

Clinical Study on the Effectiveness Of Pippali Khanda in the Management of Amlapitta**Dr. Sayali Rajendra Misal**

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Abstract

Background: Amlapitta (Acid peptic disorder) is disease of the Annavaha Srotas (gastrointestinal tract) which results primarily because of indulgence in Ahita Ahara Vihara Sevana (irregular dietary habit and day to day activity). Khanda (sugar granules) is widely acceptable dosage forms in the present scenario due its palatability, shelf life and easy administration. The selected drug Pippali Khanda possesses Deepana (enhances digestion), Pachana (digestive) and Vatanulomana (regulates Vata). Study has been undertaken to evaluate the effectiveness of Pippali Khanda in the management of Urdhvaga Amlapitta having dominance of Kapha and Pitta Dosha. **Methods:** Among the 32 registered patients 30 of them completed the course of treatment. Pippali Khanda was administered in a dose of three gram twice daily, fifteen minutes after food, for fifteen days. Patients were assessed before, end of first of week and 15th day of treatment. For statistical analysis, ordinal data were assessed by Friedman's test and Wilcoxon signed rank as Post Hoc after applying Bonferroni correction. **Results:** There were statistically highly significant improvements in the signs and symptoms of Amlapitta. ($p < 0.05$) observed. **Conclusion:** Pippali Khanda is effective and useful in the management of signs and symptoms of Amlapitta besides improved the parameters of Agni and digestion.

Keywords: Ayurveda, acid peptic disorder, Amlapitta, Pippali Khanda, Agni.

Introduction

Amlapitta (acid peptic disorder) is one of the commonest Annavaha Srotas Vyadhi (gastrointestinal tract disorder) (1). When any of causative / triggering factors causes Mandagni (reduced digestive power), it leads to undigested food particles (Vidagdha Jirna) manifesting as Amlapitta (2). Amlapitta is a condition where sour nature (Amla Guna) of Pachaka Pitta aggravates due to Shuktata of the undigested food (Anna) leading to burning sensation (Vidaha). Hence, Amlapitta being Pitta-Kapha Pradhana Tridosha Vyadhi, respective Lakshana of involved Dosha will be seen according to variation of involved Dosha.

In the management of Amlapitta, Vamana (emesis) or Virechana (purgation) are the main line of Shodhana (detoxification) and followed by this, Langhana (fasting), Laghu Bhojana (light digestive food) and Agnideepana (enhances digestion) measures to adopt (3). A population-based study, using a validated questionnaire, found that 58.7% of the population has heartburn or acid regurgitation at least once during the course of a year and that 19.8% experience symptoms at least once weekly. It is estimated that approximately 50% of

patients with typical reflux symptoms have erosive oesophagitis.

Pippali Khanda is Katu (pungent), Madhura (sweet), Tikta (bitter) in Rasa, Laghu (lightness) Ruksha (dry) in Guna, Veerya is Sheeta (cold), Vipakais Madhura (sweet) and Doshagnatha is Pitta Kaphahara. Pippali is the best medicine for Amapachana and alleviates the Srotasrodha by Laghu Tikshna Guna.

Hence drug was selected.

Objective

- The study was conducted to assess clinical effectiveness of Pippali Khanda in the management of Urdhvaga Amlapitta.

Methodology**Source of data:**

Patients were recruited from outpatient and inpatient unit of Siddhakala College of Ayurveda.

Methods of collection of data:

Patients were screened and selected based on the screening form. A case report form was prepared with all points of history taking, physical signs and symptoms of Urdhvaga Amlapitta. The selected patients were subjected to detail clinical history and complete physical examination before undergoing

the clinical study. Institutional ethics clearness was obtained from Institutional Ethics Committee, Sri Dharmasthala Manjunatheshwara College of Ayurveda & Hospital, Hassan (SDM/ICE/45/2014-2015 dated 01-04-2015) and study was registered in Clinical Trials Registry of India (CTRI/2016/05/006918).

Diagnostic criteria:

Diagnosis was made on the basis of *Samanya Lakshanas* of *Urdhvaga Amlapitta* viz. *Hrullasa*(nausea), *Mandagni* (reduced digestive power), *Chardi*(vomiting), *Kaphanishteevan* (excessive salivation),

Bhuktevigdagdha (burning sensation after food intake), *Utklesha* (sour belching), *Tikta- Amla Udgahra* (bittersour belching), *Klama* (tiredness), *Gaurava* (heaviness), *Hrith- Kantadaha* (burning sensation of throat and chest region), *Analāsada* (reduced food intake) and *Aruchi* (lack of taste) (4).

