



## CLINICAL STUDY

# A CLINICAL STUDY TO EVALUATE THE EFFICACY OF COMBINED EFFECT OF AYURVEDIC DRUGS AND BASTI IN THE MANAGEMENT OF CONSTIPATION-PREDOMINANT IRRITABLE BOWEL SYNDROME VIS-À-VIS PAKWASHAYAGATAVATA

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### Abstract:

Constipation predominant Irritable bowel syndrome (IBS-c) can be interrelated with *pakwashayagatavata*. IBS-c is a gut motility disorder associated with abdominal pain, constipation and bloated ness. A total of 25 patients suggestive of feature of *pakwashayagatavata* or constipation predominant irritable bowel syndrome were enrolled and were randomly divided into two groups. In Group A, 15 patients were enrolled and were given *Panchasakarchoorna* and *Mahashankhavati*. In Group B, 10 patients were enrolled and were given combination of Ayurvedic drugs (*Panchasakarchoorna, Mahashankhavati*) along with *basti* (~medicated enema) for a period of 16 days. Total duration of study was of 1 month. Both the groups had shown significant improvement in chronic constipation, bloating etc. ( $p < 0.01$ ), but group B showed better improvement in comparison to group A. Thus, *basti* (~medicated enema) therapy is effective in the management of *pakwashayagatavata* or constipation predominant IBS.

**Key words:** *Pakwashayagatavata*, irritable bowel syndrome, *basti*

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## INTRODUCTION

Irritable bowel syndrome (IBS) is a functional disorder characterized by abdominal discomfort and altered bowel function. It affects approximately 5% to 10 % of persons in the world<sup>[1]</sup>.

IBS is primarily a functional gut motility disorder diagnosed in the absence of any detectable structural abnormalities. Recently, a Rome III criterion is distinguished to diagnose the disease clinically<sup>[2]</sup>.

On the basis of bowel habit, irritable bowel syndrome can be subdivided into three clinical subtypes i.e. constipation predominant IBS, diarrhoea predominant IBS and mixed IBS.

Constipation predominant irritable bowel syndrome is a clinical entity in which constipation is predominantly found along with pain in abdomen and thus having similar clinical features with *pakwashayagatavata*<sup>[3]</sup>. Some reviews also suggests that *pakwashayagatavata* can be comparable with irritable bowel syndrome.<sup>[4]</sup>

Extra intestinal features which are frequently found in constipation predominant irritable bowel syndrome are retention of urine and pain in the lumbar region<sup>[3]</sup>.

On the basis of principles of treatment of *pakwashayagatavata*, in the present study, patients were given *vatanulomak*(~wind

*alleviating*)drugsand *basti*(~medicated enema)therapy<sup>[5,6]</sup>.

Group A patients were given combination of Ayurvedic drugs (*Panchasakar*powderand *Mahashankhavati*) and Group B patients were given combination of Ayurvedic drugs (*Panchasakar*powderand *Mahashankhavati*) along with, *Rasnaerandadikawathabasti*(~decoction enema).

In *Ayurvedic* texts, including *Charaka*,*basti*(~medicated enema) is cornerstone in the treatment of several *vatajvyadhis*(~diseases dueto excessive of wind) including *pakwashayagatavata*<sup>[7,8]</sup>.

In the present study, the reason behind selecting *Rasnaerandadikashaya*as the *basti dravya* (~ingredients of enema)instead of *pakwashayayashodhakbastidravyas*(~bowel cleaning enema)asmentioned by *Charaka*<sup>[9]</sup>is because *Rasnaerandadikashaya* is primarily having *vatahar*(~wind alleviating) propertiesandthuswouldalso beeffectiveinalleviating*vata*(~wind)and hence useful in relieving in symptoms like low backache.

*Panchasakarchoorna*has been indicated in the reference of constipation<sup>[10]</sup> and *Mahashankhavati*has been indicated in the context of *agnimandya*(~low digestive fire)<sup>[11]</sup>.

And, thus it was assumed that the combination of Ayurvedic drugs and *basti*(~medicated enema) would be beneficial in alleviating *vata*(~wind) and correcting constipation in the patients of *pakwashayagata vata*(constipation predominant irritable bowel syndrome).

## MATERIAL AND METHODS

This is a prospective, randomised clinical study conducted between the period of 2012-2013.

