AYU

Clinical Research

A clinical study on the role of *ama* in relation to *Grahani Roga* and its management by *Kalingadi Ghanavati* and *Tryushnadi Ghrita*

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Abstract

Grahani and *Agni* are having *Adhara-Adheya-Sambandha*. *Grahani* is described as an *Agni Adhishthana* by most of the *acharyas*. *Mandagni* is a root cause of *Ama Dosha* and it is the crucial factor for manifestation of most of the diseases. Among them, *Grahani* is the prime disease of gastro-intestinal tract and seen often in day-to-day practice. A total of 66 patients were randomly divided in three groups and treated with: A) *Kalingadi Ghanavati*, three *vatis* of 500 mg twice daily with *takra*, B) *Tryushnadi Ghrita*, 10 g twice daily before meal with lukewarm water and C) Combination of both the drugs for 14 days. An assessment was done on the basis of *Rogabala*, *Dehabala*, *Agnibala*, and *Chetasabala*. The study revealed that combination proved better results than those of individuals.

Key words: Ama Dosha, Grahani Roga, Agni, Kalingadi Ghanavati, Tryushnadi Ghrita, Rogabala, Dehabala, Agnibala, Chetasabala

Introduction

In the era of fast food, there is change or irregularity in diet and diet timings and also sedentary lifestyle. In addition to change in diet and lifestyle, one is always under tremendous mental stress. All these causes disturbance to the digestive system, which results into many diseases, amongst which digestion and absorption disorders constitute an important group.

Grahani and *Agni* are interdependent.[1] Functionally weak *Agni* i.e., *Mandagni*, causes improper digestion of ingested food, which leads to *Ama Dosha*. This *Ama Dosha* is a root cause of most of the diseases. It has pivotal importance in the pathogenesis of *Grahani Roga*. *Grahani* is considered under eight major diseases,[2] hence it is hard to diagnose and difficult to treat. Any disease has two stages: *Amavastha* and *Niramavastha*. If the disease is in *Amavastha*, first line of the treatment is to remove *Ama* and make the disease *Nirama*, and then after that the particular treatment of the disease should be applied.

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Aims and Objectives

- To assess the efficacy of *Kalingadi Ghanavati* in the management of *Grahani Roga* (*Amavastha*).
- To assess the efficacy of *Tryushnadi Ghrita* in the management of *Grahani Roga* (*Amavastha*).

Materials and Methods

In the present study, with the above-mentioned aims and objectives, the clinical study progressed utilizing the clinical material is as under:

Selection of patients: The patients between the age group of 16 and 60 having classical sign and symptoms of *Grahani Roga* (*Amavastha*), i.e. *Muhu Baddha* and *Drava Mala Pravritti*, *Aruchi*, *Udara Shoola*, *Vishtambha*,[3] etc., were randomly selected irrespective of their sex, religion, occupation, etc., attending the OPD of the Kayachikitsa department, Hospital of Institute for Post Graduate Teaching and Research in Ayurveda, Jamnagar for the present study.

Diagnostic criteria: All the patients were diagnosed on the basis of classical signs and symptoms of *Grahani Roga* (*Amavastha*). For the purpose of perfect diagnosis and assessment, a special research Performa was designed for the study incorporating all the relevant points from both Ayurvedic and modern views. The routine hematological, biochemical, urine, and stool examination were carried

out to assess the general condition and exclusion of other pathogenesis of the patients.

Exclusion criteria: Patients suffering from acute diarrhea, intestinal tuberculosis, ulcerative colitis, gastric and peptic ulcer, and uncontrolled Diabetes Mellitus and Hypertension

Drugs

Kalingadi Ghanavati and *Tryushnadi Ghrita* were selected as clinical trial drugs.