Inclusion Criteria:

Patients with chronicity upto 5 years between age group of 18-55 years of either gender, irrespective of socio-economic status and those who are ready to sign the informed consent form were included.

Exclusion criteria:

Patients with history of systemic illness namely diabetic mellitus and hypertension, thyroid disorders, cardiac pathology, immunodeficiency disorders like AIDS, *Parinama Shula* (gastric ulcer, duodenal ulcer), *Annadrava Shula*, *Krimiroga*(worms manifestation) and *Arbuda* (tumour), hematemesi, melena and anaemia, drug, alcohol and tobacco induced *Amlapitta* were excluded. Routine laboratory investigations were performed to rule out any major pathology.

Intervention:

The trial drug *PippaliKhanda*(5) is taken from *AmlapittaAdhikaara* of *BhaishajyaRatnavalifor* the management of *UrdhvagaAmlapitta*

Table 1: list of ingredients, Latin names, part used and quantity of PippaliKhanda

Sl .	Sanskrit Name	Botanical name	Part used	Proportion
1	<i>Pippali</i>	<i>Piper longum</i>	Dried rhizome	15 parts
2	<i>Satavari</i>	<i>Asparagus racemosus</i>	Decoction	32 parts
3	<i>Amalaki</i>	<i>Emblicaofficinalis</i>	Fruit	1 part

4	<i>Dhanyaka</i>	<i>Coriander sativum</i>	Fruit	1 part
5	<i>Krishna jiraka</i>	<i>Carumbulbocastanum</i>	Seed	1 part
6	<i>Twak</i>	<i>Cinnamomumzeylani cum</i>	Bark	1part
7	<i>Ela</i>	<i>Elettariacardamomu m</i>	Seed	1part
8	<i>Tejapatra</i>	<i>Cinnamomuntamala</i>	Leaf	1part
9	<i>Mustaka</i>	<i>Cyperusrotundus</i>	Tuber	1part
10	<i>Swetajiraka</i>	<i>Cuminumcuminum</i>	Seed	1part
11	<i>Shunti</i>	<i>Zingiberofficinale</i>	Dried rhizome	1part
12	<i>Vamsalochana</i>	<i>Bambusaarundinaceae</i>	-	1part
13	<i>Haritaki</i>	<i>Terminaliachebula</i>	Fruit rind	1part
14	<i>Khadir</i>	<i>Acacia catechu</i>	Sara	½ part
15	<i>Maricha</i>	<i>Piper nigrum</i>	Fruit	½ part
16	<i>Ghrita</i>	-	-	23 parts
17	<i>Goksheera (Cow milk)</i>	-	-	125 parts
18	<i>Madhu (Honey)</i>	-	-	12 parts
19	<i>Mishri (Sugar)</i>	-	-	70 parts

Method of Preparation of PippaliKhanda:

Ksheera (milk) was boiled with *Pippalichurna* (powder) on *mriduagni*. When paste was formed than, it was mixed with *Go ghrita*, *Satavarikwatha* (decoction) and sugar, fried on *mridhuagni* until *Ghrita* got separated from the paste form. When *PakaLakshanas* were obtained, vessel taken out of the fire and *SukshmaChurna* (fine powder) of *Prakshepaka* drugs was added and mixed uniformly. After it gets cooled, *Madhu* (honey) was added to it. (6)

Packing:

Prepared drug was packed in airtight bottle, properly labelled and weighted 100 gm.

Dosage:

3 gm twice daily

Duration:

15 days

Anupana:

Normal water and milk (7)

Pathyapthya:

For diet list of included items are as follow old rice, barley, wheat, mudga, cool boiled water, sugar, honey, well ripened fruit of white gourd (kusmanda), pomegranate (dadima), gooseberry (Amalaki) and all bitter juices should be used. Spicy food item should be avoided along with oily and fried items.

Assessment Criteria

The effect of therapy was assessed on the basis of changes in signs and symptoms of *UrdhvagaAmlapitta* using questionnaire that was developed for the study. Patients were assessed at three intervals i. e. before, end of first of week and 15th day of treatment. These were assessed by giving specific scores which were helpful in Statistical analysis. These scores are presented as follows.

