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A COMPARATIVE STUDY TO EVALUATE THE CLINICAL EFFICACY OF CHITRAKADI KSHARA AND ARKADI KSHARA PRATISARANA KARMA IN NASARSHA W.S.R. TO NASAL POLYP

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ABSTRACT

Nasarsha is a condition in which vitiation of kapha dosha along with udana, prana and samana vayu vaigunya 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), Kshavathu (Sneezing), Nasasrava (Nasal discharge), Shirashoola (Headache). Kshara Karma is the special line of treatment for Nasarsha. Chitraka and Arka Kshara which is prepared with Vata-Kapha Hara and Katu, Teekshna guna drugs are being used in Pratishyaya. Considering these views the present study was planned.

KEYWORDS: Nasavarodha, Kshavathu, Nasasrava.

INTRODUCTION

Shalakya Tantra bears utmost importance among the eight branches of Ayurveda for dealing with the vital sense organs located above the Jatru (clavicle) bhaga, which are included in the Shiras, the Uttamanga. Diseases of the nose and paranasal sinuses constitute bulk of the subject of Shalakya Tantra and detailed description about the same has been mentioned in the Ayurvedic classics.

Disease of the nose is a challenging approach as they are always interlinked with the ear and throat. The study of these diseases is delt by otolaryngology. Urdwajatruvikars seems to be

very simple but it seriously intervenes with the day-to-day life. A one such disease is nasal polyp and the exact etiology is very complex and not well understood and remains a scope of research.

The incidence of nasal polyp is increasing among the population because of stress, sedentary life style and mainly industrialization which accelerates it and the side effects are to be borne which may be attributed to the inevitable association with the advanced standards of living and other occupational hazards. Shushruta has not explained a direct reference for the treatment of Nasa Arshas, but it should be understood according to the doshas and lakshanas involved, exhibited and chikitsa advised as per the guda gata arshas and also explained four folds of treatment viz., Oushadha, Kshara, Agni, Shastra.

Consideration all the above factors, a prompt attempt has been made to evaluate the efficacy of two different Ksharas, Chitraka and Arka a parasurgical procedure in treating Nasarsh (Nasal Polyp) in this study.

Classical Method of Preparation of Pratisraneeya Kshara[4]:- Acharya Shushruta has dedicated the whole of 11th chapter of Sutra Sthana to describe Kshara. After review in all the classical texts, Sushruta's maneuver seems to be ideal regarding the preparation of Pratisaraneeya Kshara. The physician who prepares the Kshara should have a clean bath in the morning of Sharad Ritu in an auspicious day. He fasts that day & goes up the hills & looks for such plants which are middle aged and free from insects. The panchangas of such plants are collected, dried up & made into small pieces. Then these are burnt with limestone. While burning, the dispersed parts of the plants are kept with the help of tilnala. When the ash cools down it should be mixed well with six times of water or cow's urine, then filtered twenty one times in a big vessel through a piece of cloth. The residual portion is thrown away and the filtrate (Ksharodaka) should be kept on mandagni and continuously stirred well until it turns reddish brown and attains picchilata or get reduced to 1/3 rd. If this is heated till powder form, Mrudukshara is obtained. If not then, from the ksharodaka eight palas has to be taken and mixed with Shankanabhi, Shukti and Kata sharkara, each in eight palas, to make Prativapa. In the meantime, heating should be continued and prativapa should be mixed. Care should be taken that it is not too liquid nor too dried up. The solution thus obtained is known as Madhyama Kshara.

Collection and preparation of Arka Kshara

Collection and Preparation of Chitraka Kshara

DRUG REVIEW

ARKA[5]

Botonical name : Calotropis Gigantea (Linn)

Family : Asclepiadaceae

Synonyms : Ksheeraparna, Arkaparna, Toola phala,

Kannada : Ekke

English : Crown flower

Hindi : Akavan

PHARMACODYNAMICS

Rasa : Katu, Tikta

Guna : Laghu, Ruksha, Teekshna

Veerya : Ushna

Vipaka : Katu

Doshaghnata : Kaphavatashamaka, Kaphapittasamshodhaka

Rogaghnata : Netraroga, vrana, vrishchikadansha, sarpadansha, karnashoola, pama, aruchi, chhardi, agnimandya, udararoga, shoda, adhmana, arsha, pittashmari, krimi, hridaroga, raktavikara, pandu, gandamala, amavata, shosha, kasa swasa and in charma rogas.