Kalingadi Churna[4] has six drugs viz., *Kutaja, Vacha, Ativisha, Haritaki, Hingu,* and *Sauvarchala.* For the convenience of patients *Ghanavati* was prepared. *Tryushnadi Ghrita*[5] has eight drugs viz., *Sunthi, Maricha, Pippali, Haritaki, Bibhitaki, Amalaki, Guda* (Jaggery), and *Ghrita.* Most of the drugs of both the combination are having *Katu-Kashaya Rasa, Laghu-Ruksha Guna, Ushna Veerya, Katu Vipaka* and *Amapachaka* and *Agnideepaka* properties, which help to disrupt the pathogenesis of *Grahani Roga.*

Grouping: The selected patients were randomly placed and studied under the following three groups:

Group A (KG): In this group, 24 patients were subjected to *Kalingadi Ghanavati* (500 mg), three *vatis* twice daily after meal with *anupana* of *takra* for 14 days. Group B (TG): *Tryushnadi Ghrita* was given to 24 patients in dose of 10 g twice daily before meal for 14 days with *anupana* of lukewarm water. Group C (KTG): In this group, 18 patients were subjected to both (*Ghanavati* and *Ghrita*), as per the above-mentioned dose, duration, etc.

Criteria for assessment

Result was assessed on the basis of improvement in the signs and symptoms of the disease. Improvement in *Rogabala* along with *Dehabala, Agnibala* and *Chetasabala* was considered for assessment [Table 1].[6]

A total score of 100 has been divided as follows:

Rogabala	50	Agnibala	20
Dehabala	10	Chetasabala	20

These score has been further subdivided as following:

Criteria for overall assessment of therapy

The total effect of therapy was assessed considering the overall improvement in signs and symptoms of the disease (*Rogabala*)

and also improvement in *Dehabala, Agnibala,* and *Chetasabala.* After the completion of treatment course, the criteria were made to assess the effect of therapy:

Complete remission: 100% relief
Marked improvement: ≥75% up to 99% relief
Moderate improvement: ≥50% up to 75% relief
Mild improvement: ≥25% up to 50% relief
Unchanged: <25% relief

Observations

Sixty six patients of *Grahani Roga* were treated in the present study. Among them, 48 patients completed the course while 18 patients left the treatment course. The maximum patients (66.67%) were in the age group of 21−40 years. In this series, maximum number of patients were male (75.76%), married (83.33%), Hindu (86.37%), educated (93.94%), labors (42.42%), from middle class (51.51%), and from *Sadharana Desha* (96.97%).

Dashavidha Pariksha biostatistics revealed that maximum numbers of the patients were having *Vata-Pitta Deha Prakriti* (39.39%), *Raja Pradhana Manasa Prakriti* (53.03%), *Madhyama Sara* (72.73%), *Madhyama Samhanana* (75.76%), *Madhyama Pramana* (77.27%), *Madhyama Satva* (69.70%), *Madhyama Saatmya* (75.76%), *Madhyama Vyayama Shakti* (65.15%), *Avara Abhyavaharana Shakti* (65.15%), and *Avara Jarana Shakti* (81.82%).

Review of the personal dietary history showed that 75.76% patients were having *Madhyama Ruchi*, 71.27% were vegetarian, 59.09% were having regular diet pattern, 43.94% of patients were doing *Pramitasana*, and 80.30 and 60.61% patients were taking *Katu Rasa* and *Ushna Guna Pradhana aahara*, respectively.

Review of the personal history showed that maximum numbers of the patients (74.24%) were doing work for 6−8 h, 71.21% of the patients were having sound sleep, and 78.79% were having unsatisfactory bowel habit, 54.54% were having anxiety/tension followed by 27.27% who were depressed. In 37.88% patients, the frequency of stool was observed 3 to 4 times in a day, and 62.12% patients were suffering from disease for more than one year.

Review of the etiological factors: *Ati Katu aahara* in 80.30% patients, *Ati Snigdha* (71.21%), *Ati Amla aahara* (59.09%), *Ati Guru aahara* (54.54%), *Ati Sheeta aahara* (39.39%), *Ati Ambupana* (31.82%), and *Vishamashana* (19.70%) were observed

Table 1: Scoring pattern for assessment of therapy

RogaBala (50)	DehaBala (10)	AgniBala (20)	ChetasaBala (20)
Muhu baddha/drava Mala pravirtti 10	Bala vriddhi 6	Ruchi 5	Nidra Labho yatha kala 5
Udara Shoola 5	Swara Varna Yoga 4	Jarana shakti 6	Sukhena Cha Pratibodhana 5
Udara Gaurava 5		Abhyavaharana shakti 6	Vaikarika Cha Swapna Adarshana 2
Aapachana 5		Vata Mootra Purisha Retasam Mukti 3	Buddhi Indriya Avyappatti 3
Aruchi 5			Mano Avyappatti 5
Atop 4			
Vidaha 4			
Aalasya 4			
Vistambha 4			
Praseka 4			