Do you have vomiting sensation (Hrullasa)

- 0 – No
- 1 – Very less
- 2 – Sometime
- 3 - Always

Do you have appetite (Aruchi)

- 0 – No
- 1 – Very less
- 2 – Sometime
- 3 – Always

Do you have feeling of indigestion (Mandagani)

- 0 – No
- 1 – Very less
- 2 – Sometime
- 3 – Always

Do you have Vomiting before and after food intake (Chardi)

- 0 – No
- 1 – Very less
- 2 – Sometime
- 3 – Always

Increased frequency of sputum (Kaphanishteevan)

- 0 – No
- 1 – Very less
- 2 – Sometime
- 3 – Always

Increased frequency of sour belching (Tiktamlodgara)

- 0 – No
- 1 – Very less
- 2 – Sometime

3 – Always

Burning sensation of chest, throat and stomach region after taking food (Bhuktevidagha)

- 0 – No
- 1 – Very less
- 2 – Sometime
- 3 - Always

Burning sensation of chest, throat and stomach region (Hrith- kantadaha)

- 0 – No
- 1 – Very less
- 2 – Sometime
- 3 – Always

Weakness effecting day to day activity (Analasada)

- 0 – No
- 1 – Very less
- 2 – Sometime
- 3 - Always

Do you have abdominal pain (Udarashoola)

- 0 – No
- 1 – Very less
- 2 – Sometime
- 3 - Always

Bitter taste of mouth. (Tiktasyata)

- 0 – No
- 1 – Very less
- 2 – Sometime
- 3 – Always

Tongue coating present (Jihwalipta)

- 0 – No
- 1 – Very less
- 2 – Sometime
- 3 – Always

Do you have headache (Shirashoola)

- 0 – No
- 1 – Very less
- 1 – Sometime
- 2 - Always

Do you have heaviness of body (ShareeraGaurava)

- 0 – No
- 1 – Very less
- 2 – Sometime
- 3 – Always

Do you have feeling of tiredness present (Klama)

- 0 – No
- 1 – Very less
- 2 – Sometime
- 3 - Always

Observation

In this study among 32 patients 30 completed the whole treatment course, as 2 patients left the treatment due to their personal problems.

Table 2: Demographic Profile of patients

Geographic observation	Predominance	Percentage	No of patients
Age (range 18-55yrs)	28-37 years	53.1%	17
Gender	Equally distributed(male and female)	50.0%	16
Marital status	Married	87.5%	28
Socio-economic status	Upper middle class	62.5%	20
Education status	Graduate	46.9%	15
Chronicity	More than 3 months	50.0%	16
Occupation	Profession	40.6%	13
Nature of work	Standing	65.6%	21
Working environment	Equally distributed (Stressful and comfortable)	50.0%	16
Diet	Mixed	87.5%	28
Dietary Habits	Vishamashana	65.6%	21
Agni	Manda	62.5%	20
Koshtha	Madhyama	78.1%	25

Results

Friedman’s test ($p < 0.05$) was applied to assess the significant change in the symptoms having ordinal data followed by Post hoc analysis with Wilcoxon signed rank tests was conducted with a Bonferroni correction applied, resulting in a significant level of $P < 0.017$ to interpret the time of significant change. (Table 3)

Table 3: Parameters of UrdhvagaAmlapitta

Serial No.	Parameter	Chi-Square	P value	Remark
1.	<i>Hrullasa</i>	33.364	0.001	Significant
2.	<i>Mandagni</i>	32.000	0.001	Significant
3.	<i>Aruchi</i>	19.538	0.001	Significant
4.	<i>Chardi</i>	25.087	0.001	Significant
5.	<i>Kaphanishteevan</i>	13.556	0.001	Significant
6.	<i>Tiktamlodgara</i>	47.516	0.001	Significant
7.	<i>Bhuktevidagdha</i>	24.000	0.001	Significant
8.	<i>Utklesha</i>	12.250	0.001	Significant
9.	<i>Hrith-KantaDaha</i>	48.000	0.001	Significant
10.	<i>Analāsada</i>	21.143	0.001	Significant
11.	<i>UdaraShoola</i>	30.525	0.001	Significant
12.	<i>Tiktasyata</i>	18.667	0.001	Significant
13.	<i>Jihwalipta</i>	37.324	0.001	Significant
14.	<i>Shirashoola</i>	34.522	0.001	Significant
15.	<i>ShareeraGaurava</i>	35.521	0.001	Significant
16.	<i>Klama</i>	43.000	0.001	Significant

Discussion

‘Amlapitta’ is a combination of two words *Amla* and *Pitta*. Among these two words the *Amla* denoted the *Rasa* (sour taste) and the *Pitta* denotes the *Dosha* involved in this disease. The *Pitta* *Dosha* is bestowed with the function of digestion and metabolism.

The overview of the ingredients of the drug suggests that dominant *Rasa* of the Combination in whole turns out to be *Katu-Madhura Rasa* followed by *Tikta-Kashaya Rasa*. All these three *Rasas* are *Kapha-Pitta Hara* in nature. Mainly *Katu-Tikta Rasa* is *Kapha Hara*, *Tikta-Madhura* is *Pitta Dosha Hara*,

Where as *Kashaya* is acting on both *Kapha* and *Pitta*. By this we can conclude that *PippaliKhanda* has the action of *Agni Deepana*, *AmaPachana*, *Vatanulomana*, *Dahaprashamana* (reduce burning sensation) and *Trishnanigrahana* (reduced thirst).

