

A COMPARATIVE STUDY TO EVALUATE THE CLINICAL EFFICACY OF APAMARGA KSHARA AND ARKA KSHARA PRATISARANA KARMA IN NASAPRATINHA W.S.R. TO HYPERTROPHY OF TURBINATES

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ABSTRACT

Background and Objectives:- Nasapratinaha is a condition in which vitiation of kapha dosha along with udhanavayu vaigunya in nasa which is responsible for the manifestation of the disease. The role of Kapha Dosha has a prominent part because nasa is one of the sthana of Kapha along with Vata and other Dosha causes Nasavarodha (Nasal obstruction). Kshara karma is the special line of treatment for Nasapratinaha. Apamarga and Arka Kshara which is prepared with Vata-Kapha Hara and Katu, Teekshna guna drugs are being used in Pratishtyaya. Considering these views the present study was planned.

KEYWORDS:- Nasapratinaha (Hypertrophoid Turbinate),

Apamarga kshara and Arka Kshara, Nimbu swarasa.

INTRODUCTION

Disease of the nose is a challenging approach as they are always interlinked with the ear and throat. The study of these diseases are dealt by otolaryngology. A one such disease is hypertrophy of turbinate and the exact etiology is very complex and not well understood and remains a scope of research. Our classics have explained 31 types of Nasarogas of which

Nasapratinaha is significant.^[1] The characteristic feature of the disease is nasa avaradha (nasal obstruction),^[2] a very common condition in present time, owing to abundance of its nidanas, i.e. etiological factors such as Avashyaya (fog), Rajo (dust), Dhuma (smoke), Asathmya gandha (smell) and Vayu sevana (polluted air). Nasal obstruction due to hypertrophy of turbinates is a universal presentation in the ENT OPDs and clinics and also in general practice. Every person experiences some degree of turbinate dysfunction at some point in his/her life and persistent dysfunction is not uncommon involving approximately 50% of the population. Shushruta has not explained kshara karma for the treatment of Nasa Pratinaha but Charaka explained kshara karma in case of where adhimamsa is there it can be treated by kshara karma.^[3] It should be understood according to the doshas and lakshanas involved and chikitsa advised as Oushadha, Shastra, Kshara and Agni. Surgical approach is an alternative where reduction of the hypertrophied turbinate is done using various techniques, nevertheless this procedure is not out of controversies as complications like hemorrhage, synechiae are common and the dangerous outcomes like the Empty nose Syndrome is also occasional after surgery, but the cost of treatment is a major issue that needs to be kept in mind that there lies considerable scope of research in the field of management of Hypertrophy of Inferior Turbinate.^[4]

Considering all the above factors, a prompt attempt has been made to evaluate the efficacy of two different Ksharas, Arka and Apamarga a parasurgical procedure in treating Nasa pratinaha (Hypertrophy of turbinate) in this study.

MATERIALS AND METHODS

Subjects

A clinical study was done on the disease Nasa Pratinaha with Apamarga Kshara Pratisarana and Arka Kshara Pratisarana to compare their efficacies. Total 30 cases were done.

Aims and objectives of the study

1. To evaluate the efficacy of Apamarga Kshara Pratisarana in the management of Nasapratinaha.
2. To evaluate the efficacy of Arka Kshara Pratisarana in the management of Nasapratinaha.
3. To compare the efficacy of Apamarga Kshara Pratisarana & Arka Kshara Pratisarana in the management of Nasapratinaha.

Hypothesis

1. H_0 - There is neither effect of Apamarga Kshara Pratisarana nor Arka Kshara Pratisarana in Nasapratinaha.
2. H_1 - There is significant effect of Apamarga Kshara Pratisarana than Arka Kshara Pratisarana in Nasapratinaha.
3. H_2 - There is significant effect of Arka Kshara Pratisarana than Apamarga Kshara Pratisarana in Nasapratinaha.

Inclusion criteria

- Patients aged above 16yrs and below 60yrs.
- Patients diagnosed for Nasapratinaha based on clinical features of Nasapratinaha (Hypertrophy of Turbinates).