**Aim of the study:** The present study is intended to evaluate the role of *basti*(~medicated enema) and combination of Ayurvedic drugs in the management of *pakwashayagata vata vis-a-vis* constipation predominant irritable bowel syndrome

Diagnostic criteria:

Patients fulfilling Rome III criteria<sup>[2]</sup> suggestive of constipation predominant IBS or *pakwashayagata vata*.

**Inclusion criteria:**

- 1 Subjects of either sex between age group 20-60 year.
- 2 Exclusion of any organic disease.
- 3 Symptoms must have been present for at least for 3 days per month in the last 3 month, with symptoms onset at least 6 month before diagnosis.

**Exclusion criteria:**

- 1 Subjects age group below 20 year and above 60 year of either sex.

- 2 Subjects presenting with IBS which includes crohn's disease and ulcerative colitis, acute conditions like cholera, gastro-enteritis.

- 3 Pregnancy and lactating mothers.

Criteria of assessment:

Clinical signs and symptoms: *udarasula*(~pain in abdomen), *adhyaamaan* (~bloating), *vibandha*(~constipation), *katishoola*(~pain in lumbar region), retention of urine etc. were assessed before and after the treatment. Clinical assessment was made by grading as 0,1,2,3 on the basis of severity.

Grading pattern for signs and symptoms:

**Udarshoola**(~pain in epigastrium)

Grade-0: No Pain

Grade-1: Mild pain

Grade-2: Moderate pain

Grade-3: Severe pain

**Adhmaan**(~flatulence)

Grade-0: Absent feeling of gaseous distension

Grade-1: Occasional feeling of gaseous distension

Grade-2: Frequent feeling of gaseous Distension

**Vibandha**(~constipation)

Grade-0: Normal

Grade-1: difficulty to defecate in a day

Grade-2: defecation occurs only after taking some laxative

Grade-3: Unable to defecate for more than 2-3 days/ not relief through mild laxative

**Retention of Urine**

Grade-0: Normal

Grade-1: Mild feeling of retention

Grade-2: Severe feeling of retention

**Katishoola(~Low back ache)**

Grade-0: Normal

Grade-1: Mild pain

Grade-2: Unable to perform daily works due to pain

Grade-3: Severe pain

**Grouping of patients:**

Group - A :15 patients were enrolled in Group A and were administered *Panchasakarchoorna* along with *Mahashankhavati*

Group- B: 10 patients were enrolled and were given *Panchasakar powder, Mahashankhavati* along with *basti*(~medicated enema)in a *kalabasti* format (~enema to be given for 16 days)

**Table -1 Ingredients of *basti***

<b>Anuvasanabastidravyas</b> (~ingredients of oil enema)	Castor oil-80ml; <i>shatpushpapowder</i> -5 gm. rock salt-5 gm.
<b>Asthapanabastidravyas</b> (~ingredients of decoction enema)	Rock salt-10 gm.;honey-35ml ; <i>saindhavadioil</i> : 50ml; <i>rasnaerandadidecoction</i> -300 ml;cow urine-35 ml. Paste : <i>vachapowder</i> -5gm, <i>shatpushpapowder</i> -10 gm., <i>guduchipowder</i> -10 gm.

**Preparation of *basti*:** 35 gm. of *madhu*(~honey) and 10 gm. of *saindhavalavana*(~rock salt)were mixed properly and then *kalka*(~paste) (*shatpushpapowder*10 gm., *vachapowder* 5 gm. *guduchipowder*10 gm.) was added into it.

50 ml of *saindhavadioil* was poured and mixed well and then 300 ml of decoction was added and lastly 50 ml of *gomutra*(~cow urine) was added into it.

Duration of *basti*:16 days

*Bastipariharakala*: 1 month

**Table -2: Ingredients of drugs:**

<i>Panchasakar powder</i> <sup>[10]</sup>	Dryginger, <i>sennaleaves,shatpushpa</i> ,Castor oil roasted <i>harada</i> ,rock salt
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<i>Mahashankhavati</i> <sup>[11]</sup>	<i>Romakasalt ,vidasalt ,common salt,sauvarchalasalt ,rock salt, asafoetida , shankhabhasma , chinchakshara, dry ginger, black pepper, long pepper,sulphur ,mercury ,purifiedvatsanabha .water decoction of (chitraka ,apamarga, amlavargadravyas i.e. tamarind, lemon)</i>
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**Total duration of study:** 1 month

**Statistical analysis:** The data obtained in clinical studies before and after treatment was expressed in terms of mean, standard

deviation. Appropriate t test were applied to test the significance of comparative mean values of before and after treatment.

