



Research Article

AN EPIDEMIOLOGICAL STUDY OF GERD (GASTRO ESOPHAGEAL REFLUX DISEASE) IN AYURVEDIC PERSPECTIVE AND EVALUATE THE EFFICACY OF AMALAKI CHURNA

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ABSTRACT

The science of Ayurveda focuses on the observation of living things and how they respond to their surroundings. Ayurveda's contribution to "Health For All" should be evaluated from the perspective of its scientific application and explanation using contemporary language, all the while upholding the values and precepts reflected in the texts penned thousands of years ago with the aid of experience. "Ashtavidha ahara vidhi," which depicts the manner of consuming food, as described by Charaka. Food cannot be effectively digested if these procedures are not followed or if there is a psychological issue. As a result, undigested food alters Annavaha srotasa's physiology. Achieving endless desires in a brief amount of time results in numerous forms of worry, anxiety, anger, fear, and depression, all of which can cause different kinds of gastrointestinal tract diseases either directly or indirectly. Also, people today do not adhere to the "Dincharya" and "Ritucharya" regulations. These factors all throw off "Tridosha's" balance. Normally Pitta has Katu rasa. When Katu rasa transforms into Vidagdha and achieves Shuktibhava, it produces Amlata in Amashaya, which is known as vitiation of Pitta dosha. Normally, Pitta has Katu rasa. One of the conditions brought on by vitiated Pitta is Amlapitta. In modern view "GERD" can be compared with Amlapitta. The main causes of gastric disorders, such as GERD, are dietetic patterns and psychological stress and pressure that affect our ability to digest food. The primary clinical diagnosis of gastroesophageal reflux disease (GERD) is made on the basis of the common symptoms of acid regurgitation and heartburn.

INTRODUCTION

Maintaining the health of the healthy and curing the illness of the sick are the primary goals of Ayurveda. "Ashtavidha ahara vidhi," which depicts the manner of consuming food, as described by Charaka. Food cannot be effectively digested if these procedures are not followed or if there is a psychological issue. As a result, undigested food alters Annavaha srotasa's physiology.^[1] Achieving endless desires in a brief amount of time results in numerous forms of worry, anxiety, anger, fear, and depression, all of which can cause different kinds of gastrointestinal tract diseases either directly or indirectly. Additionally, the major

factors behind the disturbance of 'Tridosha's' equilibrium are disregarding 'Dincharya' and 'Ritucharya' regulations. In addition to this, the combination of other vices like alcohol and smoking disrupts the body's normal physiology, which further damages the gastrointestinal system and causes GI problems. Each of the causes listed above disrupts the "Pitta" dosha. It is known as vitiation of Pitta dosha when Katu rasa, which is normally present in Pitta, becomes Vidagdha and achieves Shuktibhava, resulting in Amlata in Amashaya. A condition brought on by vitiated Pitta is Amlapitta.^[2] In modern view "GERD" can be compared with Amlapitta. The main causes of gastric disorders, such as GERD, are dietetic patterns and psychological stress and pressure that affect our ability to digest food. The primary clinical diagnosis of Gastroesophageal reflux disease (GERD) is made on the basis of the common symptoms of acid regurgitation and heartburn. Up to 15% of people suffer heartburn and/or regurgitation at least once a

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week, and 7% of people have symptoms daily, per population-based studies.^[3]

AIMS AND OBJECTIVE

1. To study the disease epidemiologically, GERD vis a vis *Amlapitta* and such type of other disease like *Ajirna* (*Vidagdhajirna*), *Annadrava shoola* and *Parinama shoola*.
2. To evaluate the therapeutic efficacy of *Amalaki churna*.

Inclusion Criteria

1. The patients having age between 20 to 60 years.
2. The sign and symptoms of GERD as well as *Amlapitta*, *Vidagdhajirna* based on both Ayurvedic as well as modern view.

Exclusion Criteria

1. Age above 60 and less than 20 years.
2. Immunocompromised patients e.g., HIV etc.
3. Patient is unwilling.
4. Patient with complicated associated symptoms i.e., severely ill. e.g., liver cirrhosis, adenocarcinoma.

MATERIALS AND METHODS

Selection of patient of *Amlapitta* will be done randomly according to the proforma prepared for

present clinical study, total 50 patients will be selected from the OPD and IPD of GACH, Patna.

Investigations done for the study

1. Routine haematological investigation such as CBC.
2. Biochemical tests like LFT, KFT, lipid profile.

Posology

Drug used: *Amalaki Churna*

Preparation: *Churna*

Dose: 6 gm twice a day

Duration: 60 days

Anupana: *Sukhoshna Jala*

Kala: Before meal

Route of administration: Oral

Follow up: For all 50 patients the drug has been prescribed for 60 days. The patients have been reviewed after every 15 days. A total of 4 follow ups have been done to assess subjective and objective criteria.

