



CLINICAL EVALUATION OF TRIKATU AS APPETITE STIMULENT (AGNIVARDHAN)

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ABSTRACT

Context: Human beings, in order to adjust themselves in the modest era, have been compelled to become fast and mechanical. This is the reason why they can't give proper attention to daily and seasonal regimes, exercise and diet. This change in lifestyle is responsible for Agnimandya. According to them Mandagni is Root cause of every disease. Agni plays the key role in the process of bio-transformation.

Aim: This study was designed to evaluate the role of Trikatu (Pippali, Maricha and Shunthi) as appetite stimulent (Agnivardhan).

Methods and Material: This was a prospective randomized active control trial. A total of 60 participants showing classical symptoms of Agnimandya between 20 and 60 years of age were randomly assigned to receive treatments. One group received Trikatu churna while another group received Agnitundi Vati. Both groups practiced supervised intervention for 3 weeks. The signs and symptoms like Avipak, Prasek, Kshudhamandya, Shirogurav, Amashay Pradeshi gurav, Antrakujan, Pravahan were graded and interpreted at the end of the trial.

Results: The result was found effective for treating Avipak, Prasek, Kshudhamandya, Shirogurav, Amashay Pradeshi gurav, Antrakujan, Pravahan of Agnimandya in the group treated with Trikatu Churna. The results for the above criteria for the assessment was found statically highly significant.

Conclusions: Trikatu Churna is highly effective in treating Agnimandya.

KEY WORDS: Agni, Agnimandya, Appetite stimulent, Trikatu, Kshudhamandya,

INTRODUCTION

Humans get nutrition mainly from food. To make the food substances suitable for digestion, absorption and assimilation the ingested food must be processed in particular manner by the body. Agni plays the key role in the process of bio-transformation. This is the reason why Ayurvedic Samhitas has given a lot of importance to Agni. The Bala, Arogya, Ayu and Prana are mainly dependant on Agni, because of this Agni should be kept in its Prakrit state.

In the modern era of fast developing technology, industrialization and increasing population have made the life very fast and full of stress. To adjust in such an outfit people are compelled to change their life style, even food habits and types of food. In all these conditions, digestive system is the major victim. Fast foods, consumption of food substances grown under high concentration of fertilizers greatly reduces the nutritional value of our food. On the other hand, poor people can't afford the nutritional rich diet. So, the people of higher, middle and lower economic classes all are suffering from vitiation of Agni under different circumstances.

The Ayu, Varna, Bala, Swasthya, Utsah, Buddhi, Kanti, Oja, Teja and Prana of human beings mainly depend on the status of Agni. If Agni especially Pachakagni i.e. Jatharagni ceases, life will be endangered, on the other hand vikrit Agni gives rise to several disorders. This is the reason why Acharya Charak has stated that Agni is root cause of all above. Broadly, Agni can be divided in three major categories¹:-

1. Pachakagni.
2. Dhatwagni.
3. Bhutagni.

Out of above 3 categories, Pachakagni superseeds other two Agnis. If Pachakagni is hampered it will results in formation of improper Rasadhatu. In Ayurvedic texts, decrease in the intensity of Agni has been termed as Agnimandya. Because Agni performs several vital functions in our body, the decrease in the intensity of Agni causes several diseases.

In our day to day life often patients don't have even time to observe whether they are hungry or not. They just take food whenever they got time according to their Job schedule. They are not aware of the status of their 'Agni'. Continuous

Hetusevan subsequently enhance the pathogenesis and results in Vikrit Agni i.e. Agnimandya, which then leads to several severe diseases². Hence it is important to treat the diseases in very early stage. In any diseased condition, digestion and absorption of the given medicine is dependent on Agni. So it is an important task to treat Agnimandya first. Since Jatharagni is the most important factor out of all Agnis, while treating Agnimandya, Jatharagni must be considered as a matter of prime importance^{1,2}.