Exclusion criteria

- Patients with other systemic diseases.
- Patients with epistaxis.
- Patients unfit for Kshara Karma.
- Nasal obstruction other than Hypertrophy of Turbinates.

Drugs selected for the study

Acharyas has mentioned Chaturvidha Upakramas in the management of Nasa Pratinaha. For the present clinical study Kshara karma with Apamarga Kshara and with Arka Kshara wereselected.

Both the groups were followed once in seven days for a period of 21 days.

Assessment criteria

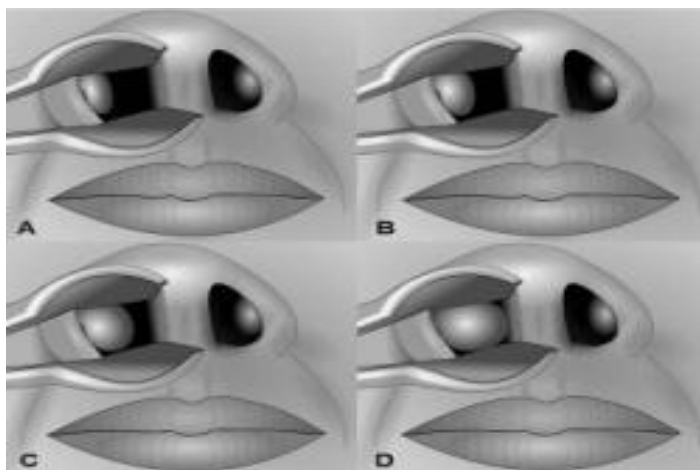
Outcome variables were recorded before the treatment on 1st day and on 21st day after the treatment.

Parameters:- For the assessment of results in 21 days of treatment.

The parameters selected for the study were subjective and clinical in nature and were divided in to 2 categories.

Assessment of parameter**1. Subjective parameters with categorization on the basis of severity**

- a. Nasavarodha (Nasal obstruction)
- b. Nasasrava (Discharge)
- c. Shira Shoola (Head ache)

2. Objective parameters^[5]**a. Size of the turbinates.****Assessment of results**

This was done to assess the improvement of the patients in both the groups after treatment. So the cases which have responded to the treatment were grouped in to 4categories.

- | | |
|-------------------------|----------|
| 1. MarkedImprovement | >75% |
| 2. Moderate Improvement | >50 -<75 |
| 3. MildImprovement | >25 -<50 |
| 4. NoImprovement | <25 |

Statistical analysis

The data thus obtained was subjected to statistical analysis to find the significance between group A and Group B for comparative evaluation.

Procedure of kshara karma^[6]**Materials**

- 1)Apamarga Kshara and Arka Kshara prepared as per classical references.
- 2)Headlamp.
- 3)NasalSpeculum.
- 4)Glass rod.
- 5)Shalaka.
- 6)Cotton.
- 7)Steal bowl.
- 8)Nimbuswarasa.

Application of Apamarga Kshara was carried out according to trividha karma

- Poorva karma (Preoperative procedure)
- Pradhana karma (Operative procedure)
- Paschat karma (Postoperative procedure)

Poorva karma:- All the instruments and materials (mentioned earlier) required for the procedure were kept ready and handy after proper sterilization. The patient was asked to wash his face, especially clean the nose by sneezing and wiping out any discharge from the nose and removing nasal hairs. Patient was made to sit comfortably on a dental chair in a place with adequate ventilation and light. The cavity of the nose was examined thoroughly to exclude any other lesions, using a nasal speculum. The nostril was cleaned by using sterile gauze with the help of forceps. It was reassured that the area was dry before proceeding to the next stage i.e., pradhana karma.

Pradhana karma:- After inspecting the nasal hypertrophied turbinate carefully, the lig-10% was sprayed and checked for anesthetic action. Then Kshara was applied with the help of glass rod and retained on the turbinate up to Eka shata matra kala (Approximately 2- 3 minutes). Then examined for color change to pakvajambu phala and care to be taken, there should not be any bleeding over the applied area.