Criteria for Assessment

The assessment gradation: The suitable scoring method for signs and symptoms were recorded in following fashion.

Table 1: Subjective Criteria Grading Score

S.No.	Signs and Symptoms	Absent	Mild	Moderate	Severe
1.	<i>Avipaka</i>	0	1	2	3
2.	<i>Klama</i>	0	1	2	3
3.	<i>Utklesha</i>	0	1	2	3
4.	<i>Tikta Amlodgara</i>	0	1	2	3
5.	<i>Udara Gaurava</i>	0	1	2	3
6.	<i>Hrit Kantha Daha</i>	0	1	2	3
7.	<i>Aruchi</i>	0	1	2	3
8.	<i>Bhrama</i>	0	1	2	3
9.	<i>Trishna</i>	0	1	2	3
10.	<i>Murchha</i>	0	1	2	3
11.	<i>Ruja (Udarashoola)</i>	0	1	2	3
12.	<i>Udgara Sadhoomamla</i>	0	1	2	3
13.	<i>Sweda</i>	0	1	2	3
14.	<i>Daha</i>	0	1	2	3

Table 2: Objective Parameters Assessment

Objective Parameters	B.T.	A.T.
Hb%		
TLC		
Total Cholesterol		
Triglycerides		
Serum Urea		
Serum Creatinine		

Total Bilirubin		
ALT (S.G.P.T.)		
AST (S.G.O.T.)		
Serum Bilirubin		

OBSERVATIONS AND RESULT

50 patients of *Amlapitta* were treated in out of which maximum number of patients belonged to the age group of 20-30 years (34%). Male (62%), Hindu (98%), married (74%), middle class (56%), educated upto graduation (50%), belong from urban area (62%) and labours or having private jobs (26%). Majority of the patients i.e., 54% were addicted to tea. *Ahara pariksha* showed that 64% patients were having mixed diet. 80% of the total patients had *Mandagni*, 76% had *Madhyama kshudha* and had constipation, 52% had coated *Jihwa* and 66% had *Madhyama koshta*. 82% had *Madhyama Abhyavaharana shakti* and 60% had *Avara Jarana shakti*. Maximum no. of patients i.e., 80% were doing exercise and 74% patients had sound sleep. Maximum number i.e., 42% patients were of *Vata- Pittaja prakriti* and 74% patients were having *Rajas prakriti*. *Avara satwa* was present in 46% of the patients, *Madhyama sara* in 56%, *Madhyama samhanana* in 62%, and *Madhyama satmya* in 64% of the patients. 74% patients were of *Madhyama pramana*, 54% patients had *Madhyama vyayama shakti* and the study reveals that most of the patients i.e., 42% were of *Madhyama* and *Uttama Roga- bala*. Majority i.e., 100% patients were from *Anoopa desha*. The chronicity of 48% of the overall patients was less than a year. 82% patients had *Nidana* of *Vidahi annapana*. 42% of patients had the *Viharaja nidana* of *Vegavidharana*. Cardinal symptoms like *Avipaka* and *Tikta amlodgara* (100%), *Udara gaurava* (98%) *Hrit*

Kantha daha (92%), *Aruchi* (86%), *Klama* and *Udara Sadhoomamla* (54%), *Udara daha* (46%), *Utklesha* and *Udara shoola* (44%), *Bhrama* (30%), *Sweda* (8%) while *Trishna* and *Murchha* (2%) were found in 50 patients.

Result on Subjective Parameter

Significant results were seen in cardinal symptoms like *Avipaka*, *Klama*, *Utklesha*, *Tikta Amlodgara*, *Udara guarava*, *Hrit Kantha Daha*, *Aruchi*, *Bhrama*, *Ruja*, *Udgara Sadhoomamla*, *Sweda* and *Daha* while *Trishna* and *Murchha* had insignificant result. The reduction was -*Avipaka* (71.43%), *Klama* (64.10%), *Utklesha* (76%), *Tikta Amlodgara* (61.64%), *Udara gaurava* (57.83%), *Hrit Kantha Daha* (72.13%), *Aruchi* (80.85%), *Bhrama* (93.75%), *Trishna* (0%), *Murchha* (0%), *Ruja* (75%), *Udgara Sadhoomamla* (87.50%), *Sweda* (100%), *Daha* (95.83%).

Result on Objective Parameter

Effect of drug on objective parameters provided statistically significant relief in TLC, triglyceride, Sr. Urea, Sr. Creatinine, ALT and AST while rest other parameters were found insignificant.