DOSES

Juices 10 – 20 ml

Root powder 3 / 6 gm

Seeds – 3gms

Kshara (water soluble extract of ash) – ½ - 2 gm

CHITRAKA[6]

Botanical name : Plumbago zeylanica linn

Family : Plumbaginaceae

Classical name : Chitraka, Agni, Pathi, Analanama, Vyala, Ushana

Parts used: Root, root bark.

Kinds and Varieties

There are four classical varieties in Nigantu

1. Sweta
2. Pita
3. Rakta
4. Krishna based on mainly color of the flower

Mainly white and red are used widely but red variety of chitraka is very rare in nature.

PHARMACODYNAMICS

Rasa : Katu

Guna : Laghu, Ruksha, Teekshna

Veerya : Ushna

Vipaka : Katu

Doshagnata : Vatakaphashamaka, Pittavardhaka

ROGAGHNATA: Shotha, switra, shleepada, amavata, nadidaurbalya, vatayadi, agnimandhya, ajirna, udarashoola, yakridvikara, arsha, grahani, gudashotha, jeera partishyaya, kasa, rajorodha, prasutivikara, makkalashoola, kustha, vishamajwara.

Guna: Dipaniya, Triptighna, sulaprashamana, Bhedaniya, Arsoghna, Lekhaniya.

MATERIALS AND METHODS

A clinical study was done on the disease and Nasa Arshas with Chitrakadi Kshara Pratisarana and Arkadi Kshara Pratisarana to compare their efficacies.

Aims and objectives of the study

1. To evaluate the efficacy of Chitrakadi Kshara as external application.
2. To evaluate the efficacy of Arkadi Kshara as external application.
3. To evaluate the comparative effect of Chitrakadi Kshara as external application and Arkadi Kshara as external application.

INCLUSION CRITERIA

- Patients aged above 16yrs and below 70yrs.
- Patients having Kaphaja type of Nasarshas.
- Patients with unilateral maxillary polyps.

EXCLUSION CRITERIA

- Patients with other systemic diseases.
- Patients with epistaxis and other type of polyps.
- Patients unfit for Kshara Karma.

Materials

1. Chitrakadi Kshara and Arkadi Kshara prepared as per classical references.
2. Head light.
3. Nasal Speculum.
4. Rhinoscopy.
5. Shalaka.
6. Cotton.
7. Glass dish.
8. Nimbu swarasa

Design of study

- A total number of 30 patients were selected for the study. A detailed history regarding the etiological factors, personal habits, living status, occupation etc. were recorded.
- The diagnosis was confirmed by rhinoscopy, probing and subjective findings.
- The cases were examined carefully and documented in the clinical case sheet designed for the purpose.
- 30 patients selected for the study were divided into two groups of 15 each under group A and group B.
- Group A: Patients under this group were treated with Chitrakadi Kshara as external application.
- Group B: Patients under this group were treated with Arkadi Kshara as external application.

Methodology in Group A

Application of Chitrakadi Kshara was carried out according to trividha karma

1. Poorva karma (Pre operative procedure)
2. Pradhana karma (Operative procedure)
3. Paschat karma (Post operative procedure)

Poorva Karma

The patient was asked to wash his face, especially clean the nose by sneezing and wiping out any discharge from the nose.

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

The lig-10% was sprayed and checked for anesthetic action. Then Kshara was applied with the help of shalaka rolled with sterile cotton at the tip and retained on the polyp 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 guaze and the area was smeared with Nimbu Swarasa and for vrunaropana the Jatyadi Taila (Sha.Sa.Ma.Kha.9/168-171) application has been administered for 6 days. The Patients were strictly instructed regarding pathyapathya.