Paschat karma:- The Kshara was carefully wiped off using a forceps and sterile gauze and the area was smeared with Nimbu Swarasa and for vrunaropana the Yastimadhu Taila application has been administered for 6 days. The Patients were strictly instructed regarding pathyapathya.

The Kshara will be applied once and then observation will be done over the change in signs, symptoms and size of the turbinate for 21 days and its will be recorded.

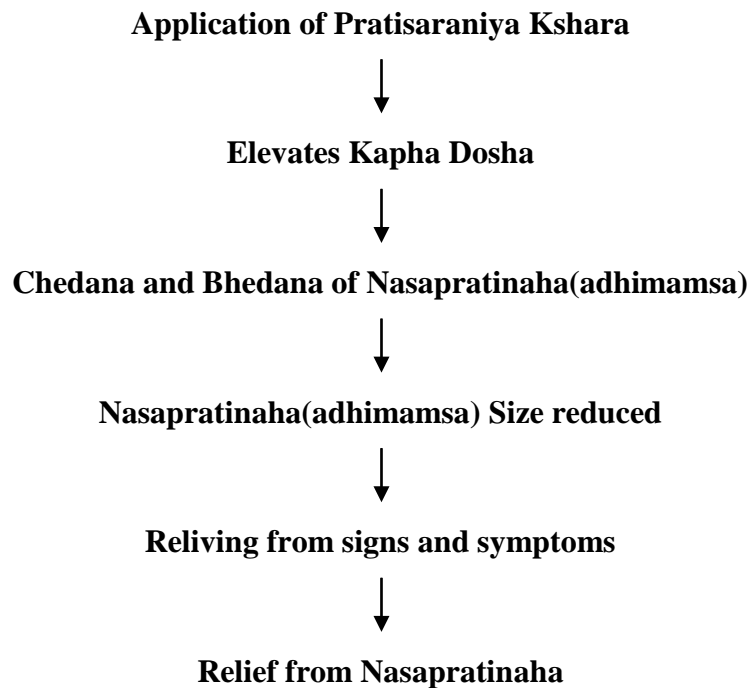
Duration of study:- The effect of treatment in terms of subjective and objective findings, were observed and recorded on 7th, 14th & 21st day in the proforma of Nasa Pratinaha designed for the clinical trial. These 21 days were considered as total duration of treatment including follow up. However patients were advised to report back soon in cases where the recurrence of symptoms were noticed.



Properties of drug and its role in samprapti vighatana

Probable mode of action of Ksharas in the treatment of Nasapratinaha (Hypertrophy of Turbinate)

Ayurvedic view



- Due to its “Vilayana” property, Kshara dissolves the Kapha Dosha which had been causing Avarana to the Udana Vayu and also removes the Swamarga Vaigunya, thus clearing the nasalobstruction, i.e.Nasapratinaha.
- When applied locally, by its guna like chedana and bhedana Kshara reduces the size of Turbinate; as vitiated Kapha Dosha is a major factor in the pathogenesis of Nasapratinaha, its reduction results in cutting of the Samprapti circle, thus giving relief from the disease. Here, Kshara Karma can be taken as Dosha Pratyanka Chikitsa.
- Due to its “Ksharana” property, Kshara disintegrates the inflamed tissue causing

reduction in its size; thus the Nasal Turbinate is reduced in size.

- Due to its “Stambhana” property, Kshara checks haemorrhage causing coagulation to the tissue; this accounts for the facts that there is no bleeding during the procedure and also coagulation of the tissue is achieved leading to its shrinkage.
- Due to its “Sosanah” property, Kshara dries the discharge from the turbinate area; this may explain for the reduction in Nasal Discharge that was seen after the treatment.