Majority of parameters found statistically significant improvement at the level of $P < 0.001$ (by Friedman test and post hoc Wilcoxon test analysis). All symptoms recorded at 3 intervals i. e. baseline, on 7th day and on 15th day.

Effect of PippaliKhanda on parameter

Table 4: Effect of Pippali Khanda on Parameters of Urdhvaga Amlapitta

Parameter	Reduction on 7 th day	Reduction on 15 th day
	No of patients (%)	No of patients (%)
<i>Hrullasa</i>	15 (60.0%)	11 (44.0%)
<i>Mandagni</i>	12 (50.0%)	12 (50.0%)
<i>Aruchi</i>	8 (53.3%)	9 (60.0%)
<i>Chardi</i>	4 (22.2%)	12 (66.6%)
<i>Kaphanishteevan</i>	4 (36.3%)	5 (45.5%)
<i>Tiktamlodgara</i>	19 (61.2%)	20 (64.5%)
<i>Bhuktevidagha</i>	10 (62.5%)	10 (62.5%)
<i>Utklesha</i>	3 (30.0%)	5 (50.0%)
<i>Hrith-KantaDaha</i>	19 (59.3%)	19 (59.3%)
<i>Analasada</i>	10 (71.4%)	8 (57.1%)
<i>UdaraShoola</i>	11 (50.0%)	12 (54.5%)
<i>Tiktasyata</i>	4 (30.7%)	8 (61.5%)
<i>Jihwalipta</i>	11 (42.3%)	15 (57.6%)
<i>Shirashoola</i>	14 (60.8%)	13 (56.5%)
<i>ShareeraGaurava</i>	15 (57.6%)	14 (53.8%)
<i>Klama</i>	18 (64.2%)	18 (64.2%)

On analysis from baseline and 15th day effect, *PippaliKhanda* significantly reduced *Hrullasa* in 68.7% patients, the sensation nausea caused due to the indigested food, *VruddhaKapha* and *Pitta*. Second most important symptom, *Mandagni* caused due to both irregular dietary habit and improper *Gati* of *Vata*, *PippaliKhanda* effectly reduced *Mandagni* in 65.6% patients.

Chardi is primarily a gastro-intestinal symptom caused due to the stomach trying to empty its undigested or stale food material (*Aama*) and *Vata* moving in *PratilomaGati*, being *Deepana*,

Pachana and *Amahara* nature of drug contributes in reducing *Chardi* in 59.3% of sufferer.

Ama formation at *Agni* level cause *Aruchi* and *Jihwalipta* simultaneously which is neatly controlled by *Tikta-Kashaya Rasa* of *Pippalikhand* and reduced symptom in 81.2% of effected persons.

Shuktata of the *Anna Rasa* in time period will attained *Shuktata* vitiates the *Pitta* and causes *Vidagdhata* and *Aruchi* is maintained

with *Tridoshahara* action of combination, reduces in 88.7% of patients. *Pitta Dosha* when vitiates has *Amla Rasa* dominant cause for *Utklesha*, *Tiktamlodagara*, *Tiktasyata*, *Hrith-KantaDaha* and *Analasada*, all symptoms showed remarkable improvement. On evaluating *Sarvadahika* symptoms, *Dushti* of *SamanaVata*, *Pachaka Pitta* and *KledakaKapha* along with the formation of *Ama* will give rise to *Udarashoola*, same *Dosha* in later stage manifest into *Shirashoola*, *ShareeraGaurava* and *Klama*. So drug acting at *Ama* level having *Deepana*, *Pachana* property helps to reduces symptoms. *PippaliKhanda* has the action of *Agni Deepana*, *AmaPachana*, *Vatanulomana*, *Dahaprashamana* and *Trishnanigrahana* helps in reducing above symptoms.

Conclusion

PippaliKhanda at a dose of 3gm twice daily, 15 minutes after food, orally for 15 days significantly reduced symptoms of *Urdhvaga Amlapitta* like *Hrullasa*, *Mandagni*, *Chardi*, *Kaphanishteevan*, *Utklesha*, *Hrit-kanta Daha*, *Analasada*, *Urdarashoola*, *Tiktasyata* and *Aruchi*. The therapy also significantly improved *Sarvadahika* Lakshana namely, *Klama*, *Gaurava* and *Shirashoola*. The trial drug dose not manifests any side effects, adverse reaction or untoward events in the patients of *Urdhvaga Amlapitta*.

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