

Clinical Research

A clinical study of *Devadarvyadi-Vati* on *Grahani Dosha* in childrenRutu V. Patel¹, V. K. Kori², K. S. Patel³¹M.D.(Ayu) Speciality: Kaumarabhritya, ²Assistant Professor, ³Associate Professor, Department of Kaumarabhritya, Institute for Post Graduate Teaching and Research in Ayurveda, Gujarat Ayurved University, Jamnagar, Gujarat, India

Access this article online

Website: www.ayujournal.org

DOI: 10.4103/0974-8520.92568

Quick Response Code:



Abstract

Childhood period is considered as the period of rapid growth and development, as it is the crucial stage of establishing future. Gastro-intestinal disorders show high prevalence in pediatric practice. These conditions generally produce chronic illness. *Grahani Dosha* is a disease related with *Agnidushti*. This condition is seen more in childhood period due to faulty dietary habit and changing lifestyle. The present paper deals with study on etiopathogenesis of *Grahani Dosha* and evaluates the efficacy of *Devadarvyadi-Vati*. The etiological factors and symptoms were observed carefully to make clear etiopathogenesis. Total 32 patients (3-12 years) were registered and randomly divided into two groups. In Group A *Devadarvyadi-Vati* (treated group) and in Group B *Bhunimbadi-Vati* (control group) given for 4 weeks with *Koshna Jala*. In Group A (*Devadarvyadi-Vati*), marked improvement was observed in 21.43% of the patients, moderate improvement was observed in 57.14% of patients and mild improvement was observed in 21.43% of patients.

Key words: *Bhunimbadi-Vati*, *Devadarvyadi-Vati*, *Grahani Dosha*

Introduction

Children are always put in a special category and they require more attention. In children, the diagnosis as well as prognosis based on strength of the clinical features should be made at the earliest possible, so that the management could be fixed soon.^[1]

Diseases of digestive system constitute a major problem in India. It is certain that socioeconomic and environmental factors are responsible for a much greater prevalence of digestive disorders. Digestive diseases commonly affect the persons at the prime period of their life i.e., in the young - most productive part of the life and the children during the crucial stage of growth and development. Most of the digestive diseases are chronic or recurrent and lead to more disability than acute transient illness. *Grahani Dosha* is a disease related with gastrointestinal disorders. This condition is seen more in childhood period due to irregular dietary habit like over-eating; more ingestion of cool, heavy, dry, fried and dehydrated food. A wide variety of gastrointestinal symptoms like loss of appetite, abdominal pain, nausea, vomiting, constipation, etc., have been reported

in children. Gastrointestinal disorders show high prevalence in pediatric practice. But in today's era, this condition mostly goes unnoticed under the burden of antibiotics or at times is either not reported by the child or is not taken up seriously by the parents. These conditions generally hamper growth and development of the child and produce chronic illness. Proper care of digestive diseases in children will help in "Adding life to years...as well as years to life."

The formulation having the property of *Deepana-Pachana* has been selected for present study in the form of *Devadarvyadi-Vati* as treated group mentioned by *Acharya Charaka* in *Chikitsa Sthana Grahani Dosha Chikitsa Adhyaya* 15/99. It contains six herbs: *Devadaru* [*Cedrus deodara* (Roxb.) Loud], *Vacha* (*Acorus calamus* Linn.), *Musta* (*Cyperus rotundus* Linn.), *Sunthi* (*Zingiber officinale* Rosc.), *Ativisha* (*Aconitum heterophyllum* Wall. ex Royle) and *Haritaki* (*Terminalia chebula* Retz.).