Modern view

- Topically applied Kshara has a local astringent action. It causes coagulation of albumin, which leads to shrinkage in size of the Turbinate. This accounts for the reduction of hypertrophied turbinate after the Kshara Pratisarana. Furthermore, there occurs necrosis of tissues, which sloughs out in 5-6 days; this causes even more reduction in the size of the Turbinate, as witnessed in the study after the 7th, 14th and 21st day.
- In this study it is accepted that the hypertrophied turbinate cause most obstruction at the Nasal Pathway. Therefore, reduction of the size in the Turbinate is considered to serve as the best method to correct Nasal obstruction caused by the hypertrophied turbinate. Here kshara was applied properly.

RESULTS

30 patients with features of Nasapratinaha were registered for the study. In the present study, the incidence of Nasapratinaha was more in 21 – 30 years (66.6%) age group, (76.6%) in males, (90%) in Hindus and regarding occupation incidence of Nasapratinaha was seen more in students (56.6%) and (70%) of Nasapratinaha patients were following mixed dietary habits. All the 30 patients (100%) had the symptoms of nasavarodha, nasarava and shirashula.

Table 1: Demographic data.

Sl. no	Demographic parameters	Group A	Group B
1.	Age		
	16-20 yrs	4	3
	21-30 yrs	10	10
	31-40 yrs	1	2
2.	Sex		
	Males	13	10
	Females	2	5
3.	Religion		
	Hindu	13	14
	Muslim	2	1
Sl. no	Demographic parameters	Group A	Group B
4.	Occupation		
	Student	7	10
	Officer	5	2
	Labourer	2	0
	Housewife	1	3
5.	Diet		
	Vegetarian	5	4
	Mixed	10	11

Table 2: Incidence of severity of lakshana in both groups (BT).

SLNO	LAKSHANAS	Severe		Moderate		Mild		Nil		Total	
		Gr.A	Gr.B	Gr.A	Gr.B	Gr.A	Gr.B	Gr.A	Gr.B	Gr.A	Gr.B
1	Nasavarodha	4	3	10	10	1	2	0	0	15	15
2	Nasavrava	1	3	4	2	10	10	0	0	15	15
3	Shirashula	2	3	6	5	7	7	0	0	15	15
4	Turbinata size	4	3	10	10	1	2	0	0	15	15

Table 3: Within group results (Group-A).

Sl. no	Lakshanas	Mean		Difference in Mean	SE	P
		BT	AT			
1	Nasavarodha	2.20	0.33	0.73	0.107	<0.001
2	Nasavrava	1.40	0.33	0.20	0.107	<0.001
3	Shirashula	1.67	0.60	0.20	0.107	<0.001
4	Turbinata size	2.13	0.33	0.267	0.118	<0.001

In Group A, before the treatment, the initial mean score of nasavarodha was 2.20 and reduced to 0.33 and statistical significance $p < 0.001$, nasavrava was 1.40 and reduced to 0.33 and statistical significance $p < 0.001$, shirashula was 1.67 and reduced to 0.60 and statistical

significance $p < 0.001$ and turbinate size was 2.13 and reduced to 0.33 and statistical significance $p < 0.001$.

Table 4: Within group results (Group-B).

Sl. no	Lakshanas	Mean		Difference in Mean	SE	P
		BT	AT			
1	Nasavarodha	2.07	0.47	0.53	0.133	<0.001
2	Nasasrava	1.53	0.53	0.133	0.091	<0.001
3	Shirashula	1.73	0.60	0.267	0.118	<0.001
4	Turbinate size	2.07	0.47	0.467	0.133	<0.001

In Group B, before the treatment, the initial mean score of nasavarodha was 2.07 and reduced to 0.47 and statistical significance $p < 0.001$, nasasrava was 1.53 and reduced to 0.53 and statistical significance $p < 0.001$, shirashula was 1.73 and reduced to 0.60 and statistical significance $p < 0.001$ and turbinate size was 2.07 and reduced to 0.47 and statistical significance $p < 0.001$.

Table 5: Results between groups.

