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A COMPARATIVE STUDY ON *PRAVALA MULA BHASMA* AND *PRAVALA SHAKHA BHASMA* IN *AMLAPITTA*

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Various preparations of Pravala (both Mula and Shakha) have been used in Amlapitta since ancient time. Pravala Mula and Pravala Shakha are two different species. Pravala Mula is Tubipora Musica and Pravala Shakha is corallium rubrum. In this study two samples of Pravala Mula Bhasma (Sarjika Kshara [PM(S)B] and Tandulikya Swarasa Shodhita [PM(T)B]) and two samples of Pravala Shakha Bhasma (Sarjika Kshara [PS(S)B] and Tandulikya Swarasa Shodhita [PS(T)B]) were prepared according to authentic process. These all four Bhasma were studied to evaluate the efficacy of the drugs in the Patients of Amlapitta (Hyperacidity). Results of study suggest that the effect of Pravala Shakha Sarjika Kshara Shodhita Bhasma [PS(S)B] was better than all three on different clinical parameters like Amlodgara, Avipaka, Daha, Chardi and Shula in the patients of Amlapitta.

Introduction

Pravala Mula and *Pravala Shakha* have been traditionally used for various medicinal properties. These drugs are administered in *Mutrakrichcha, Rajyakshma, Raktapitta, Netra Roga*, Opthalmic Ailments as *Putapaka, Amlapitta* and *Daha*, being used in the form of *Churna* and *Bhasma*. According to Dr. Nadkarni *Pravala* contains 83% of Calcium Carbonate. Calcium Carbonate has high neutralizing capacity. Its antacid effects are rapid in onset and relatively prolonged in duration. Calcium carbonate has been considered to be epitome of a non-systematic antacid.

In the stomach, it reacts with gastric acid to form calcium chloride

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$$CaCO_3 + 2HCL \rightarrow CaCl_2 + H_2O + CO_2$$

In the intestine, $CaCL_2$ reacts with bicarbonate to regenerate $CaCO_3$ Which is excreted in feces.

$$CaCl_2 + 2NaHCO_3 \rightarrow CaCO_3 + 2\ NaCl + H_2O + CO_2$$

The potency of an antacid is generally defined in terms of its acid neutralizing capacity (ANC), which is defined as number of mEq of IN HCL that are brought to pH 3.5 in 15 min. (or 60 min, in some tests) by a unit dose of a antacid preparation. This takes into consideration the equivalent weight of the compound as well as the rate at which it dissolves and reacts with HCL.

The present clinical study was designed to evaluate the comparative efficacy of *Pravala Mula Bhasma* (two samples) and *Pravala Shakha Bhasma* (two samples) *Shodhita* by two different media that is *Sarjika kshara* and *Tandulikya Swarasa* in the patients of *Amlapitta.*

Reference of *Pravala Mula Bhasma* preparations was taken from Rasa Tarangini (23/136). The amount of *Sarjika Kshara* to be taken was not clearly mentioned in the text, with the help of *Anukta Paribhasha* it was taken in the same quantity of that of *Pravala.*

Materials and Methods

Based on the random distribution clinical trial was carried out on 25 patients suffering from classical signs and symptoms of *Amlapitta*. Patients thus, selected grouped into PM(S)B, PM(T)B, PS(S)B and PS(T)B groups, each groups contained 6 patients (minimum) and the drug was administered in 500 mg capsule thrice daily with water for a period of 21 days. Same dose and duration was applied for all the four samples. This dose is already mentioned in Rasa Tantra Sara Evam Siddha Prayoga Sangraha and Siddha Yoga Sangraha.

All these patients were kept on uniform diet and essential bio-chemical investigations were done before and after treatment of all the four groups.

To evaluate the therapeutic response of these drugs the parameter adopted on the basis of improvement in, cardinal and associated symptoms.

The effect of the treatment of these four drugs on the above parameters was noted. To know the improvement of mean of scores and mean differences before and after treatment were calculated on 21st day. Grading of the patients were done and given scores according to grades. As for example in *Amlodgara.*

Grade 0 : (Score – 0) :
No *Amlodgara* at all.