Bhunimbadi-Vati has been selected as control group mentioned in *Charaka Samhita Chikitsa Sthana*.^[2] It consists nine drugs: *Bhunimba* (*Swertia chirayata* Roxb. ex Flem.), *Katuki* (*Picrorhiza kurroa* Royle ex Benth), *Shunthi* (*Zingiber officinale* Rosc.), *Maricha* (*Piper nigrum* Linn.), *Pippali* (*Piper longum* Linn.), *Musta* (*Cyperus rotundus* Linn.), *Chitraka* (*Plumbago zeylanica* Linn.), *Kutaja* [*Holarrhena antidysenterica* (Roxb. ex.Flem) Wall] and *Indrayava* [*Holarrhena antidysenterica* (Roxb.ex.Flem) Wall]. The collected drugs were authenticated in the pharmacognosy laboratory of IPGT and RA, Jamnagar.

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Aims and objectives

- To study the etiopathogenesis of *Grahani Dosha* in children.
- To evaluate the clinical efficacy of *Devadarvyadi-Vati* in comparison to *Bhunimbadi-Vati* in the management of *Grahani Dosha* in children.

Materials and Methods

Selection of the patients: Patients (3-12 yrs), having signs and symptoms of *Grahani Dosha* have been selected from O.P.D. of *Kaumarabhritya* Dept., I.P.G.T. and R.A., G.A.U., Jamnagar hospital after excluding conditions like congenital disease, hereditary disease, worm infestation and infectious disease. A special research proforma was prepared for study based on Ayurvedic literature.

Sampling method: Simple random sampling method.

Grouping

Group A: *Devadarvyadi-Vati* (treated group)

Group B: *Bhunimbadi-Vati* (control group)

Dose: 3.5-12.5 gm according to age. (*SharangadharaSamhita*) in three divided doses.

Anupana: *KoshnaJala*.

Duration: 4 weeks

Follow up: 2 months

Criteria for Assessment

Assessment has been done based on the improvement in signs and symptoms and investigations. The scoring pattern adopted for the assessment of clinical features is as follows:

- Muhurbaddha Muhurshithila Mala Pravritti:**
 - 0 - Passing of normal consistency stool (1 time/day) in the morning.
 - 1 - Passing stool irregular (1-2 times/day), without pain.
 - 2 - Passing stool irregular (2-3 times/day), with pain.
 - 3 - Passing stool irregular and just after meal (3-4 times/day), with pain.
 - 4 - Passing stool irregular and just after meal (>4 times/day), with pain.
- Anaddhodarata:** (Distention of abdomen)
 - 0 - No complaint.
 - 1 - Rarely complaint once in a week.
 - 2 - Distention of abdomen after taking meal, up to 1 hour.
 - 3 - Distention of abdomen after taking meal, up to 1-3 hours.
 - 4 - Distention of abdomen after taking meal, up to 6 hours.
- Arochaka:**
 - 0 - Taking normal diet with interest.
 - 1 - No interest in taking normal diet.
 - 2 - Food has taken forcefully.
 - 3 - Not taken a food even forcefully.
- Balakshaya:**
 - 0 - No weakness.
 - 1 - Weakness but performs day-to-day activities.
 - 2 - Weakness and difficulty in performing day-to-day activities.
 - 3 - Child cannot able to get up from the bed.
- Alasya:**
 - 0 - Enthusiastic.
 - 1 - Occasionally, the baby is in lethargic condition.
 - 2 - Often, the baby is in lethargic condition.
 - 3 - Persistent.
- Klama:**
 - 0 - No exhaustion.
 - 1 - Exhaustion with moderate work.
 - 2 - Exhaustion with mild work.
 - 3 - Exhaustion without effort.
- Trishna:**
 - 0 - Normal thirst.
 - 1 - Mild thirst, take water frequently.
 - 2 - Thirst increase.
 - 3 - Feel excessive thirst, never satisfied after taking a good amount of water.
- Mukha-Vairasya:**
 - 0 - No complaint.
 - 1 - Occasionally.
 - 2 - Frequently.
 - 3 - Whole day.
- Tikta-Amlodgara:**
 - 0 - No complaint.
 - 1 - Occasionally.
 - 2 - 1-3 days/week.
 - 3 - 3-5 days/week.
 - 4 - 5-7 days/week.
 - 5 - All the 7 days.
- Praseka:**
 - 0 - No complaint.
 - 1 - Mild salivation.
 - 2 - Moderate salivation with nausea occasionally per day.
 - 3 - Excessive salivation with nausea and with often vomiting.
- Antrakujanam:**
 - 0 - No complaint.
 - 1 - Occasionally.
 - 2 - 2-3 times/day before passing stool.
 - 3 - Persistent.
- Abhayavarana Shakti:**
 - 0 - Good quantity thrice a day.
 - 1 - Good quantity twice a day.
 - 2 - Normal quantity twice a day.
 - 3 - Less quantity twice a day.
 - 4 - Less quantity once a day.
- Jarana Shakti:**