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 Nasarshas designed for the clinical trial.

Methodology in Group B

Group-B: Arkadi Kshara was used as external application.

The same method of treatment mentioned under Group A was followed in Group B also. But Arkadi Kshara was used in place of Chitrakadi Kshara and the duration of treatment was same as in the case of Group A.

Assessment of parameters

i. Subjective parameters with categorization on the basis of severity.

a. Nasavarodha due to nasa ankura

Nil: No difficulty in breathing

Mild: Difficulty in breathing through the nose occasionally during sleep.

Moderate: Intermittent difficulty in breathing through the nose during night.

Severe: Difficulty in breathing through the nose both during day and night.

b. Kshavathu

Nil: No sneezing

Mild: Occasional sneezing which lasts for a few seconds.

Moderate: Frequent sneezing which lasts for a few seconds.

Severe: More frequent sneezing lasting more than thirty seconds

c. Nasasrava

No discharge

Mild: Intermittent scanty discharge.

Moderate: Intermittent more discharge.

Severe: Continuous discharge.

d. Shira Shoola: Intensity of pain as expressed by the patient.

Nil: No headache

Mild: Intermittent pain which is tolerable.

Moderate: Constant pain but tolerable.

Severe: Constant intolerable pain making the patient to seek medical advice.

Objective parameters

AEC Good <200->400 count

Average <401->550

Poor >550

Size of Polyp : Draksha

Kalaya

Masha

Mudga

Investigations : (If needed)

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 4 categories.

1. Marked Improvement >75%
2. Moderate Improvement >50 - <75
3. Mild Improvement >25 - <50
4. No Improvement < 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.

Incidence of severity of lakshana in both groups (BT)

SL.NO	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	5	6	10	9	0	0	0	0	15	15
2	Kshavathu	3	6	12	9	0	0	0	0	15	15
3	Nasasrava	2	4	7	5	6	6	0	0	15	15
4	Shirashula	0	3	2	7	13	5	0	0	15	15

Out of 30 patients selected for clinical study, 30 patients (100%) were having Nasavarodha, 30 patients(100%) were having Kshavathu, 30 patients(100%) were having Nasasrava, 30 patients(100%) were having Shirashula.

Changes on the 7th day of study in both groups

SL. NO	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	0	0	8	7	7	9	0	0	15	15
2	Kshavathu	0	0	9	3	6	12	0	3	15	12
3	Nasasrava	0	0	5	2	9	13	1	0	14	15
4	Shirashula	0	0	0	1	13	10	2	4	11	11

Out of 30 patients selected for clinical study, 30 patients (100%) were having Nasavarodha, 27 patients (90%) were having Kshavathu, 29 patients (96.6%) were having Nasasrava, 22 patients (73.3%) were having Shirashula.

Changes on the 14th day of study in both groups

SL. NO	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	0	0	5	1	11	12	0	2	15	13
2	Kshavathu	0	0	3	0	11	13	1	2	14	13
3	Nasasrava	0	0	3	1	10	9	2	5	13	10
4	Shirashula	0	0	0	0	9	8	6	7	9	8

Out of 30 patients selected for clinical study, 28 patients (93.3%) were having Nasavarodha, 27 patients (90%) were having Kshavathu, 23 patients (76.6%) were having Nasasrava, 17 patients (56.6%) were having Shirashula.

Changes on the 21th day of study in both groups

SL.NO	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	0	0	0	0	8	6	7	9	8	6
2	Kshavathu	0	0	0	0	9	6	6	9	9	6
3	Nasasrava	0	0	0	0	9	5	6	10	9	5
4	Shirashula	0	0	0	0	7	6	8	9	7	6

Out of 30 patients selected for clinical study, 14 patients (46.6%) were having Nasavarodha, 16 patients (53.3%) were having Kshavathu, 14 patients (46.6%) were having Nasasrava, 13 patients (43.3%) were having Shirashula.