Acharya Charak has mentioned that Pachakagni is considered as a Pradhan Agni, it is a Mula of other Agnis¹. The Kshaya, Vriddhi of other Agnis depends upon it. Due to this by taking proper Annapan, one should protect his Panchkagni. Because of this reason, I have focused my study only over Jatharagni. If Jatharagni is corrected, there will be proper action of Bhutagni and Dhatwagni on Annarasa and consecutively normal formation of Dhatus. Finally it will result in the restoration of Ayu, Varna, Bala, Swasthya, Utsah, Buddhi, Kanti, Oja, Teja, Prana etc.

AIM

This study was designed to evaluate the role of Trikatu (Pippali, Maricha and Shunthi) in Agnivardhan.

MATERIALS AND METHODS

Materials –

Study Drug - Trikatu Mishrana.

Pippali - *Piper longum*

Maricha - *Piper nigrum*

Shunthi - *Zingiber officinalis*

These drugs for study were obtained from Pharmacy of BHU, Varanasi and mixed properly in equal quantity.

Methods -

Groups for study

Group A: - Patients treated only with Trikatu = 30 patients.

Group B: - Patients treated only with Agnitundi Vati = 30 patients.

Inclusive Criteria

The patients of age group 20 to 60 years were randomly selected for the study irrespective of their sex, caste, marital status and economic class. The patients having following signs / symptoms were included for study:

Avipak
Prasek
Kshudhamandya.
Shirogaurav.
Amashaya Pradeshi gaurav.
Antrakujan.
Pravahan.
The emphasis was made especially on the Vaidya Samvedya
Lakshnas of Agnimandya^{1,2,3}.

Exclusive Criteria

Patients having any type of cancer especially associated with gastrointestinal tract, pancreas and liver were excluded from study. The Agnimandya occur during renal failure, hepatitis, peptic ulcer, gastro-oesophageal reflux, acute gastritis, gall stone were excluded from the study.

Route of Administration - Oral.

Dose - Group A - Trikatu Mishran 2 gm. twice a day.

Group B - Agnitundi vati 250 mg. twice a day.

Anupan - Koshna Jala

Aushadhi seven kala - Adhobhukta/Saman Kali.

Duration - 21 days.

CRITERIA FOR ASSESSMENT OF RESULTS

1. Avipak – (Table – 1) Feeling of indigestion even after taking meal in less quantity.

Lakshan	Grade	Sign	Meaning
Avipak	0	-	Feeling of full digestion of routine meal i.e. No impairment.
	1	+	Feeling of indigestion after taking 1/2 of the routine meal.
	2	++	Feeling of indigestion after taking 1/4th of the routine meal.
	3	+++	Feeling of indigestion after no or little amount of routine meal.

2. Prasek - (Table – 2) Feeling of excessive salivation.

Lakshan	Grade	Sign	Meaning
Prasek	0	-	Normal salivation
	1	+	Excessive salivation at specific time in a day
	2	++	Excessive salivation after every meal.
	3	+++	Excessive salivation for whole day.

3. Kshudhamandya – (Table – 3)

Abhyavaharan: Quantity of meal.

Jaran: Duration of complete digestion of meal as manifested by feeling of hunger.

Standard diet: In this thesis, the particular patient's routine diet in his swasthawastha is considered as his 'standard diet'.

Lakshan	Grade	Sign	Meaning
Kshudhamandya	0	-	Abhyavaharan: Patient's diet is same as his standard diet. Jaran: Feeling of complete digestion and hunger after 3 hrs of taking meal.
	1	+	Abhyavaharan: Patient can take only 1/2 of his standard diet. Jaran: Hunger after 4 to 7 hrs of taking meal.
	2	++	Abhyavaharan: Patient's intake only 1/4th of his standard diet. Jaran: Hunger after 8 to 11 hrs of taking meal.
	3	+++	Abhyavaharan: Patient can't take meal even less than 1/4th of his standard diet. Jaran: No feeling of hunger even after 12 hrs of taking meal.