Scoring according to *Jeerna Aahara Lakshana* present after 6 hours after taking food. They are *Utsaha*, *Laghuta*, *UdgaraShuddhi*, *KshudhaTrishnaPravritti* and *YathochitMalotsarga*.^[3]

 - 0 - Presence of 5-6 symptoms.
 - 1 - Presence of 4-5 symptoms.
 - 2 - Presence of 3-4 symptoms.
 - 3 - Presence of 2 symptoms.
 - 4 - Absence of all the symptoms.

Laboratory investigations

- Routine and microscopic examination of stool.
- Routine and microscopic examination of urine.
- pH value of stool.
- *Mala parikshana* by ayurvedic method.

Habits (Regular/Irregular), Number of motions, *Akriti* (Appearance) of the stool (Cylindrical/Not define), *Samhatatva*-consistency (Semisolid/Hard), *Varna*, *Gandha* and *Jala Parikshana* (Flots/Sinks in water) of stool was assessed.

Dietary restrictions

The patients were strictly advised to follow the restrictions regarding food habits and life style and to avoid the possible causative factors for *Agnimandya* like *Vishamashana*, *Sheeta Jala Sevana*, etc.

Assessment of total effect of therapy

No improvement - 0 %

Mild improvement - 0-25%

Moderate improvement - >25-50%

Markedly improvement - >50-75%

Complete remission - 100%

Paired 't' test was carried out to evaluate the statistical significance of the results obtained at the end of the therapy.

Clinical study

Total 32 patients were registered and randomly divided into two groups. Out of 32 patients of *Grahani Dosha*, 24 had completed the course of treatment. In Group A (*Devadaryadi-Vati*) 14 patients had completed the course of treatment and 4 patients were discontinued. In Group B (*Bhumimbadi-Vati*) 10 patients had completed the course of treatment and 4 patients were discontinued.

Maximum numbers of patients were in the age group of 3-5 years (40.62%), male (62.50%), Hindu (87.50%), middle class (50%) and mothers are housewives (96.87%). Majority of the patients were *Vata-Pitta Prakriti* (53.12%), *Avara Sara* (65.62%), *Avara Samhanana* (81.25%), *Avara Vyayama Shakti* (87.50%), *Avara Abhyavarana Shakti* (87.50%) and *Avara Jarana Shakti* (84.38%).

Majority of patients (59.37%) were having past history of *Grahani Dosha* followed by 37.50% of patients been having past history of *Atisara*. *Vishamashana* (93.75%), *Divaswapna* (46.87%) and *Krodha* (56.25%) was observed in maximum numbers of the patients.

Vatakapha Pradhana Rupa was observed in i.e., 59.37% of the patients. As chief complaints *Muhurbaddha-Muhurshithila Mala Pravritti* (100%), *Anaddhodarata* (84.37%), *Arochaka* (93.75%), *Balakshaya* (90.62%), *Aalasya* (87.50%), *Klama* (59.37%), *Trishna* (62.50%), *Mukha Vairasya* and *Tikta Amlodgara* (09.37%), *Praseka* (37.50%), *Antrakujanam* (96.87%) were observed. *Chronicity* (6-12 months) was observed in 56.25% of the patients.