Grade 1 : (Score – 1) :
Sometimes during the day.

Grade 2 : (Score – 2) :
Amlodgara of moderate severity but does not disturb the patients.

Grade 3 : (Score – 3) :
Sever *Amlodgara* disturbing the patients.

Grade 4 : (Score – 4) :
Small amount of fluid regurgitating from patients mouth.

Result and Observation

The clinical effects of these four drugs on different clinical parameters i.e. cardinal symptoms and associated symptoms have in Table I and Table II.

On statistical analysis as given in the table, the clinical improvement in patients on above parameters were mostly significant at all level of treatment of these four drugs but highly significant in case of *daha* of all four drugs, while in *Adhmana Pravala Mula Sarjika Kshara Shodhita Bhasma* [PM(S) B] was highly significant. The patients of all four groups appeared to tolerate the preparations well and there was no adverse effects in either groups.

But, percentage wise maximum improvement was observed in *Pravala Shakha Sarjika Kshara Shodhita Bhasma*

Effect of *Pravala Mula Sarjika Kshara Sodhita Bhasma* [PM(S) B] on cardinal symptoms of 7 patients of *Amlapitta*

Cardinal Symptoms	Mean B.T.	Mean A.T.	%	X	S.D.	S.E.	t	P
Amlodgara	1.86	0.43	76.88	1.43	0.97	0.37	3.87	<0.01
Avipaka	2.00	0.71	64.50	1.28	0.75	0.28	4.50	<0.01
Daha	2.86	0.43	84.97	2.43	0.53	0.20	12.02	<0.001
Chhardi	1.14	2.09	74.56	0.86	0.90	0.34	2.52	<0.05
Shula	1.43	0.43	69.93	1.00	1.00	0.38	2.64	<0.05

Effect of *Pravala Mula Sarjika Kshara Shodhita Bhasma* [PM(S)B] on associated symptoms of 7 patients of *Amlapitta*

Associated Symptoms	Mean B.T.	Mean A.T.	%	X	S.D.	S.E.	t	P
Aruchi	1.29	0.43	66.66	0.86	0.69	0.26	3.29	<0.02
Hrillasha	1.29	0.43	66.66	0.86	0.69	0.26	3.29	<0.02
Gaurava	1.00	0.29	71.00	0.71	0.76	0.29	2.50	<0.05
Angasada	1.29	0.29	77.52	1.00	0.82	0.31	3.24	<0.02
Angamarda	1.00	0.43	57.00	0.57	0.53	0.20	2.83	<0.05
Adhmana	2.29	0.43	81.22	1.86	0.69	0.26	7.12	<0.001
Atopa	2.00	0.43	78.50	1.57	0.78	0.29	5.28	<0.01
Pipasa	2.14	0.71	66.82	1.43	0.79	0.37	3.87	<0.01

Table-I
CARDINAL SYMPTOMS

Parameters	**P/21 Days of Treatment**			
	PM(S) B	**PM(T) B**	**PS(S) B**	**PS(T) B**
Amlodgara	<0.01*	<0.05*	<0.05*	<0.05*
Avipaka	<0.01*	<0.05*	<0.05*	<0.05*
Daha	<0.001**	<0.001**	<0.001**	<0.001**
Chhardi	<0.05*	<0.05*	<0.05*	<0.05*
Shula	<0.05*	<0.05*	<0.05*	<0.05*

*Significant **Highly Significant

Table-II
ASSOCIATED SYMPTOMS

Associated	**P/21 Days of Treatment**			
Symptoms	**PM(S) B**	**PM(T) B**	**PS(S) B**	**PS(T) B**
Aruchi	<0.02*	<0.05*	<0.05*	<0.05*
Hrillasha	<0.02*	<0.01*	<0.05*	<0.05*
Gaurava	<0.05*	<0.05*	<0.05*	<0.05*
Angasada	<0.02	<0.05*	<0.05*	<0.05*
Angamarda	<0.05*	<0.05*	<0.05*	<0.05*
Associated	**P/21 Days of Treatment**			
Symptoms	**PM(S) B**	**PM(T) B**	**PS(S) B**	**PS(T) B**
Adhmara	<0.001**	<0.05*	<0.05*	<0.05*
Atopa	<0.01*	<0.05*	<0.05*	<0.05*
Pipasa	<0.01*	<0.05*	<0.02*	<0.05*