The figures in numbers shown in table indicate score

as *Aaharaja Nidana*. While *Diva swapana* in 57.57% patients, *Vega vidharana* (40.91%), *Ratri jagarana* (33.33%), and *Ati Vyayam* (30.30%) were observed as *Viharaja Nidana*, *Chinta* in 59.09% patients, *Shoka* (48.48%), *Krodha* (43.94%), and *Bhaya* (22.73%) were observed as *Manasa Nidana*. In 36.36% patients, *Atisara* was found as *Nidanarthakara Roga*.

Chief complaints observed in patients were *Muhu Baddha* and *Drava Mala Pravritti* (100%), *Apachana* and *Aruchi* each (78.79%), *Udara Shoola* (75.76%), *Udara Guarava* (68.18%), *Atop* (54.55%), *Vidaha* (51.52%), *Vistambha* (46.97%), *Aalasya* (36.36%), and *Praseka* in 16.67% patients.

Results

Statistically highly significant decrease was found in all

symptoms in Group A except in *Praseka*. In Group B, statistically highly significant decrease was found in all symptoms. In Group C, statistically highly significant decrease was found in all symptoms except *Praseka* and *Vishtambha*, in which it was statistically non-significant [Table 2].

Statistically highly significant decrease was found in *Bala Vriddhi* in all three groups. While in the symptom of *Swara Varna Yoga*, statistically highly significant improvement was found in Group B, but in Group A, it was statistically significant only and in Group C, it was statistically non-significant [Table 3].

Statistically highly significant decrease was found in *Ruchi*, *Abhyavaharana Shakti* and *Jarana Shakti* in all three groups. In the symptom of *Vata Mootra Purisha Retasam Mukti*, statistically highly significant improvement was found in Group A and B, but in Group C, it was statistically non-significant [Table 4].

Table 2: Effect of therapy on *Rogabala*

Symptoms	Group A		Group B		Group C	
	n	% Relief	n	% Relief	n	% Relief
Muhu Baddha and *Drava Mala Pravritti*	16	45.31↓**	18	50.90↓**	14	34.83↓**
Udara Shoola	15	47.78↓**	17	54.03↓**	13	57.65↓**
Udara Gaurava	13	48.42↓**	16	60.59↓**	13	61.03↓**
Praseka	01	0.00	07	53.27↓**	05	55.55↓©
Atop	15	51.28↓**	14	49.81↓**	09	62.55↓**
Vidaha	12	51.55↓**	09	49.81↓**	07	70.37↓**
Aalasya	08	55.55↓**	13	71.16↓*	11	55.95↓**
Apachana	14	50.18↓**	16	56.73↓**	12	63.01↓**
Vishtambha	09	61.00↓*	14	59.65↓**	05	60.00↓©
Aruchi	14	43.18 ↓**	14	54.66 ↓**	13	59.05↓**

↓ = decrease, *= *P* < 0.01,** = *P* < 0.001, © = *P* > 0.05

Table 3: Effect of therapy on *Dehabala*

Symptoms	Group A		Group B		Group C	
	n	% Relief	n	% Relief	n	% Relief
Bala Vriddhi	13	50.13↓**	15	48.28↓**	11	52.46↓**
Swara Varna Yoga	16	30.87↓*	13	50.48↓**	09	30.00↓©

↓ = decrease, ** = *P* < 0.001, * = *P* < 0.05, © = *P* > 0.05

Table 4: Effect of therapy on *Agnibala*

Symptoms	Group A		Group B		Group C	
	n	% Relief	n	% Relief	n	% Relief
Ruchi	16	44.65↓**	14	54.47↓**	13	59.05↓**
Abhyavaharana Shakti	16	29.67↓**	18	46.58↓**	14	48.86↓**
Jarana Shakti	16	52.49↓**	18	54.23↓**	14	50.00↓**
Vata Mootra Purisha Retasam Mukti	07	59.86↓**	09	37.56↓**	05	57.14↓©

↓ = decrease, ** = *P* < 0.001, © = *P* > 0.05

Statistically highly significant decrease was found in all the symptoms of *Chetasabala* in all three groups [Table 5].