Overall effect of drug

Out of 46 patients treated 19 patients (41.30%) showed marked improvement, 25 patients (54.35%) showed moderate improvement and 2 patients (4.35%) showed mild improvement. No patient was found without any improvement. In this study no adverse effect was found in any patient.

Table 3: Effect of drug on subjective parameters

Subjective Parameters	Mean		SD		SE		Wilcoxon W	P- value	% Change	Result
	BT	AT	BT	AT	BT	AT				
<i>Avipaka</i>	1.37	0.39	0.53	0.49	0.08	0.07	-6.564 ^b	0.000000000005	71.43	Sig
<i>Klama</i>	0.85	0.30	0.87	0.51	0.13	0.08	-4.811 ^b	0.00000149988	64.10	Sig
<i>Utklesha</i>	0.54	0.13	0.72	0.34	0.11	0.05	-3.962 ^b	0.00007439498	76.00	Sig
<i>Tikta Amlodgara</i>	1.59	0.61	0.58	0.58	0.09	0.09	-6.708 ^b	0.000000000002	61.64	Sig
<i>Udara Gaurava</i>	1.80	0.76	0.62	0.43	0.09	0.06	-6.010 ^b	0.000000000185	57.83	Sig
<i>Hrit Kantha Daha</i>	1.33	0.37	0.67	0.49	0.10	0.07	-6.345 ^b	0.000000000022	72.13	Sig
<i>Aruchi</i>	1.02	0.20	0.58	0.40	0.09	0.06	-6.164 ^b	0.000000000071	80.85	Sig
<i>Bhrama</i>	0.35	0.02	0.60	0.15	0.09	0.02	-3.419 ^b	0.00062901998	93.75	Sig
<i>Trishna</i>	0.02	0.02	0.15	0.15	0.02	0.02	-1.000 ^b	0.31731050786	0.00	NS
<i>Murchha</i>	0.02	0.02	0.15	0.15	0.02	0.02	-1.000 ^b	0.31731050786	0.00	NS
<i>Ruja (Udarashoola)</i>	0.70	0.17	0.89	0.38	0.13	0.06	-4.347 ^b	0.00001383175	75.00	Sig

<i>Udgara Sadhoomamla</i>	0.52	0.07	0.51	0.25	0.07	0.04	-4.379 ^b	0.00001193331	87.50	Sig
<i>Sweda</i>	0.09	0.00	0.28	0.00	0.04	0.00	-2.000 ^b	0.04550026390	100.00	Sig
<i>Daha</i>	0.52	0.02	0.62	0.15	0.09	0.02	-4.413 ^b	0.00001021245	95.83	Sig

Table 4: Effect of drug on objective parameters

Objective Parameters	Mean		SD		SE		t-Value	P-Value	% Change	Result
	BT	AT	BT	AT	BT	AT				
Hb%	13.10	13.04	1.99	1.69	0.29	0.25	0.187	0.852	0.46	NS
TLC	6.42	7.58	1.60	2.37	0.24	0.35	-2.571	0.014	18.02	Sig
Total Cholesterol	142.65	131.89	44.16	8.99	6.51	1.33	1.664	0.103	7.54	NS
Triglycerides	146.54	129.78	49.75	10.97	7.34	1.62	2.437	0.019	11.44	Sig
Sr. Urea	30.94	24.20	8.14	3.26	1.20	0.48	5.181	0.000	21.81	Sig
Sr. Creatinine	0.84	0.76	0.22	0.13	0.03	0.02	2.059	0.045	8.88	Sig
Total Bilirubin	0.74	0.69	0.10	0.16	0.01	0.02	1.753	0.086	6.50	NS
ALT	37.57	27.96	17.19	6.29	2.53	0.93	3.757	0.000	25.58	Sig
AST	33.15	25.17	10.54	3.30	1.55	0.49	4.929	0.000	24.07	Sig
Sr. Bilirubin	0.20	0.19	0.05	0.04	0.01	0.01	1.530	0.133	7.13	NS

Table 5: Overall Effect of Drug

Overall Effect	No. of Patients	Percentage
Marked improvement	19	41.30%
Moderate improvement	25	54.35%
Mild improvement	2	4.35%
No improvement	0	0.00%
Total	46	100.00%