4. Shirogaurav - (Table – 4) Feeling of heaviness at head.

Lakshan	Grade	Sign	Meaning
Shiro gaurav	0	-	No feeling of heaviness at head.
	1	+	Such feeling occurs at specific period of a day.
	2	++	Such feeling after every meal.
	3	+++	Continuous feeling of heaviness at head.

5. Amashaya Pradeshi Gaurav - (Table – 5) Feeling of heaviness in epigastric region.

Lakshan	Grade	Sign	Meaning
Amashaya Pradeshi Gaurav	0	-	No such feeling
	1	+	Such feeling at specific time of the day.
	2	++	Such feeling occurs after every meal.
	3	+++	Continuous feeling of heaviness at epigastrium.

6. Antrakujan- (Table – 6) Feeling of peristaltic movements even the sounds can be audible.

Lakshana	Grade	Sign	Meaning
Antra kujan	0	-	Absence of such feeling.
	1	+	Such feeling occurs at specific time of the day.
	2	++	Such feeling occurs after every meal.
	3	+++	Continuously occurrence of such feeling.

7. Pravahan - (Table – 7) Strenuous defecation.

Lakshana	Grade	Sign	Meaning
Pravahan	0	-	No such feeling
	1	+	Mild
	2	++	Moderate
	3	+++	Severe

Gradation of Upashaya -Anupashaya: (Table – 8)

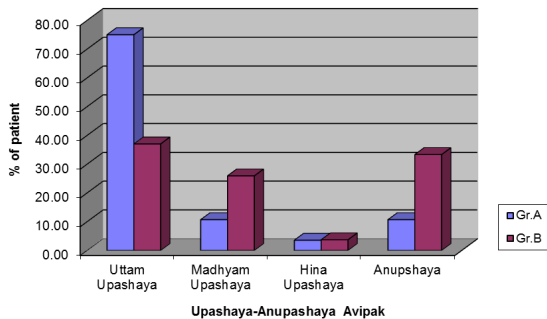
1	75% to 100% relief from Lakshana	Uttam Upashaya
2	50% to 74% relief from Lakshana	Madhyam Upashaya
3	25% to 49% relief from Lakshana	Alpa Upashaya
4	< 25% relief or no relief from Lakshana	Anupashaya

OBSERVATIONS AND RESULTS

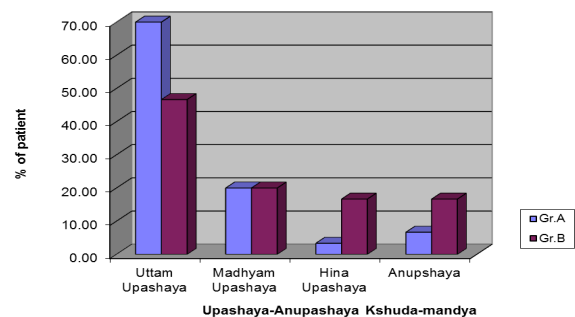
The result was found effective for treating Avipak, Prasek, Kshudhamandya, Shirogaurav, Amashay Pradeshhi gaurav, Antrakujan, Pravahan of Agnimandya in both the groups treated with Panchakola Churna and Agnitundi Vati. The results for the above criteria for the assessment were found statically highly significant before and after the treatment.