Average percentage improvement on *Rogabala* was observed in Group A (49.01%), Group B (53.74%), and in Group C (58.95%), on *Dehabala* it was observed as Group A (43.75%), in Group B (45.37%), and 47.62% in Group C, on *Agnibala* it was

observed in Group A (48.34%), Group B (48.37%) and in Group C (52.25%), and on *Chetasabala* average improvement was obtained as Group A (59.33%), Group B (53.99%), and in Group C (54.12%). Total average improvement observed in Group A (50.11%), in Group B (50.37%), and in Group C (53.23%). From these data it can be said that on *Rogabala*, *Dehabala*,

Table 5: Effect of therapy on Chetasabala

Symptoms	Group A		Group B		Group C	
	n	% Relief	n	% Relief	n	% Relief
Nidra Labho Yatha kala	10	53.57↓ **	12	51.27↓ **	08	54.58↓ **
Sukhen Cha Pratibodhana	12	53.65↓ **	13	56.10↓ **	09	64.86↓**
Vaikarika Swapna Adarshana	11	68.64↓ **	12	57.26↓ **	07	55.47↓ *
Buddhi Indriya Avyapatti	14	47.75↓ **	14	51.81↓ **	10	50.00↓ *
Mano Avyapatti	10	41.38↓ **	12	44.17↓ **	08	48.08↓ **

↓ = decrease, ** = $P < 0.001$, *= $P < 0.01$

and *Agnibala*, combination (KTG) is more effective than those of individual drugs. While on *Chetasabala*, *Ghanavati* shows better improvement than rest of the two groups [Figure 1].
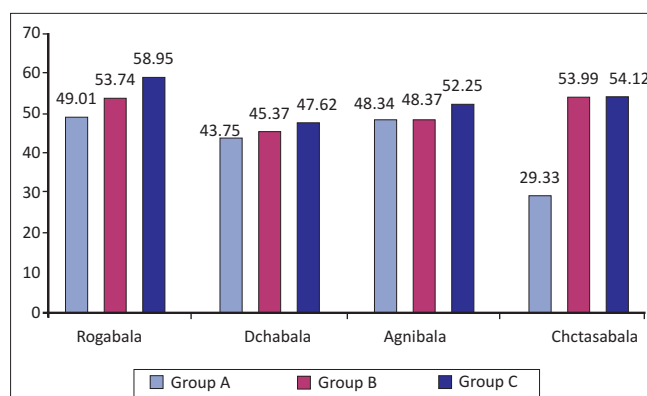
Overall effect of therapy

In Group A (KG), 43.75% patients were moderately improved and 56.25% patients were mildly improved. In Group B (TG), 55.55% patients were moderately improved and 44.45% patients were mild improved. In Group C (KTG), 57.14% patients were moderately improved and 42.85% patients were mildly improved. In all three groups, no patient was markedly improved, unchanged or completely remitted.

Discussion

Maximum patients were from middle age group; in this age group, people usually do *Adhyashana*, *Vishamashana*, *Ratrijagaranam*,and *Diwasvapana*, which leads to *Tridosha Dushti* – mainly *Samana Vayu*, *Pachaka Pitta*, and *Kledaka Kapha*, and also tension or anxiety is much seen in this age group, which leads to *Agni Dushti* and finally, it leads to *Amavstha* of *Grahani Roga*. Maximum patients were doing either *Pramitashana* or *Vishamashana*, both lead to *Ama* formation;[7] finally, it results into occurrence of disease. Maximum patients were having *Mridu Koshtha*, which indicates the patients of *Grahani* are more prone to recurrent diarrhea.

In the present study, majority of patients were suffering from anxiety/tension, emotional stress, and depression leading to vitiation of *Agni* and it results into *Amavastha* of *Grahani Roga*. Maximum patients were having *Mandagni*, *Madhyama Ruchi*, *Avara Abhyavaharana Shakti* and *Avara Jarana Shakti*; this signifies the importance of Agni i.e., *Mandagni*, in the pathogenesis of *Grahani Roga*. Mandagni results into vitiation of *dosha*, which leads to *ama* formation. It plays a vital role in *Samprapti* of *Grahani Roga*.[8] Therefore, here drugs were given having *Deepana* and *Pachana* properties. Maximum patients were having chronicity of disease of 1−12 months duration, as patients initially do not care for mild symptoms of disease & take on self medications like appetizers, digestives, etc.

