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Management of *Mandagni* (~diminution of *Agni*) a case study; evaluating the effect of *Chitrakadi Vati* and *Ekakala Bhojana* (one time meal in day) in alleviating gastrointestinal symptoms

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ABSTRACT

Ayurveda, an ancient medical science, emphasizes the balance of *Tridosha* (*Vata*, *Pitta*, *Kapha*), proper functioning of *Dhatus* (tissues), and enhancement of *Agni* (digestive fire) for maintaining health. *Mandagni*, or diminished *Agni*, is a common ailment in Ayurveda associated with various gastrointestinal symptoms. This case study aims to evaluate the efficacy of traditional Ayurvedic interventions, specifically *Chitrakadi Vati* and *Ekakala Bhojana* (one-time meal in a day), in alleviating *Mandagni* and its related gastrointestinal manifestations. The study documents the case of a 38-year-old female patient exhibiting symptoms of *Mandagni*, including abdominal and head heaviness, cough, weakness, and tastelessness. Treatment involved *Chitrakadi Vati* and *Ekakala Bhojana*, aimed at enhancing *Jatharagni* and alleviating symptoms. Assessment criteria encompassed subjective and objective measures, showing improvements in symptoms and laboratory parameters post-treatment. Discussion highlights the pharmacological actions of *Chitrakadi Vati* and dietary modifications of *Ekakala Bhojana* in promoting digestion and alleviating symptoms. The study concludes positively, suggesting the efficacy of these Ayurvedic interventions in managing *Mandagni* and enhancing overall well-being.

Key words: *Mandagni*, *Chitrakadi Vati*, *Case report*, *Ekakala Bhojan*, *Ayurveda*

INTRODUCTION

The role of *Jatharagni* in food digestion and energy conversion is pivotal, as any alteration can disrupt the process, leading to *Dosha* imbalance and various health issues. Factors such as dietary habits, lifestyle choices, and psychological stressors significantly impact *Jatharagni*. *Mandagni*, characterized by sluggish digestion, often triggers the development of

Kaphaja diseases due to delayed food processing. *Chitrakadi Vati*, rich in *Katu*, *Tikta*, *Lavana Rasa*, *Ushna Virya*, *Sukshma*, and *Snigdha Guna*, is recognized in *Charak's Deepaniya Mahakashaya* for its digestive benefits.^[1-3]

Ayurveda underscores the importance of *Ahara* (Diet) and *Dwadasha Ashana Pravacharana* (Regulated meal patterns) in maintaining overall well-being, facilitating the smooth flow of *Prana Anuvartan*. Recommendations like consuming one meal a day, advocated by Acharya Dalhana, aim to boost *Jatharagni* and optimize digestive functions.^[4]

This study delves into the efficacy of traditional Ayurvedic interventions, namely *Chitrakadi Vati* and *Ekakala Bhojana*, in addressing *Mandagni*-related digestive issues. Aligned with Ayurvedic principles, these interventions aim to restore digestive health and metabolic balance, offering promising solutions with their historical effectiveness and minimal invasiveness. Integrating traditional wisdom with pragmatic

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methodologies, this research provides cost-effective and holistic approaches to managing digestive concerns, thereby advancing understanding and treatment in Ayurveda.

CASE REPORT

A 38-years-old non hypertensive, non-diabetic female patient presented at Outpatient Department (OPD) with reporting symptoms of *Udara Gaurava* (~heaviness of abdomen), prolonged gastric emptying of a limited dietary intake / indigestion (*Yastvalpamapyupayukta Annam Mahata Kalena Pachati*) since 4 month and *Shiro Gaurava* (~heaviness of head), *Kasa* (~Cough), *Praseka* (~excessive salivation), *Chardi* (vomiting or nausea), *Gatra Sadanam* (~exhaustion or tiredness of body) and *Aruchi* (~tastelessness) since 2 months. *Svash* (~breathlessness/difficult breathing) was occasionally. That patient expressed her concern about these symptoms, particularly given her history of *Udar Gaurava* and prolonged gastric emptying of a limited dietary intake. The patient also complained of irregular bowel habits and flatulence persisting the past three months. There was no significant medical or family history of chronic systemic diseases. The results of the genetic testing revealed no evidence of any known genetic abnormalities or mutations associated with common genetic diseases and there were also no notable psychosocial elements that appeared relevant to the patient's current medical situation. Her daily dietary intake primarily consisted of dairy products such as milk, buttermilk, coffee, and heavy meals, and she habitually slept for about 2 hours just after consuming food in the afternoon. The patient had previously consulted a gastroenterologist. She received symptomatic treatment, including a proton pump inhibitor, antibiotic, antispasmodic, and probiotic, consistently for one month. However, despite the prescribed regimen, she experienced no alleviation of her symptoms.