### OBSERVATIONS AND RESULTS

**Table-3: Effect of treatment on clinical signs and symptoms**

Clinical signs & symptoms	Group	BT Mean ± SD	AT Mean ± SD	T	P
<b>Pain in abdomen</b>	A	2.58±0.51	0.75±0.45	11.0	P<0.001
	B	2.58±0.51	1.74±0.45	9.8	p<0.001
<b>Bloating</b>	A	1.17±1.03	0.58±0.67	3.02	p<0.02
	B	1.10±0.77	0.29±0.46	7.24	p<0.001
<b>Constipation</b>	A	1.73±0.79	1.27±0.90	2.88	p<0.01
	B	1.43 ±0.81	0.43±0.51	6.48	p<0.001
<b>Low back ache</b>	A	0.91±0.70	0.73±0.65	1.48	p>0.05
	B	0.76±0.70	0.19±0.40	5.16	p<0.001
<b>Retention of urine</b>	A	0.83±0.83	0.42±0.51	2.80	P<0.02
	B	0.42±0.77	0.21±0.45	2.14	p<0.05

In the present study 22 patients were between the age group of 20 years and 50 years. A total of 17 patients were male and 8 patients were female.

20 patients were belonging to rural areas and 5 patients belonging to the urban areas. 20% patients presented with history of intake of *vidhaiahara*(~spicy food), 12 % were having history of intake of *abhishandiahara*(~diets

which blocks the channels) and rest of the patients (44%) were having the history of intake of *vatavardhakahara* (~wind aggravating food).

16% patients were having addiction like smoking and 8% patients were having the history of intake of *hukka*.

Psychological involvement was also observed among the patients. Four patients were having anxiety and three patients were having the history of depression.

The commonest clinical features seen among patients were *udarashoola* (~pain in abdomen), *adhyamaan* (~bloating), *vibandha* (~constipation).

In the present study, certain patients presented with extra intestinal features like retention of urine (n=4) and pain in the lumbar region (n=10).

In group A statistically significant improvement was observed in *udarashoola* (~pain in abdomen) ( $p < .001$ ), *adhyamaan* (~bloating) ( $p < .02$ ), *vibandha* (~constipation) ( $p < .01$ ) and retention of urine ( $p < .05$ ).

Group B showed statistically highly significant improvement in pain in abdomen ( $p < .001$ ), constipation ( $p < .001$ ), bloating ( $p < .001$ ), pain in lumbar region ( $p < .001$ ) and significant improvement was observed in retention of urine ( $p < .05$ ).

After comparing the overall improvement in both groups, group B patients showed better improvement in comparison to group A.

## DISCUSSION

Majority of patients (76 %) in the study were having history of improper food habits, which is suggestive of close co-relation of irritable bowel syndrome-c with improper diets. Modern system of medicine is now also recognising that improper food habits are the causative factor of IBS-c (irritable bowel syndrome-constipation)<sup>[12]</sup>

Patients of irritable bowel syndrome were having history of intake of *vidahiaharalike* fried food, chillies etc. *abhishandiahara* (~diets which blocks the channels) like *maida* products, excessive dairy products etc. and *vatavardhakaharalike* cauliflower, pea, black gram etc. Though, status of *agni* (~appetite) was found to be normal among these subjects, but due to improper food habits, the food was not being properly digested, which was further aggravating *vata* (~wind) and thus causing the disease.

Addiction like tea, *hukka*, *bidi* was present in twelve patients indicating that these habits are the causative factors of constipation predominant irritable bowel syndrome.

Disturbed psyche was also noticed in seven patients, which was in favour of several studies that were suggesting the association of

irritable bowel syndrome with psychological stress<sup>[13]</sup>.

The commonest clinical features found among the patients of were constipation, pain in abdomen and bloating. Associated features like pain in the lumbar region and retention of urine were also present in these patients.