Table -9 Showing result on the basis of Upashaya – Anupashaya in Group A

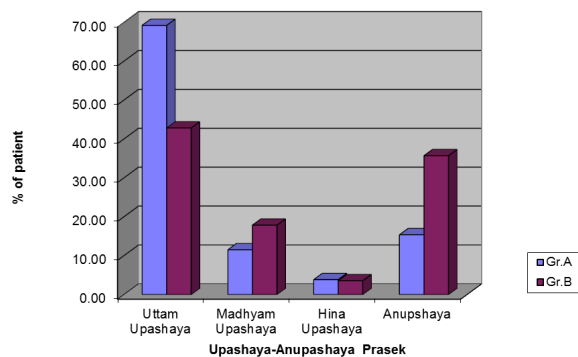
Lakshana	Gr	Upashaya						Anupashaya		Total no.of patient
		Uttam		Madhyam		Alpa		NP	%	
		NP	%	NP	%	NP	%			
1. Avipak	A	21	75.00	3	10.71	1	3.57	3	10.71	28
	B	10	37.04	7	25.93	1	3.70	9	33.33	27
2. Prasek	A	18	69.23	3	11.54	1	3.85	4	15.38	26
	B	12	42.86	5	17.86	1	3.57	10	36.71	28
3. Kshudha-mandya	A	21	70.00	6	20.00	1	3.33	2	6.67	30
	B	14	46.67	6	20.00	5	16.67	5	16.67	30
4. Gaurav	A	10	40.00	7	28.00	1	4.00	7	28.00	25
	B	15	50.00	1	3.33	2	6.66	12	40.00	30
5. Amashaya Pradeshhi-Gaurav	A	22	75.86	5	17.24	-	-	2	6.69	29
	B	19	73.08	8	11.54	-	-	4	15.38	26
6. Antrakujan	A	17	85.00	2	10.00	-	-	1	5.00	20
	B	10	45.45	6	27.27	-	-	6	27.27	22
7. Pravahan	A	19	70.37	3	11.11	1	3.70	4	14.81	27
	B	17	65.38	2	7.69	-	-	7	26.92	26



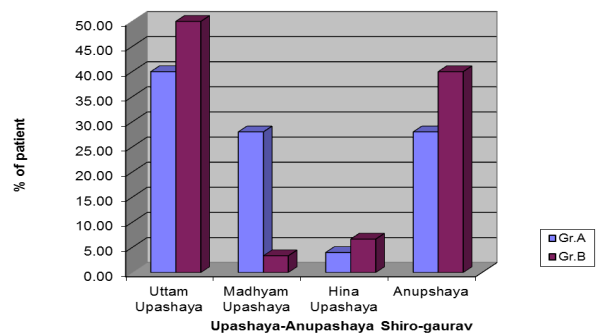
Graph 1- Showing incidence of upashaya/anupashaya after results in both groups for Avipak



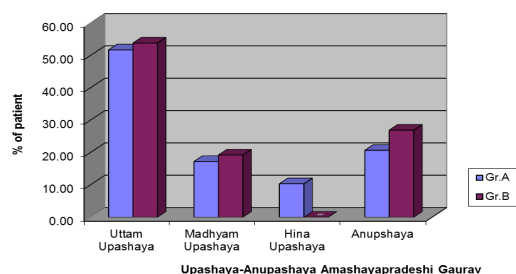
Graph 3- Showing incidence of upashaya/anupashaya after results in both groups for Kshudha-mandya



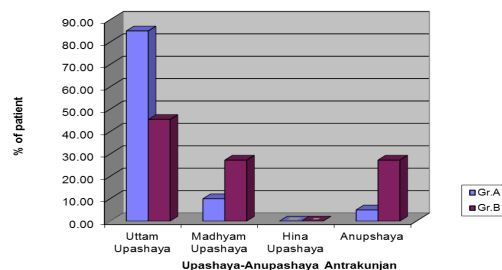
Graph 2- Showing incidence of upashaya/anupashaya after results in both groups for Prasek



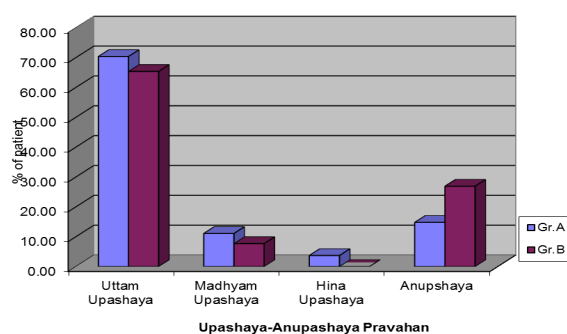
Graph 4- Showing incidence of upashaya/anupashaya after results in both groups for Shiro-gaurav



Graph 5- Showing incidence of upashaya/anupashaya after results in both groups for Amashayapradeshi-gaurav



Graph 6- Showing incidence of upashaya/anupashaya after results in both groups for Atrakunjan