Sl. no.	Lakshanas	Group A mean		Group B mean		U	Z	P
		BT	AT	BT	AT			
1	Nasavarodha	2.20	0.33	2.07	0.47	99.5	0.70	>0.50
2	Nasasrava	1.40	0.33	1.53	0.53	96.5	0.80	>0.50
3	Shirashula	1.67	0.60	1.73	0.60	109.5	0.14	>0.50
4	Turbinate size	2.13	0.33	2.07	0.47	99.5	0.70	>0.50

In Nasaavrodha mean value of Group A-0.33 and in group B-0.47, U value-99.5, Z value-0.70, P value >0.05. Hence both the groups have equal effect. In Nasasrava mean value of Group A-0.33 and in group B-0.53, U value-96.5, Z value-0.80, P value >0.05. Hence both the groups have equal effect. In Shirashula mean value of Group A-0.60 and in group B-0.60, U value-109.5, Z value-0.14, P value >0.05. Hence both the groups have equal effect. In Turbinate size mean value of Group A-0.33 and in group B-0.47, U value-99.5, Z value-0.70, P value >0.05. Hence both the groups have equal effect. But by observing group A is having better effect than Group B.

Table no. 6: Showing Effect of overall response of Group-A and Group-B at AT follow-up.

Table No.31 : Overall Response Follow-up 3				
Response	GROUP A (Apamarga kshara pratisarana)		GROUP B (Arka Kshara Pratisarana)	
	No. Of Subjects	%	No. Of Subjects	%
Un changed	1	7%	2	13%
Mild Response	2	13%	3	20%
Moderate Response	4	27%	3	20%
Marked Response	8	53%	7	47%
Total	15	100%	15	100%

Group-A:- At the end of third follow-up i.e. after treatment 53% (8) cases shows marked response, 27% (4) cases shows moderate response, 13% (2) cases shows mild response and 7% (1) cases shows unchanged.

Group-B:- At the end of third follow-up i.e. after treatment 47% (7) cases shows marked response, 20% (3) cases shows moderate response, 20% (3) cases shows mild response and 13% (2) cases shows unchanged.

DISCUSSION

Discussion on severity of lakshana in both groups BT and AT

In all the patients of Group A and Group B have all the signs and symptoms of Nasapratinaha. Gradually the symptoms were relieved after treatment ie; out of 15 patients 12 patients in Group A and 10 patients in Group B were got relief from Nasavarodha, 11 patients in Group A and 9 patients in Group B were got relief from Nasasrava and 9 patients in Group A and 8 patients in Group B were got relief from Shirashoola. This shows that the drugs we are using in this study are highly effective which were relieving all the lakshanas.

DISCUSSION ON RESULTS

Patients were reviewed and examined immediately after Kshara Karma and then for 6 days the patient will be under observation and given Vrunaropaka (yastimadhu) taila for application till 6th day, reduced to the follow-up of 3 weeks at an interval of 7days ie; 7th, 14th and 21st days of the same with respect to the clinical features were documented for a comprehensive assessment of the effects of the two Ksharas in the both groups in the whole duration of the study.

Improvement in both groups

In Group-A, including overall features of 15 patients we got 54% (8) clinical features in marked improvement level, 27% (4) features in the moderate improvement, 13% (2) features in the mild improvement and 7% (1) features in the unchanged.

In Group-B, including overall features of 15 patients we got 47% (7) clinical features in marked improvement level, 20% (3) features in the moderate improvement, 20% (3) features in the mild improvement and 13% (2) features in the unchanged.

So here we can conclude that the intergroup comparison of the results is getting insignificant in all four features.

Hence it is concluded that the both groups have good relief from all symptoms but Group A patients were got more relief than Group B. So Ksharas can be used for the treatment of Nasapratinaha which are considered to be more effective and also the cost effective.

CONCLUSION

On comparison of the two Groups, Group A and Group B, it was seen that both the Ksharas were equally effective in reducing the clinical features of the disease; although Apamarga Kshara showed a bit of better result, there was not much to declared one of the Ksharas to be better than the other.

Here we conclude that on going through over all values Group-A is better than Group-B.

H1: Hypothesis has been accepted that the Apamarga Kshara is more effective than Arka Kshara on the basis of overall assessment of clinical features. But statistically intergroup comparison was proved to be insignificant in all the parameters.

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