Group B showed highly statistically significant improvement in constipation, bloating and pain in the lumbar region, ( $p < .001$ ) whereas group A showed only significant improvement ( $p < .01$ ) in these clinical symptoms. Thus, indicating that *basti* (~medicated enema) was more effective in alleviating *vata* (~wind) in comparison to Ayurvedic drugs alone.

**Mode of action of *basti*:** Many gastrointestinal disorders like irritable bowel syndrome originate from problems within the gut's brain. ENS (enteric nervous system) works in synergy with the CNS (central nervous system). The sigmoidal, rectal and anal regions of large intestine are considerably better supplied with parasympathetic fibres than other part of intestine and are mainly stimulatory in action and function especially in defecation reflexes. *Basti* (~medicated enema) alters the intestinal motility and thereby improving the function of large intestine, particularly of the colon. It is also likely that therapeutic *basti* alters the visceral pain perception acting by regulation of ENS.

Abdominal distension was significantly reduced in group B in comparison to group A, which may be due to the *anti-vata* (~wind alleviating) property of the ingredients of *basti*. Castor oil which was used in *anuvasanabasti* (~oil enema), has been indicated in the *vataja* disorders<sup>[14]</sup>.

The main ingredients of *asthapana Basti* (~decoction enema) are *Rasnaerandadi* decoction, *saindhavadi* oil and cow urine.

The ingredients of *Rasna-erandadikashaya*<sup>[15]</sup> are *vatahar* (~wind alleviating) and *amahar* (~undigested food alleviating) and thus *Rasna-erandadikashaya* was not only useful in correcting constipation but was also effective in alleviating associated features like *katishoola* (~low back ache), retention of urine etc. in patients of *pakwashayagatavata* (~IBS-c).

*Saindhavadi* oil has been indicated in *Udavarta*<sup>[16]</sup> and thereby was useful in *Pakwashayagatavata*.

*Vachachoorna* and *guduchichoorna* which were administered as *kalkadravyasof bastiareushna* (~hot in potency) and *vatahar* (~wind alleviating) and thus were effective in alleviating *vata*<sup>[17,18]</sup>.

Due to the *ushna* (~hot), *tikshnaguna* and *lavana rasa* (~salty taste), *Gumutra* (~cow urine) was useful in alleviating *vata* (~wind) in patients of *Pakwashayagatavata*.

On this basis it can be concluded that *basti*(~medicated enema)is very safe, feasible and effective in the management of IBS-C vis-à-vis *pakwashayagatavata*(IBS-c).

**Mode of action of combination of Ayurvedic drugs:** Ingredients of *Panchasakar* powder are *shunti* (~dry ginger),*sennaleaves*,*shatapushpa*,*eranda oilbharjitaharitaki*(~castor oil roasted *Harada*),*saindhavaLavana*(~rock salt).

The ingredients of *Panchasakar* powder are *ushna*(~hot),*vatahar*(~wind alleviating) and were effective in pacifying *vata*(~wind) and thus correcting constipation in the patients of IBS-c.

Modern system of medicine is also recognising that *senna* and castor oil (which are the ingredients of *Panchasakarchoorna* )are effective in IBS-C .According to one of the study, these drugs have two major mechanisms of action. One, they directly stimulate the colon and increase colonic contractions. Two, they increase fluid secretion in the intestinal tract, which increases intestinal transit.<sup>[19]</sup>

*Mahashankhavati* is mentioned in the context of *agnimandya* (~low digestive fire). In patients of *pakwashayagatavata*(~IBS-c), *Mahashankhavati* was useful in improving digestion, which may further lead to *vatanulomana*.

Thus this combination of Ayurvedic drugs were effective in *pakwashayagatavata*.

## CONCLUSION

Both the groups showed statistically significant improvement in chronic constipation, but the improvement was better in group B in comparison to group A.

Group B(*basti* group) had showed better relief in most of the cardinal and associated features of the disease at significant level. *Basti* proved not only supportive in eliminating *vata*(~wind) at its *sthana*(site) i.e. colon but was also useful in strengthening *vatasthana*(~site of wind) i.e. *pakwashaya* (~colon) and there by was beneficial in suppressing associated symptoms like *katishoola*(~low back ache) and retention of urine.

Thus, this present study strengthens the validity of the classical concept of *basti* for *vatic* disorders like *pakwashayagatavata*.

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