

STUDY ON AVIPATTIKAR CHURNA AND KAPARDIKA BHASMA IN THE MANAGEMENT OF HYPERACIDITY (AMLAPITTA)

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ABSTRACT :

Hyperacidity (*Amlapitta*) simply means increase acid secretion in the stomach. Burning sensation in upper abdomen, burning sensation in chest, acid eructation, water brash, vomiting, nausea, vertigo, flatulence, constipation, and tenderness in upper abdomen are symptoms of this disease. To evaluate the efficacy of *Avipattikar churna* and *Kapardika Bhasma* a clinical study was conducted at R A Podar Central Research Institute Hospital, Mumbai on 33 patients of *Amlapitta*. Among 33 cases, 27 cases good responded, 5 fair responded and only one patient poor response. The Ayurvedic intervention was found very effective in the management of *Amlapitta* ($p < 0.0001$). No any adverse effects were observed during and after the treatment.

Key words: *Amlapitta*, Hyperacidity, Ayurvedic medicine, *Avipattikar powder*, *Kapardika Bhasma*.

INTRODUCTION : Hyperacidity or acid dyspepsia (*Amlapitta*) is a very common disorder which affects almost 30% people in India as well as European countries each year. Hyperacidity could be described as a disorder of the modern and urban cities, where the eating habits of people are quite irregular. Hyperacidity (*Amlapitta*) simply means increase of acidity in the stomach. Normally Hydrochloric acid (HCl) secretes in the stomach of human body for the digestion of food, while its secretion has excess amount the condition is called as hyperacidity or acid dyspepsia¹. Excessive intake of oily, spicy and salty foods; excessive intake of sour foods that contain high acid content, inadequate exercise; go to bed immediately after a heavy meal, too much mental stress and worries; consumption of alcohol, smoking and drug addiction and too much intake of therapeutic allopathic medicines are triggers of hyperacidity (*Amlapitta*).

There is a mention of *Amlapitta* since the *samhita* period. *Kulattha (Dolichos biflorus)*, *lavana rasa*, *viruddha ahara* etc. are described as the causative factors for *Amlapitta*². *Sushruta samhita* describes condition of *Amlika* similar to *Amlapitta* because of excessive intake of *Lavana rasa*³. *Kashyapa samhita* is the first available text which explained *Amlapitta* as separate entity⁴. *Madhava nidana* described two types of *Amlapitta* namely, *Urddhvaga* and *Adhoga*⁵ *Chakradutta*⁶ *Bhavaprakasa*⁷, *Yogratnakara*⁸ etc. also described of this diseases with treatment modalities. The burning sensation in upper abdomen/chest, acid eructation, water brash, nausea, vomiting, vertigo and flatulence characterize it⁹. The treatment of this disease in allopathic medicine depends upon mainly on antacids and tranquilizers. The management of the disease in Ayurveda is based on *sodhana* and *samana chikitsa*. A number of herbal

and herbomineral drugs are mentioned for its management. The medical management of this disease condition/clinical problem in prevalent system of medicine still requires further improvement. Therefore, it is considered worth while to assess clinical efficacy of classical Ayurvedic preparation like *Avipattikar churna* and *Kapardika bhasma* due to their antacid properties (*Amlapittashamak*) described in literature. A clinical study was conducted at central research institute for Ayurveda, poddar hospital campus, Mumbai to evaluate the efficacy of the drug. The aims and objectives are to assess the efficacy of classical Ayurvedic formulations on *Amlapitta* (hyperacidity) and to establish an integrated approach of Ayurveda.

MATERIAL AND METHODS: An open, non comparative randomized clinical study was conducted at OPD level of R A poddar Central Research Institute for Ayurveda, Mumbai during the period of 2006 to 2008, The study protocol, case record forms (CRFs), regulatory clearance documents, product related information and informed consent form were submitted to the Institutional ethics committee (IEC) and were approved by the same.

Criteria for the selection

A. Inclusion criteria:

- a) Subjects between the age group of 20-60 yrs of both sexes.
- b) Who have clinical sign and symptoms of Hyperacidity(*Amlapitta*) like Burning sensation in upper abdomen, burning sensation in chest, acid eructation, water brash, nausea, vomiting, vertigo were selected for this study.

B. Exclusion criteria:

- a) Below 20 and above 60 yrs of age.
- b) Colic pain in abdomen pertaining to any organic lesion.
- c) Malignancy in any part of body, chronic hypertrophy gastritis, patient suffering from any chronic systemic diseases and diseases of Liver and Kidneys.
- d) Duration of disease below 3 months and above 5 yrs.