Graph 7- Showing incidence of upashaya/anupashaya after results in both groups for Pravahan

Table – 10: Calculation of significance of difference in mean of Group A (Before and After Treatment): Paired ‘t’ test

Parameter	n	Mean X	ΣX^2	$(\Sigma X)^2/n$	SD	SE	t	Significance
Avipak	28	1.5	76	63.00	0.694	0.131	$t_{27}=11.45$	H.Significant
Prasek	26	1.269	59	41.885	0.827	0.162	$t_{25}=7.833$	H.Significant
Kshudhamandya	30	1.467	80	64.533	0.730	0.135	$t_{29}=10.867$	H.Significant
Shirogaurav	25	0.72	18	12.96	0.458	0.093	$t_{24}=7.74$	H.Significant
Amashay Pradeshhi Gaurav	29	0.93	35	25.13	0.594	0.112	$t_{28}=8.30$	H.Significant
Antrakujan	20	1.35	45	36.45	0.671	0.150	$t_{19}=9$	H.Significant
Pravahan	27	1	35	27.00	0.555	0.107	$t_{26}=9.346$	H.Significant

Table – 11: Calculation of significance of difference between means of two groups Group A and B: Unpaired ‘t’ test

Parameter	N Gp.		mean Gp. (x)		$\Sigma X^2 - ((\Sigma X)^2/n)$		SD	SE	t	Significance
	A	B	A	B	A	B				
Avipaka	28	27	1.5	0.85	13	13.4	0.706	0.19	$t_{53}=3.393$	HS
Prasek	26	28	1.27	0.79	17.1	12.7	0.757	0.21	$t_{52}=2.35$	S
Kshudamandy	30	30	1.47	1.07	15.5	11.9	0.686	0.18	$t_{58}=2.26$	S
Shirogaurav	25	30	0.72	0.7	5.04	12.3	0.572	0.15	$t_{53}=0.13$	IS
Amashaya Pradeshgaurav	29	26	0.93	0.80	9.87	8.04	0.581	0.16	$t_{53}=0.833$	IS
Antrakujan	20	22	1.35	0.90	8.55	1.82	0.688	0.21	$t_{40}=2.123$	S
Pravahan	27	28	1	0.92	8	1.86	0.431	0.03	$t_{53}=2.581$	HS

DISCUSSION

The study drug Trikatu contains - Pippali, Maicha and Shunthi,. This particular drug was tested in the project of Agnimandya and was found effective statistically also.

1. Avipak, Shirogaurav, Amashay Pradeshhi Gaurav:

According to Acharya Charak and Acharya Sudant Sen Apakti (Avipak) has been described as one of twenty Nanatmaj Vyadhies of Kapha. In addition to this, Acharya Vagbhata has described Apakit (Avipak) as one of Kapha-Prakopak Lakshanas. Prakupita Kapha leads to Agnimandya

and results in the formation of Ama which is again the cause of Avipak^{4,5}. According to Acharya Charak Gaurav has been described as one of the Atma-Rupa of Shleshma (Ch.Viman 20/15). Acharya Vagbhat has described Gaurav as Lakshana of Ama (Vagbhat Sutrasthan 13/23) and Lakshan of Kapha Prakop (Vag.Sut.12), Vangsen also has included Gaurav as one of the Lakshana of Ama. (Vang 22/531)

Due to Katu, Tikta Rasa and Ushna Veerya property of Shunthi and Pippali. it act as Kapha-Shamak. Besides this, above drugs have Agni, Vayu and Akash Mahabutadhikya

which is also responsible for Kapha Shaman. Above two reasons are responsible for Agni Sandhukshan and Agni Vardhan. Besides Kapha Shamak property Katu, Tikta Rasa and Ushna Veeryata also causes Ama Pachan. Thus, Kapha Shaman, Ama Pachan and Agnivardhan takes place due to above drugs which plays a key role in breaking the Samprapti of Avipak and Gaurav^{6,7}.