Nirama mala pravritti was observed in 50% of patients treated in Group A, which is statistically highly significant. Only 20% effect on this symptom was found in Group B, which statistically insignificant. In trial group, increase in pH of stool was observed (27%), while in control group; it was 11.67%. Both results are statistically highly significant.

Overall effect of therapy

In Group A, marked improvement was observed in 21.43% of the patients, moderate improvement was observed in 57.14% of patients and mild improvement was observed in 21.43% of patients. Not any patient was observed as complete cured and unchanged [Table 1]. In Group B, moderate improvement was observed in 40% patients and mild improvement was observed in 60% patients [Table 2].

Observation and Results

Observations of 32 patients are as presented below:

Discussion

Bruhatrayee as well as *Laghutrayee* have explained *Grahani*

Table 1: Effect of therapy on chief complaints in group A

Symptoms	N	Mean		D	%	SD	SE	t	P
		BT	AT						
<i>Muhurbaddha</i>	14	2.28	0.50	1.78	78.12	0.80	0.21	8.33	<0.001
<i>Muhurshithila</i>									
<i>Mala Pravritti</i>									
<i>Anaddhodarata</i>	11	2.09	0.54	1.54	73.91	0.68	0.20	7.45	<0.001
<i>Arochaka</i>	14	1.78	0.35	1.43	80.00	0.51	0.13	10.40	<0.001
<i>Balakshaya</i>	13	1.46	1.23	0.23	15.79	0.43	0.12	1.89	>0.05
<i>Aalasya</i>	12	1.83	1.00	0.83	45.45	0.71	0.20	4.02	<0.01
<i>Klama</i>	07	1.71	1.28	0.43	25.00	0.53	0.20	2.12	>0.05
<i>Trishna</i>	06	1.83	0.33	1.50	81.82	0.54	0.22	6.70	<0.01
<i>Mukha Vairasya</i>	02	2.00	0.50	1.50	75.00	0.70	0.50	3	>0.05
<i>Tikta Amlodgara</i>	02	4	1	3	75.00	1.41	1	3	>0.05
<i>Praseka</i>	06	1	0	1.00	100	0.00	0.00	-	-
<i>Antrakujanam</i>	13	2.07	0.61	1.46	70.37	0.66	0.18	7.98	<0.001
<i>Agnibala</i>									
<i>Abhayavarana Shakti</i>	14	2.36	0.78	1.57	66.67	0.75	0.20	7.78	<0.001
<i>Jarana Shakti</i>	14	3.35	1.50	1.86	55.32	0.66	0.18	10.48	<0.001

P < 0.001, P < 0.01: Highly significant, P < 0.05: Significant, P > 0.05: Insignificant

Table 2: Effect of therapy on chief complaints in group B

Symptoms	N	Mean		D	%	SD	SE	t	P
		BT	AT						
Muhurbaddha Muhurshithila Mala Pravritti	10	2.30	0.60	1.7	73.91	1.05	0.33	5.07	<0.001
Anaddhodarata	09	2.11	1.00	1.11	52.63	0.60	0.20	5.54	<0.001
Arochaka	08	2.00	0.62	1.37	68.75	0.91	0.32	4.24	<0.01
Balakshaya	08	1.62	1.50	0.12	7.69	0.35	0.12	1.00	>0.05
Aalasya	08	1.50	1.25	0.25	16.67	0.46	0.16	1.52	>0.05
Klama	07	1.28	1.28	0.00	00.00	0.00	0.00	-	-
Trishna	07	1.86	0.57	1.28	69.23	0.48	0.18	6.97	<0.001
Mukha Vairasya	01	1.00	0.00	1.00	100	0.00	0.00	-	-
Tikta Amlodgara	02	3.00	0.50	2.50	83.33	0.70	0.5	5	>0.05
Praseka	04	1.50	0.00	1.50	100	0.57	0.29	5.19	<0.05
Antrakujanam	10	2.00	0.90	1.10	55.00	0.31	0.10	11	<0.001
Agnibala									
Abhayavarana Shakti	09	2.00	0.89	1.11	55.55	0.6	0.2	5.54	<0.001
Jarana Shakti	10	3.20	1.60	1.60	50.00	0.52	0.16	9.80	<0.001