Criteria for assessment: All the subjects were followed up every ten days for a period of 30 days. The efficacy was assessed on the basis of scoring in improvement of clinical symptoms like burning sensation in upper abdomen, burning sensation in chest, acid eructation, water brash, vomiting, nausea, vertigo, flatulence, constipation, and tenderness in upper abdomen during each visit with the help of following scoring pattern-

Symptoms	Normal (0)	Mild (1)	Moderate (2)	Severe (3)
Burning sensation in upper Abdomen (<i>Udaradaha</i>)	No burning sensation in upper abdomen	Mild burning sensation in upper abdomen	Moderate burning sensation in upper abdomen	Severe burning sensation in upper abdomen
Burning sensation in Chest (<i>Urahadaha</i>)	No burning sensation in chest	Mild burning sensation in chest.	Moderate burning sensation in chest	Severe burning sensation in chest
Acid eructation (<i>Amlotklesha</i>)	Absent	Present		
Water brash	Absent	Present		
Vomiting (<i>Chhardii</i>)	Absent	Present		
Nausea(<i>Utklesha</i>)	Absent	Present		

Vertigo(Bhrama)	Absent	Present		
Flatulence (Adhamana)	Absent	Present		
Constipation(Vibandha)	Absent	Present		
Tenderness in upper abdomen	Absent	Present		

The interpretation of results were done of the basis of response above 75%, 50% and 25% and less than 25% are good, fair, poor and no response respectively. Percentage of relief was calculated on the basis of this formula= Total score of before treatment (BT) - Total score of after treatment X 100/ Total score of before treatment (BT).

Intervention: All the subjects were advised to take *Avipattikar Churna* 1gm along with *Kapardika Bhasma* 500 mg twice in a day orally with normal water after food for 30 days.

Follow up: All the subjects were followed up every 10th day for a period of 30 days.

OBSERVATION AND RESULTS: In the present study 40 patients were registered out of which 07 patients left the treatment in the initial stages. Remaining 33 patients of *Amlapitta* were selected for statistical analysis. The results are being presented here in the tabular form.

Table-1 Demographic pattern of 33 *Amlapitta* patients

Patients particulars	
Male: Female	6:4
Mean age in years	35
Mean disease duration in Days	760

Table-2 Effect on sign and symptoms of *Amlapitta* (n=33)

Sign & symptoms	Before Treatment *	After Treatment *	t	p**
Burning sensation in upper Abdomen (<i>Udaradaha</i>)	2.45 ± 0.88	0.42 ± 0.10	17.05	<0.0001
Burning sensation in Chest (<i>Urahadaha</i>)	2.45 ± 0.08	0.57 ± 0.11	15.50	<0.0001
Vomiting (<i>Chhardi</i>)	0.57 ± 0.08	0.06 ± 0.04	5.83	<0.0001
Acid eructation (<i>Amlotklesha</i>)	0.81 ± 0.06	0.18 ± 0.06	7.48	<0.0001
Water brash	0.60 ± 0.08	0.12 ± 0.05	5.48	<0.0001
Nausea (<i>Utklesha</i>)	0.48 ± 0.08	0.06 ± 0.04	4.85	<0.0001
Vertigo (<i>Bhrama</i>)	0.51 ± 0.08	0.09 ± 0.05	4.85	<0.0001
Flatulence (<i>Adhamana</i>)	0.87 ± 0.05	0.00 ± 0.00	15.23	<0.0001
Constipation (<i>Vibandha</i>)	0.69 ± 0.08	0.21 ± 0.07	5.48	<0.0001
Tenderness in upper abdomen	0.72± 0.07	0.09 ± 0.05	7.48	<0.0001

*The values are mean ± SEM ** 'p' value was compared to before treatment.

Table-3 : Overall results on 33 patients of *Amlapitta*

Group	Total score (BT)	Total score (AT)	Difference	% of relief
Treated group	337	60	277	82.196

Table 4 : Response of the drugs on *Amlapitta* subjects

Response of the drugs	No. of Patients (n=33)	Percentage (%)
Good response	27	81.81