The statistical Student's Paired 't' test showed that the study drug Trikatu Mishran is highly significant in treating the Lakshana Avipak. The comparison between study drug and drug of control group i.e Agnitundi Vati was done by unpaired 't' test and the result has proved the study drug more significant in treating 'Avipak'. The observed value of paired 't' test showed that the study drug is significant in treating Shirogaurav and Amashaya Pradeshi Gaurav in Group A. When the result of Group A and B were compared (Unpaired 't' test) Group A showed not significant difference in mean for both observations than group B. Thus statistically the control group drug Agnitundi Vati was found more significant as compared to the study drug Trikatu Mishran in treating Shirogaurav and Amashaya Pradeshi Gaurav.

2. Prasek:

Acharya Charak has described Prasek as one of the 20 Nanatmaj Vyadhis of Kapha (Ch.Su.20/20). Sudant Sen has also enlisted it in Kapha Nanatmaj Vyadhis. Increased Apyansh of Bodhak and Kledak Kapha is responsible for Prasek Lakshan^{4,5}. Kaphaghna property of the drug has already been described in earlier point. In addition to this Katu Rasa, the drug performs the function of Kledakshodhan. Ruksha Guna and Ushna Veeryata are also responsible for Dravyashoshan. Thus, the combined effect of Kaphaghan and Kledashoshan property of Drug reduces the Lakshan Prasek^{6,7}.

Student paired 't' test value from Group A for Prasek confirms that the study drug is highly significant in treating Prasek. When the result of Gr.A. and Gr.B were compared (unpaired 't' test) it confirms the study drug more significant than the control group drug.

3. Kshudhamandya:

Acharya Charak has described Mandagni (Kshudhamanya) as one of the 20 Nanatmaj Vyadhis of Kapha. Kapha Prakopa by Sheeta, Manda Guna, Vata Prakopa by Ruksha, Chala Guna and Pitta Prakopa by Dravya Guna are the major reasons for Kshudhamandya^{4,5}. The Kaphaghna property of the drug has already been described in earlier point. Madhur Vipak of Shunthi, Pippali and Snigdha Guna of Shunthi, Pippali causes Vatashaman. Vayu, Akash Mahabhut of Tikta Rasa is responsible for Dravya Shoshan of Pitta. In addition to this Agni and Vayu Mahabhut of Katu Rasa Dravyas causes Agni Vardhana^{6,7}.

Student 't' test showed significant results of the Study drug in Group A. Thus statistically also Trikatu Mishran is significant in treating Kshudhamandya (Paired 't' test). When the results of Gr.A and Gr. B were compared by unpaired Gr.A showed significant difference in mean than Gr.B. Thus it is proved that Trikatu Mishran has significant role in correction of Kshudhamandya.

4. Antrakujan and Pravahan:

Acharya Sushrut has described Antrakujan (Atopa) in Prasravastha of Vata (Su.Su.21/32). In Agnimandya, Samyak Pachan of Ahar does not take place resulting into formation of Apakwa Ahar Rasa and Mala as well. Apakwa Mala requires Pravahana for its expulsion from body^{4,5}. Trikatu Mishran contains Pippali which has Rechan property, Maricha has Bhedan property. Due to these properties Apan Vayu gets its Prakrit Anulom Gati. This helps in correction of vitiated Vata. In addition to this, Madhur Vipak of Shunthi, Pippali are also helpful in correction of vitiated Vata. Snigdha Guna of Shunthi, Pippali also contributes in the Samprapti Bhang. Since the drug causes Amapachan and Agnivardhan property digestion of food takes place resulting into Pakwa Mala. Thus, Samprapti Bhang of Pravahan takes place^{6,7}.

The study drug is statistically also proved significant by applying Student Paired 't' test in Group A. When the results of Group A and Group B were compared by applying Unpaired 't' test, Group A showed significant difference in mean than Group B. For both Lakshanas. In this manner, we can say that Trikatu Mishran has significant role in correction of Antrakujan and Pravahan.

CONCLUSION

Thus, we can conclude that the drug Trikatu is highly effective in treating Agnimandya.

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