Diagnostic criteria for Mandagni

Patients presenting with symptoms such as abdominal and head heaviness post-meals, prolonged digestion time (>12 hours) before exhibiting signs of normal

digestion, coupled with additional symptoms like nausea, coughing, breathlessness, body ache, and excessive salivation, are diagnosed with *Mandagni* based on clinical assessment.

Assessment Criteria

The subjective criteria for assessment included the improvement in symptoms, utilizing an appropriate scoring pattern for assessing symptom improvement (Table 3). The objective criteria for assessment included the investigation of laboratory parameters namely Fasting Blood Sugar (FBS), Liver Function Test (LFT), and Lipid profile was done before and after treatment.

Therapeutic Intervention

The treatment protocol was determined according to Ayurvedic *Mandagni* management principles, specifically focusing on for enhancing the digestive fire and *Aam Pachana*, *Chitrakadi Vati* and *Ekakala Bhojana* were advised as per table no. 1.

Table 1: Interventions: Dosage and Duration of Chitrakadi Vati and Ekakala Bhojana

SN	Intervention	Dose	Duration
1.	<i>Chitrakadi Vati</i>	500 mg BD Orally with LWW before meal	14 Days
2.	<i>Ekakala Bhojana</i>	One-time meal at evening	14 Days
mg - milli gram, BD - bis in die, LWW - Luke warm Water			

Source and standardization of Chitrakadi Vati

The *Chitrakadi Vati* used in this study was sourced from GMP certified pharmacy. *Chitrakadi Vati* 500 mg BD orally with lukewarm water before a meal for 14 days.

Table 2: Timeline of health events and treatment responses in Mandagni management case

Timeline	Health event	Treatment
19/10/23	<ul style="list-style-type: none"> She had history of Indigestion, heaviness of head and abdomen, Nausea, 	<ul style="list-style-type: none"> First treatment

	Generalised weakness, cough, excessive salivation and Dyspnoea.	was was started. <ul style="list-style-type: none"> Chitrakadi Vati and Ekakala Bhojana was given according to table no 1.
26/10/2023	<ul style="list-style-type: none"> Initial assessment and examination, as documented in Table 2, were conducted on the seventh day. Grading for weakness and cough transitioned from 2 to 0. Grading adjustments were observed for indigestion with a shift from 3 to 1. Grading changes from 2 to 1 were noted for symptoms including nausea, cough, excessive salivation, and sensations of heaviness in the head and abdomen. 	Continue same interventions for next 7 days.
02/11/2023	<ul style="list-style-type: none"> On second follow-up all symptoms grading were change up-to 0. She got relief in almost all symptoms except Dyspnoea occasionally. 	No any further medication was advised and patient suggest to regular light diet for next 14 days
17/11/2023	Last follow up was done after 15 days, no any symptoms was recorded so no follow up visit was advised.	

Ekakala Bhojana Protocol

The *Ekakala Bhojana* protocol is structured with specific guidelines to optimize therapeutic benefits and ensure patient adherence. It revolves around *Mudga*

Yusha, a nutritious dish made from boiled green gram, known for its easy digestibility and nutrient richness. Consumed in the evening as the last meal of the day, *Mudga Yusha* allows for ample digestion time before bedtime, promoting optimal assimilation of nutrients. Portion sizes are tailored to individual tolerance levels to avoid abdominal discomfort, and patients are advised to avoid heavy, oily, and spicy foods during the intervention, emphasizing light and nourishing options for enhanced digestive efficiency.