P < 0.001, P < 0.01: Highly significant, P < 0.05: Significant, P > 0.05: Insignificant

Dosha in detail along with management. According to *Kashyapa Samhita* the children whose *Grahani* is vitiated and often eat too much, they suffer from *Phakka* (*Vyadhija*).^[4] *Agnimandhya* predominantly causes the disease *Grahani Dosha*. When *Dosha Dushti* occurs, the disease is manifested and *Apakva* food is invariably voided (unchanged). In *Purvarupavastha* both *Ama* and *Pakva* food products come out through the stool, the condition is described as *Grahani Dosha*. When only *Apakva* food is invariably voided, the condition is described as *Grahaniroga*.^[5] *Grahaniroga* is considered as the advanced stage of *Grahani Dosha*.

According to *Acharya Charaka*, the action of the drug depends upon either its *Rasa*, *Guna*, *Virya*, *Vipaka* or *Prabhava*.^[6] To break the *Samprapti* of the disease, an ideal drug should have *Deepana*, *Pachana* properties predominantly. *Devadarvyadi-Vati* contains *Katu Rasa*, *Laghu Guna*, *Ushna Veerya*, *Katu Vipaka*, *Vatakapha Doshaghnata* predominantly and in *Bhunimbadi-Vati* most of the drugs have *Tikta* and *Katu Rasa*, *Laghu* and *Ruksha Guna*, *Sheeta Virya*, *Katu Vipaka* and *Kaphapittashamaka Doshaghnata*. Due to these properties of the both groups help in *Amapachana* and *Agnidipti*.

Maximum numbers of the patients belonging to the age group of 3-5 years. Digestive diseases can affect at any age, but incidence seems to be higher in small aged children. The beginning of *Annada Avastha* period and the characteristics of *Balyavastha* are described as *Aparipakva Dhatu*, *Asampurna Balam*, *Shleshmadhatuprayam*, *Aniyata Agni*, etc. During this period, any mild etiological factor can impairs *Agni* easily and disturbs the digestive system.

Most of the mothers were housewives. As a housewife, the mother is in the home whole day with children, she thinks that her children eat nothing and she forces her children to eat more and more. “*Atimatra Ashanam Amapradosha Hetunam*” and “*Ajeerna Adhyashanam Grahani Dushananam*”^[7] over-eating, is one of the factors for creation of *Ama*.^[8] Most of the patients

were having past history of *Grahani Dosha* and *Atisara*. It suggests that *Grahani Dosha* is a recurrent condition. *Atisara* is described as *Nidanarthakara Roga*.^[9]

Majority of the patients were taking biscuits, chocolates, kurkure, sweets, ice cream, wafers, curd, tea and bakery items frequently in their whole day diet. *Vishamashana* was observed as *Aharajanidana*, *Divaswapana* was observed as *Viharajanidana* and *Chinta* was observed as *Manasikanidana* predominantly. These all are responsible for *Agni Vaishmya*. Majority of the patients were having chronicity of 6-12 months. The observation suggests it comes under chronic condition. Proper treatment and *Pathyapathya* is needed for cure the disease. *Muhurbaddha-Muhurdrava Mala Pravritti* was found in all of patients, frequency of stool was observed 3-4 times in a day. The observation shows that due to vitiation of *Agni*, it does not digest even light food and *Anna* becomes *Vidagdha*, it moves downward with *Pakva* and *Apakva Avastha*.

The effect of trial drug *Devadarvyadi-Vati* showed better result on *Muhurbaddha Muhurshithila Mala Pravritti*, *Anaddhodarata*, *Arochaka*, *Balakshaya*, *Aalasya*, *Klama*, *Trishna* and *Antrakujanam* due to its *Kaphavatashamaka* properties predominantly, while the control drug *Bhunimbadi-Vati* showed better result on *Mukha Vairasya* and *Tikta Amlodgaradue* to its *Kaphapittashamaka* properties predominantly. Both groups showed similar effect on *Praseka*.