Fair response	05	15.15
Poor response	01	3.03
No response	00	0.00

DISCUSSION: The aim of the present study was to evaluate the efficacy of classical formulation *Avipattikar churna* and *Kapardika Bhasma* in the management of hyperacidity (*Amlapitta*) and to ascertain the neutralizing effect. In this open observational, non comparative, randomized clinical study, the effect of the drug was monitored on the 40 subjects of Hyperacidity (*Amlapitta*). 33 subjects were completed the study. The trial drug was produced significant ($p < 0.001$) result in overall the symptoms. It is well tolerated; non significant adverse effect was reported during and after the treatment. The following are the logical discussion based on the clinical observation. Incidence ratio of *Amlapitta* in male and female is around 6:4 and mean age are 35yrs. Mean duration of disease are 760 days (Table-1). Both the drugs have efficacy in reducing the symptoms of hyperacidity (*Amlapitta*) in patients. It shows a relief of 82.85% in Burning sensation in upper abdomen (*Udaradaha*), 76.73% in Burning sensation in chest (*Urodaha*), 89.47% in vomiting (*Chardi*), 77.77% in acid eructation (*amlotklesha*), 80% in water brash, 87.50% in nausea after the treatment. 82.35% also relief was achieved in vertigo (*Bhrama*). 100% relief was observed in Flatulence (*Adhamana*). 69.56% relief was seen in constipation (*Vibandha*) and 87.50% relief in tenderness in upper abdomen respectively (Table-2). Overall the result on 33 patients was 82.196% (Table-3) and according to response 81.81%, 15.15%, 3.03% good, fair and poor respectively (Table-4 and figure 1).

Avipattikar churna (AFI) is a polyherbal formulation. Ingredients of this drug are *Sunthi* (*Zingiber officinalis* Roxb.), *Marica* (*Piper nigrum* Linn.), *Pippali* (*Piper longum* Linn.), *Haritaki* (*Terminalia chebula* Retz.), *Bibhitaka* (*Terminalia bellerica* Roxb.), *Amalaki* (*Embelia officinalis* Gaertn.), *Musta* (*Cyperus rotundus* Linn.), *Vida lavan* (*Vida* salt), *Vidanga* (*Embelia ribes* Burm.f.), *Ela* (*Elettaria cardamomum* (Linn.), *Tejpatra* (*Cinnamomum tamala* Nees & Ebern.), *Lavanga* (*Syzygium aromaticum* (Linn.) Merr.), *Trivrit* (*Operculina terpehum* (Linn.) Sieva. and *Sarkara* (Cane sugar) It is used in *Agnimandya* (digestive impairment), Constipation, Hyperacidity (*Amlapitta*) with water^{11,12}. It is bitter, pungent, astringent in taste, cool (in action) and sweet in post digestive effect. It is traditionally used to remove excess *pitta dosha* from the stomach and intestines. It is also laxative. This is natural digestive tonic which helps in regularizing digestion process & cures acidity problem. *Avipattikar churna* soothes the stomach tissues and promotes normal. Comfortable levels of acidity during the digestive process. It also helps direct *apana vata* downwards helping to promote post-meal esophageal comfort and healthy elimination. *Kapardika* (*Cowry Shell-Cypraea moneta*) *bhasma* is a incineration of purified Cowry. It is *Katu*, *Ushna*, *Kshariya* (alkaline) in properties. It is *deepan*, *pachan* and used in *Agnimandya*, *grahani*, *shool*, *parinamshoola* and *Amlapitta*. It is best drug for *Amlapitta*¹³. It is pacifying vitiated *pitta dosha* and reducing the acidic media.

In Earlier studies on *Avipattikar churna* and *kapardika bhasma* are also reported that calcium-based *bhasmas* viz. *Shankha bhasma*, *Kapardika bhasma*, *Muktashukti bhasma* and *Pravala bhasma* and a *pishti* viz. *Pravala pishti* prepared from marine sourced animals have dose dependant anti-ulcer activity¹⁴. All the prepared drugs namely *Shankha bhasma*, *Kapardika bhasma*, *Muktashukti Bhasma*, *Pravala bhasma*, and *Pravala pishti* contain calcium carbonate (i.e. mineral-calcite). Calcium functions as linker in the mucus and in the intercellular association of mucosa. The forces that remove calcium from the mucus and mucosa weaken the defense line of the gastrointestinal tract and supplement of calcium augments the protection¹⁵. Therefore, calcium ions released from calcium based *bhasmas* and *pishti* enhance the protective mechanism of gastric mucosa. In conventional treatment for hyperacidity or dyspepsia H₂ antagonists, proton pump inhibitors and antacids are widely used. Antacids have been used for the treatment of gastro duodenal ulcerations since a long time¹⁶. The main action of antacids is to reduce the acidity of the gastric content through neutralization and increasing intra gastric pH. Since pepsin is not active at higher pH levels, antacids reduce peptic activity¹⁷ and may also adsorb pepsin. Binding of bile salts by antacids may also have a beneficial influence on peptic ulcer disease^{18,19}.

CONCLUSION: On the basis of Result and discussion it is concluded that drug *Avipattikar churna* and *Kapardika bhasma* holds potent neutralizing effect of *pitta dosha* in stomach and symptoms of *Amlapitta*. It is safe and tolerated drug for the treatment of *Amlapitta* (hyperacidity). Pharmacodynamics of the drug is required

to make out the mechanism of this drug in this disease.

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Declared