Quality assurance for *Ekakala Bhojana* includes sourcing organic ingredients from certified suppliers, ensuring they are free from pesticides through rigorous testing. Food preparation follows strict hygiene protocols to maintain safety standards. The meal is carefully designed to strike a balance between nutritional value and ease of digestion, promoting optimal health outcomes for the patient.

Assessment of Intervention

After intervention, Assessment of Patient symptoms by Likert scale at the day 0, 7th and 14th mentioned in table 3. The changes observed in symptoms scale and biochemical parameters. The changes observed in biochemical parameters were compared to normal ranges or baseline values before treatment to provide context for the improvements observed. Biochemical parameters mentioned in table 4.

OBSERVATIONS AND RESULTS

Observations and results were assessed using subjective and objective criteria, as detailed in table 3 and 4. Significant improvements were observed in symptoms related to *Mandagni*, with reductions noted in symptom gradation at both the 7th and 14th days. Additionally, there was a decrease in BMI (27.99 kg/m²) observed during the treatment period. Laboratory investigations including FBS, LFT, and Lipid Profile also showed improvement. No adverse events or side effects were reported with the use of *Chitrakadi Vati* and *Ekakala Bhojana*. Overall, the patient exhibited substantial clinical improvement with these traditional Ayurvedic interventions for *Mandagni* management.

Table 3: Symptom grading and assessment over the treatment period in Mandagni management case study

Symptoms	Grading		0 th day 19/10/2023	7 th day 26/10/2023	14 th day 02/11/2023
	Yastvalpamap yupayukta Annam Mahata Kalena Pachati	0	No	3	2
1		After heavy meal			
2		After intake of food in normal quantity			
3		After intake of food in less in quantity			
Heaviness of abdomen	0	No	2	1	0
	1	1½ h after meal			
	2	1½ -3 h after meal			
	3	3-6 h after meal			
Heaviness of head	0	No	2	1	0
	1	1½ h after meal			
	2	1½ -3 h after meal			
	3	3-6 h after meal			
Cough	0	No	1	0	0
	1	1½ h after meal			

	2	1½ -3 h after meal	1	0	0			
	3	3-6 h after meal						
Dyspnoea	0	No	1	0	0			
	1	Occasionally						
	2	2-3 times/week						
	3	>3 times/week						
Excess salivation	0	No	2	1	0			
	1	Present but no inconvenience						
	2	Has to spit once or twice						
	3	Spits continuously, hampering his speech or dribbling of saliva at night	2	1	0			
	0	No				2	1	0
	1	Occasionally						
2	2-3 times/week							
Vomiting or nausea	3	>3 times/week	2	1	0			
	0	No						
Weakness	0	No	1	0	0			

	1	For 1 h after meal/dinner		
	2	For 2 h after meal/dinner		
	3	Whole day		

Table 4: Comparison of Biochemical Parameters Before and After Treatment

SN	Investigations	B.T. (0th day, 19/10/2023)	A.T. (02/11/2023)
1.	Liver Function Test		
	Total S. Bilirubin (mg/dl)	0.36	0.33
	D. Bilirubin(mg/dl)	0.169	0.162
	S.G.O.T. (U/L)	58	30
	S.G.P.T. (U/L)	54	32
	Serum Alkaline Phosphatase. (U/L)	100	82
	Total Protein (g/dl)	6.7	6.4
	Serum Albumin(g/dl)	2.72	2.61
2.	Lipid Profile		
	S. Cholesterol (mg/dl)	148.1	145.1
	S. Triglyceride (mg/dl)	111.3	77.5
	HDL (mg/dl)	33.0	33.6
	LDL (mg/dl)	89.1	95.1
	VLDL (mg/dl)	22.26	15.50
3.	Blood Sugar (mg/dl)		
	F.B.S. (mg/dl)	135.6	87.2

