 0.55	± 0.55				11.18	

Patients showed marked remission in the symptom of tenesmus as the initial mean score



before treatment was 2.67 which reduced to 2.00 after first follow up and 0.83 after second follow up and became 0.17 after the completion of the treatment. Similarly, in the symptom of increased frequency the initial mean score was 3.00 which

came to 2.00 after first follow up, reduced as low as 0.83 after second follow up and became 0.17 after treatment. In case of the symptom of urgency of defecation after meal the initial mean score was 2.17 which came down to 1.17 after first follow up, 0.50 after second follow up and significantly reduced to 0.00 after the completion of the treatment.

The effect of treatment on the symptom of burning sensation in anal region which is the main characteristic feature of *Pittaja Pravahika*, was remarkable as the initial mean score before treatment was 3.00, which reduced to 2.67 after first follow up and 1.50 after the second follow up and finally after completion of the treatment it became 0.50.

All these results were found to be highly significant when compared according to the paired 't' test that showed $P < 0.001$ in all cases.

DISCUSSION

Ayurvedic pathogenesis of *Pravahika* involves *Samana* and *Apana* Vayu-dusthi along with *Pachaka Pitta* and *Kledaka Kapha dusthi*, ultimately leads to *Agni-dushti* and *Dosha-prakopa* which results into production of symptoms of *Pravahika*. Diagnosis is often made on the basis of presence of typical symptoms and specific symptoms described as a characteristic feature of various types of *Pravahika*. Laboratory diagnosis of intestinal amoebiasis is made by the presence of *ova*, *cyst* or *trophozoites* of *Entamoeba histolytica* in stool of patients. Recent researchers in modern science proved that the etiological factors according to Ayurveda, act as triggering factors in production of *Pravahika*. The results of the clinical study showed significant results and

thus proved the efficacy of the '*Pravahikahara Yoga*' used in this trial.

Most of the drugs in '*Pravahikahara Yoga*' are *Tridosha Har*, *Samgrahi*, *Agni Pradeepak* & *Pachaka* and *Rasayana* & *Vrishya*. They are very clearly indicated for '*Pravahika*'. *Samgrahi Guna* is very useful to control increased frequency of defecation and to maintain the consistency of stool. '*Deepana* & '*Pachana*' quality of drug is very useful to treat the '*Agni*' for digestion of the food material properly. *Rasayana* and *Vrishya* quality of drugs are helpful to maintain the normal metabolism of body. '*Snigdha*' *Guna* brings the disturbed function of *Samana Vayu* to normalcy. '*Laghu*' *Guna* increases the strength of *Agni* and decreases the abnormally increased *Pitta*. '*Kashaya*' *Rasa* & '*Ushna Virya*' control the '*Kapha*' and very effective in *Aama Pachana*. *Madhur*, *Tikta Rasa* and *Sheet Virya* pacify the increased frequency.

Raw fruit of *Bilwa* (*Aegle marmelos*) is *Deepana*, *Pachana* and *Grahi*.^[19] Hence, it corrects the *Agni* and controls the increased frequency of stool. *Mustaka* (*Cyperus rotundus*) is considered as the best *Deepana-pachana* and *Sangrahi*.^[20] Also, it is *Krimighna*.^[21] Hence, perfectly works for the *Aam Pachana* and destruction of protozoa. Because of its *Sheeta Veerya*, *Mustaka* pacifies *Pitta*.^[22] *Kutaja* (*Holarrhena antidysenterica*) is *Deepana*, *Stambhana*^[23] hence, acts on the symptom of increased frequency of defecation and urgency of defecation after meals. It is *Ruksha*, *Tikta*, *Kashaya* and *Sheeta* hence controls *Pitta*.^[24] *Aragvadha* (*Cassia fistula*) has *Sheeta Veerya* hence, pacifies *Pitta*.^[25] *Dadima* (*Punica granatum*) fruit is *Deepana* and *Grahi*.^[26] and thus helps in the management of the increased frequency of defecation.

Various fraction of *Holarrhena antidysenterica* showed promising activity against the experimental amoebiasis in rats and hamsters.^[27] The fruit extract showed anti-protozoal effect against human *Entamoeba histolytica* stain STA, *Trypanosoma evansi*, anticancer effect against human epidermoid carcinoma of nasopharynx in tissue culture and hypoglycemic activity in rats.^[28]



Aegle marmelos is proved to be an excellent and effective remedy in controlling acute diarrhoea.^[29] It contains a large amount of tannins which effectively control nonspecific diarrhoeas.^[30] *Holarrhena antidysenterica* along with *Aegle marmelos* and other herbs is known to help control diarrhoea.^[31] *H. antidysenterica* has been found to be more effective in treating *Entamoeba histolytica* positive patients compared to another herb *Hemigraphis birta*.^[32] A combination of *Aegle marmelos*, *Punica granatum*, *Tinospora cordifolia* along with other herbs is known to have potential antispasmodic activity.^[33] In addition, *Punica granatum* has shown anthelmintic activity in in vitro studies.^[34]

The above instances show that major contents of this compound have proven effect on amoebic dysentery. And also, the study confirms the efficacy too.

Hence, the 'Pravahikahara Yoga' works perfectly well for the management of *Pittaja Pravahika*.

CONCLUSION

This clinical trial was done to derive an easy and affordable remedy for the management of '*Pittaja Pravahika*', and to prevent serious complications further ahead. From the clinical trial done, the results clearly show highly significant improvement in the all the symptoms viz.- tenasmus before defecation, increased frequency, urgency of defecation after meal and burning sensation in anal region. The low sample size was the limitation factor of the study even then the promising results have paved the way for further scope of research on the *Yoga* named '*Pravahikahara Yoga*' to extend the vision of the study.

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