As per *Nidana*, most of the patients were doing *Ati Katu*, *Ati Snigdha Aahara*, *Ati Ambupana*, *asatmya Bhojana*, etc. This is responsible for vitiation of *Dosha*, which leads to *Agni Dushti* and formation of *Ama* that results into disease occurrence. *Diwa Svapana*, *Agni Sampata*, *Vega Vidharana* were observed as *Viharaja Nidana* in most of the patients; all these are responsible for improper digestion and vitiation of *Doshas*,

Figure 1: Comparison of the effect of therapy

leading to *Amavastha* of *Grahani Roga*. In the present study, chief complaints like, *Muhu Baddha* and *Drava Mala Pravritti*, *Apachana*, *Aruchi*, *Udara Shoola*, *udara Gaurava*, *Atopa*, *Vidaha*, *Vistambha*. etc. were found. Faulty dietetic habit, mental disturbance, sleeping pattern, etc. are the etiological factors. Due to these factors there is vitiation of *Tridosha* and by these *Agni* is vitiated, which leads to vitiation of *Grahani* that results in symptoms of *Grahani Roga*.

Probable mode of the action of *Kalingadi Ghanavati*

Acharya Charaka states that, certain drugs act through *Rasa*; some through *Veerya*; some through their *Gunas*; some through their *Vipaka*, and some through their *Prabhava*.[9]

Because of its *Laghu*, *Ruksha Guna* and *Katu*, *Tikta Rasa* (dominant with *Agni*, *Vayu*, and *Akasha Mahabhuta*), it subsides the aggravated *Kapha*. Whereas, by *Ushna Veerya* and *Tikshna Guna*, it counteracts *Vata*. By virtue of its *Tikshna Guna*, it enhances the function of *Pitta*, which stimulates *Jatharagni*, which turn-by-turn stimulates all other Agnis. Due to its *Laghu*, *Ruksha*, *Tikshna Guna* and *Ushna Veerya*, it removes present *Srotorodha* as it penetrates minutest *Srotas*.

In *Grahani Roga*, mainly there is vitiation of *Agni*, usually *Mandagni* is seen. This ultimately results in *Ama* formation. *Kalingadi Ghanavati* has properties like *Katu-Tikta Rasa*, *Katu Vipaka*, *Laghu-Ruksha-Tikshna*, *Guna*, which acts as *Agnidipaka* and also *Amapachaka*.

Probable mode of the action of *Tryushnadi Ghrita*

Due to its *Laghu Ruksha* and *Tikshna Guna* and *Katu--Kashaya Rasa*, it works as *Kaphashamaka*. On the other hand, it clears *Vata* with *Tikshna Guna* and *Ushna Veerya*. By the *Agnideepana*

properties of *Ghrita*, it increases the level of *Jatharagni. Katu-Kashaya Rasa, Laghu--Ruksha-Tikshna Guna*, and *Ushna Veerya* of the drug are dominant with *Agni, Akasha* and *Vayu Mahabhuta*, which aggravates Agni. *Agni* and *Grahani* have *Ashraya-Ashrita-Sambandha* and *Paraspara Upakaraka Bhava.* Therefore, it works on *Grahani* as well. Through *Laghu* and *Tikshna Guna* of drug, it enters into *Sukshma Srotasa* and clears *Ama* from *Srotasa. After Srotosuddhi*, by *Madhura Vipaka* and *Snigdha Guna* of the drug, it nourishes *Rasadi Dhatus.*

Tryushnadi Ghrita has properties like *Katu, Kashaya Rasa, Laghu, Ruksha, Tikshna*, and *Snigdha Guna*, which acts as *Amapachaka* and *Agni Deepaka, Kashaya Rasa* and *Snigdha* and *Guru Guna* help in reducing the colonic motility and finally it helps in *Muhurbaddha* and *Drava Mala Pravritti.*

Conclusion

It may conclude that *Mithya Aahara Vihara* is the main cause of the *Agni Dushti*, which leads to *Ama Dosha* and finally it results into *Grahani Roga.*

The overall effect of therapies showed that better results observed in *Ghrita* group in comparison to *Ghanavati* group.

However, there is not much difference.

In comparison of all three groups, combination group showed slightly better results than those of single drugs.

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