DISCUSSION

In Ayurveda, the onset of *Mandagni* is primarily associated with the imbalance of *Kapha Dosha* (~*Dosha* responsible for regulating body fluids and keeping the

body constituents cohesive), leading to various symptoms like *Shirogauravam*, *Udargauravam*, *Chardi*, *Prasek* etc.^[5]

The progression from *Dosha* imbalance to the manifestation of the disease, known as *Samprapti* (~pathogenesis), requires interventions (*Chikitsa*) that disrupt this process. *Chitrakadi Vati*, recognized for enhancing *Jathragni* by *Katu*, *Tikta*, *Lavana Rasa* tastes, *Ushna Virya*, *Sukshma*, *Snigdha Guna*, and *Katu Vipaka*, Maximum contents of *Chitrakadi Vati* are enlisted in *Deepaniya Mahakashaya* mentioned by *Acharaya Charaka*. It is also indicated for various diseases originating from *Mandagni* like; *Arsha*, *Atisara* and *Grahani*.

The ingredients of *Chitrakadi Vati*, including *Chitraka* (*Plumbago zeylanica*), *Pippali* (*Piper longum*), *Chavya* (*Piper retrofractum* Vahl.), *Shunthi* (*Zingiber officinale*), *Maricha* (*Piper nigrum*), *Ajamoda* (*Carum roxburghianum*), along with various salts like *Yava Kshara*, *Sarji Kshara*, *Saurvachala Lavana*, *Saindhava Lavana*, *Vida Lavana*, *Samudra Lavan*, and *Audbhida Lavan*, collectively possess potent digestion-enhancing properties.^[6] The chemical composition of these ingredients reveals a rich array of bioactive compounds such as piperine, gingerols, plumbagin, and alkaloids, which contribute to their pharmacological actions. These actions include hepatoprotective, anti-inflammatory, immunomodulatory, analgesic, antioxidant, antimicrobial, and lipid-lowering effects. This synergistic combination of herbs and salts in *Chitrakadi Vati* underscores its efficacy in improving digestion and overall gastrointestinal health.^[7]

Ekakala Bhojana effectively treats *Mandagni* by modifying the frequency, quantity, and quality of the regular diet. It allows ample time for *Jathragni* to process even small quantities of food properly. Adequate time is essential for the transformation of food. Skipping a meal provides *Jathragni* with the opportunity to digest accumulated *Ama* in the absence of food, thereby strengthening the digestive fire. *Laghu* (~light diet) and *Pathya Ahara* (~Wholesome diet) stimulate *Jathragni* as they require less time for digestion. Furthermore, *Ekakala Bhojana* reduces food quantity, facilitating easier digestion for *Jathragni*.

The article by Mesnage *et al.* (2019) titled "Changes in human gut microbiota composition are linked to the energy metabolic switch during 10 d of Buchinger fasting" provides evidence supporting the idea that fasting enhances digestive power. The study conducted a thorough analysis of the gut microbiota composition in individuals undergoing a 10-day Buchinger fasting period. This fasting regimen involved a significant reduction in external nutrient supply to the gut, leading to metabolic changes in the body, including a switch from glucose to fatty acids and ketones for energy. Furthermore, the study monitored intestinal permeability and inflammatory status, observing an increase in pro-inflammatory cytokines upon refeeding after the fasting period. This indicates a reactivation of the postprandial immune response, which is a crucial aspect of digestive power.^[8]

CONCLUSION

In conclusion, this case study highlights the efficacy of *Chitrakadi Vati* and *Ekakala Bhojana* in managing *Mandagni* and alleviating gastrointestinal symptoms. The interventions were based on Ayurvedic principles targeting *Jatharagni* enhancement and *Aam Pachana*. The patient experienced significant improvement in symptoms such as heaviness of abdomen and head, nausea, cough, excessive salivation, and weakness. Laboratory investigations also showed positive changes, including reduced liver enzymes, improved lipid profile, and normalized blood sugar levels. The study underscores the importance of traditional Ayurvedic therapies in addressing digestive disorders and promoting overall well-being. Further research and clinical trials may provide additional insights into the effectiveness of these interventions and their role in comprehensive healthcare management.

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