The results on *Muhurbaddha Muhurshithila Mala Pravritti*, *Anaddhodarata*, *Arochaka*, *Trishana* and *Antrakujanam Lakshanas*, increase in *Abhyavarana Shakti* and *Jarana Shakti* were statistically highly significant in both groups. While result on *Balakshaya*, *Klama* and *Tikta Amlodgara* were insignificant in both groups. Treated group *Devadarvyadi-Vati* showed highly significant effect on *Aalasya* and *Praseka*. Control group *Bhunimbadi-Vati* showed highly significant effect on *Mukha Vairasya* and significant effect on *Praseka*.

Regarding scoring pattern, uniformity should be maintained

and regarding overall effect of therapy, assessment should be done at different interval; it will become more specific for conclusion.

Conclusion

Grahani Dosha is due to functional derangement of *Grahani*. *Grahaniroga* is considered as the advance stage. Faulty dietary habit and changing in the life style are main etiological factors responsible for *Doshadushti* resulting in *Agnimandhya*. In *Balyavastha* *Agni* is stated as *Aniyata Avastha*, even a mild etiological factor may become responsible for *Agnidushti*. *Grahani* and *Agni* are interdependent; therefore, all etiological factors of *Agni Dushti* are the direct cause of *Grahani Dosha*. It comes under chronic diseases. If the proper care is not taken, it will hamper child's growth and development. It is mostly seen as recurrent condition. *Devadarvyadi-Vati* showed better relief on *Anaddhodarata*, *Arochaka*, *Balakshaya*, *Aalasya*, *Klama*, *Trishna* and *Antrakujanam*. *Bhunimbadi-Vati* showed better relief on *Mukha Vairasya* and *Tikta Amlodgara*. After completion of treatment, both the groups showed similar effect on *Praseka* and nearly similar effect on *Muhurbaddha Muhurshithila Mala Pravritti*. *Pathyapathya* plays an important role in the treatment

of *Grahani Dosha*. No any adverse effect of drug observed in this study.

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हिन्दी सारांश

बालकों में ग्रहणीदोष की चिकित्सा में देवदार्यादि वटी के प्रभाव का चिकित्सकीय अध्ययन

ऋतु पटेल, वी. के. कोरी, के. एस. पटेल

बाल्यावस्था वृद्धि एवं विकास की महत्वपूर्ण अवस्था मानी गई है। अन्नवहस्त्रोतोगत विकार बच्चों में ज्यादा पाये जाते हैं। यह स्थिति आगे जीर्णावस्था में परिवर्तित हो जाती है। ग्रहणीदोष अग्निदुष्टि से सम्बन्धित व्याधि है। इस व्याधि का मुख्य कारण अयोग्य भोजन पद्धति और परिवर्तित जीवनशैली है। यह अध्ययन व्याधि की संप्राप्ति और देवदार्यादि वटी का चिकित्सात्मक प्रयोग देखने के लिये किया गया। हेतु एवं लक्षण का गहन अध्ययन व्याधि की संप्राप्ति ज्ञात करने के लिये किया गया। कुल मिलाकर ३२ रुग्णों (३ से १२ वर्ष) का पंजीकरण किया गया जिन्हें सामान्य यद्वच्छनिदर्श पद्धति के द्वारा दो वर्गों में विभाजित किया गया। वर्ग अ में देवदार्यादि वटी (चिकित्सकीय वर्ग) और वर्ग ब में भूनिम्बादि वटी (आदर्श नियंत्रित वर्ग) चार सप्ताह के लिये कोष्ण जल के साथ दी गयी। देवदार्यादि वटी के द्वारा २१.४३ % रोगियों को ज्यादा लाभ, ५७.९४ % रोगियों को मध्यम लाभ और २१.४३ % रोगियों को अल्प लाभ मिला।