DISCUSSION

50 patients of *Amlapitta* (GERD) were registered for the proposed study out of these 4 patients discontinued before completion of the course against medical advice. Hence, the 46 patients turned up for complete follow ups. The study showed that maximum number of patients belonged to the age group of 20-30 years (34%). Male (62%), Hindu (98%), married (74%), middle class (56%), educated upto graduation (50%), belong from urban area (62%) and labours or having private jobs (26%). Majority of the patients i.e. 54% were addicted to tea. *Ahara pariksha* showed that 64% patients were having mixed diet. 80% of the total patients had *Mandagni*, 76% had *Madhyama kshudha* and had constipation, 52% had coated *Jihwa* and 66% had *Madhyama koshttha*. 82% had *Madhyama Abhyavaharana shakti* and 60% had *Avara Jarana shakti*. Maximum no. of patients i.e., 80% were doing exercise and 74% patients had sound sleep. Maximum number i.e. 42% patients were of *Vata-Pittaja prakriti* and 74% patients were having *Rajas prakriti*. 56% of the patients had *Madhyama sara*, 62% patients were of *Madhyama samhanana*, 46%

patients had *Avara satwa* and 64% patients had *Madhyama satmya*. 74% patients were of *Madhyama pramana*, 54% patients had *Madhyama vyayama shakti* and the study reveals that most of the patients i.e. 42% were of *Madhyama* and *Uttama Roga-bala*. Majority i.e. 100% patients were from *Anoopa desha*. 48% of the total patients had chronicity of below 1 year. 82% patients had *Nidana* of *Vidahi annapana*. 42% of patients had the *Viharaja nidana* of *Vegavidharana*. The drug (*Amalaki churna*) provides relief in symptoms like *Avipaka* (71.43%), *Klama* (64.10%), *Utklesha* (76%), *Tikta Amlodgara* (61.64%), *Udara Gaurava* (57.83%), *Hrit Kantha Daha* (72.13%), *Aruchi* (80.85%), *Bhrama* (93.75%), *Ruja* (*Udarashoola*) (75%), *Udgara Sadhoomamla* (87.50%), *Sweda* (100%). While the effect on *Trishna* and *Murchha* was found insignificant.

Effect of drug on objective parameters provided statistically significant relief in TLC, triglyceride, Sr. Urea, Sr. Creatinine, ALT and AST, rest other parameters were found insignificant.

Probable Mode of action of drug

The upper portion of the gastrointestinal tract is associated to the clinical symptoms of *Amlapitta*, a functional condition that affects *Amashaya*. Abuse of the aetiological component affecting *Agni* leads to *Agnidushti*, a condition with symptoms including *Amavisha*, *Avipaka* and *Agnimandya*. Then *Amadosha* appears, which eventually causes *Amlapitta* to arise. The results of this study suggest that the *Amalaki* may have had an impact because of its properties such as *Kashaya rasa* govern with *Sheeta virya* and its effects on *Deepana* and *Pachana*.^[4] The properties of *Pitta* have been said to be antagonistic to *Amalaki*, or else it is stated to possess the *Tridosahara* impact in any level of *Doshadushti*. The *Madhura vipaka* of *Amalaki* is also considered to have an influence on *Amlapitta*. Because of its *Deepana*, *Pachana* and *Amahara* qualities, the medication *Amalaki* is anticipated to function by easing the symptoms of *Grahani dosha* (*Grahani roga*), which in turn causes *Ama dosha*, *Ama visha*, *Shuktapaka* and *Avipaka* before ultimately leading to the state of *Agni dushti* and the subsequent condition of *Amlapitta*.

CONCLUSION

- *Amalaki* is one of most effective remedy in *Paittika* disorders. Though it neutralizes the vitiated *Vata* and *Kapha dosha*, but its main action is *Pittashamaka*. So, it acts like a good therapeutic agent in *Paittika* disorders specially in *Amlapitta*.
- The study shows that *Aushadha yoga* (*Amalaki churna*) showed significant and better results through their *Pittashamaka*, *Deepana- Pachana* and *Ama pachana* properties.

- *Amalaki churna* provided relief in *Avipaka*, *Klama*, *Utklesha*, *Tikta Amlodgara*, *Udara Gaurava*, *Hrit kantha Daha*, *Aruchi*, *Bhrama*, *Ruja* (*Udarashoola*), *Udgara Sadhoomamla*, *Sweda*, *Daha* and gave significant result while no significant relief was found in *Trishna* and *Murchha*.
- Effect of drug on objective parameters provided statistically significant relief in TLC, triglyceride, Sr. Urea, Sr. Creatinine, ALT and AST while rest other parameters were found insignificant.
- In this study (46 patients) maximum number of patients (54.35%) showed moderate relief and 41.30% patients had marked relief, while other 4.35% patients achieved mild relief.
- None of the patients showed No improvement. So, above mentioned regimen has been found to be effective in the management of *Amlapitta* (GERD).

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