*Significant **Highly Significant

Table-III
Percentage wise improvement in cardinal and associated sign and symptoms

Parameters	PM(S) B	PM(T) B	PS(S) B	PS(T) B
Cardinal	75.38	63.83	83.64	74.36
Associated	73.63	56.45	78.87	62.07

[PS (S) B] i.e. 83.64% and 78.87% in cardinal and associated symptoms.

'P' values of *Pravala Mula* [PM(S) B and PM (T) B] and *Pravala Shakha* [PS (S) B, PS (T) B] after treatment in the Patients of *Amlapitta.*

Discussion and Conclusion

The problem of *Amlapitta* is increasing throughout the country. This is the burning problem of the society of irregular and improper food habits, busy and stressful life style. *Amlapitta* is a very common disease caused *Vidagdha Pitta* with features like *Amlodgara, Hridadaha, Avipaka* etc. There is need of special type of herbal or herbo-mineral formulations which produce minimal side effects or any complications but also improve all the symptoms related with *Amlapitta*. Present study was designed to evaluate the efficacy of these herbo-mineral drugs (*Pravala Mula Bhasma and Pravala Shakha Bhasma*) which may be helpful in treating the patients without producing any side effects. At last, it may be concluded that the effect of *Pravala Shakha Sarjika Kshara Shodhita Bhasma* was found better than the effect of other three *Bhasma* i.e. *Pravala Mula Bhasma* (*Sarjika Kshara Shodhita* and *Tandulikya Swarasa Shodhita*) and *Pravala Shakha Tandulikya Swarasa Shodhita Bhasma* in the Patients of *Amlapitta* (hyperacidity) on different clinical parameters.

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सारांश

अम्लपित्त में प्रवाल मूल भस्म एवं प्रवाल शाखा भस्म का तुलनात्मक अध्ययन

हिमांशु शेखर तिवारी, बी. पटगीरी एवं पी. के. प्रजापति

प्रस्तुत विषय में शास्त्रोक्त अम्लपित्त रोग में दो प्रकार के प्रवाल मूल भस्म एवं दो प्रकार के प्रवाल शाखा भस्म (सर्जिकाक्षार जल तथा तण्डुलीय स्वरस शोधित) का तुलनात्मक अध्ययन आतुरीय विभागों में किया गया। आतुरीय अध्ययन हेतु 25 रोगियों को चार समूहों में विभाजित किया गया। प्रथम समूह में 07 रोगियों को शास्त्रीय विधि प्रवाल मूल सर्जिकाक्षार जल शोधित भस्म निर्मित कर, द्वितीय, तृतीय तथा चतुर्थ समूह में 06 रोगियों को कमशः प्रवालमूल तण्डुलीय स्वरस शोधित भस्म, प्रवाल शाखा सर्जिकाक्षार शोधित भस्म तथा प्रवाल शाखा तण्डुलीय स्वरस शोधित भस्म, 500 मि. ग्रा. की मात्रा प्रतिदिन तीन बार दिया गया। 21 दिन के अन्तराल पर रोगियों का निरीक्षण किया गया।

चिकित्सावधि की समाप्ति पर प्रवाल शाखा सर्जिकाक्षार जल शोधित भस्म का प्रभाव तुलनात्मक दृष्टि से ज्यादा अनुकूल परिलक्षित हुआ। विभिन्न रोगियों में किये गये प्रयोगों ने दर्शाया कि प्रवाल मूल एवं प्रवाल शाखा भस्म से अम्ल पित्त के लक्षणों में पर्याप्त सुधार हुआ।