Incidence of Size of Ankuras Group-A and Group-B (BT)

Size of ankuras	Group-A	Group-B	Total	Percentage
Draksha	6	10	16	53.3%
Kalaya	9	5	14	46.6%
Masha	0	0	0	0
Mudga	0	0	0	0

Out of 30 patients selected for clinical study, 16 (53.3%) patients had draksha size of polyp, 14 (46.6%) patients had kalaya size of polyp, no patients Have polyp size of masha and mudga.

Incidence of Size of Ankuras Group-A and Group-B (AT)

Size of ankuras	Group-A	Group-B	Total	Percentage
Draksha	0	0	0	0
Kalaya	0	0	0	0
Masha	9	4	13	43.3%
Mudga	6	11	17	56.6%

Out of 30 patients selected for clinical study, after treatment and follow up 13 (43.3%) patients had masha size of polyp and 17 (56.6%) patients had mudga size of polyp.

Statistical Analysis of all features in Group A

Showing Statistical Analysis of all features in Group A

Features	BT	AT (21st day)	% Improvement	S.D.	S.E.	t value	p value	Interpretation
Nasavarodha	2.33	0.53	77.25	0.56	0.15	12.44	< 0.001	HS
Kshavathu	2.2	0.53	75.91	0.49	0.13	13.23	< 0.001	HS
Nasasrava	1.73	0.6	65.32	0.83	0.22	5.26	< 0.001	HS
Shirashoola	1.13	0.33	70.80	0.56	0.14	5.53	< 0.001	HS
AEC	478	388.67	18.69	45.43	11.73	7.62	< 0.001	HS

Statistical evaluation of all target features in Group A shows that highly significant results were noticed in Nasavarodha, Kshavatu, Nasasrava, Shirashoola, and AEC with ‘p’ value <0.001.

Statistical Analysis of all features in Group B

Showing Statistical Analysis of all features in Group B

Features	BT	AT (21st day)	% Improvement	S.D.	S.E.	t value	p value	Interpretation
Nasavarodha	2.53	0.40	84.19	0.64	0.17	12.91	< 0.001	HS
Kshavathu	1.8	0.4	77.78	1.06	0.27	5.14	< 0.001	HS
Nasasrava	1.47	0.34	77.55	0.92	0.24	4.79	< 0.001	HS
Shirashoola	1.4	0.4	71.43	0.85	0.22	4.58	< 0.001	HS
AEC	472	360.67	23.59	38.15	9.85	11.30	< 0.001	HS

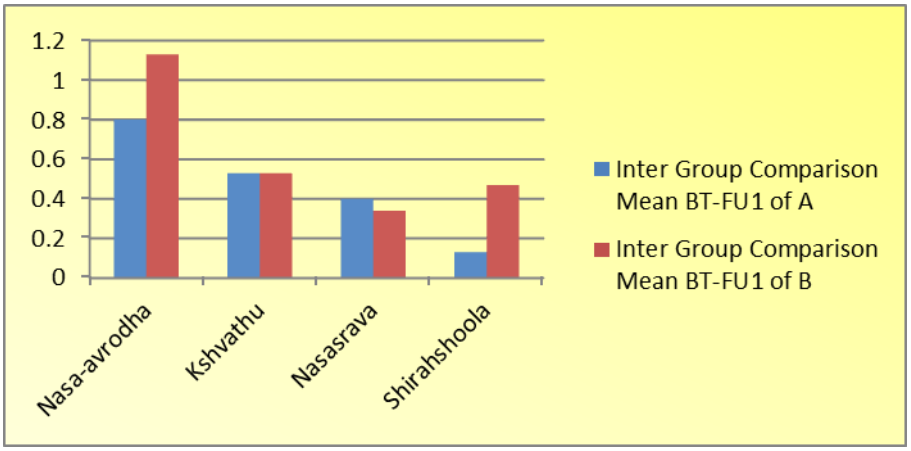
Statistical evaluation of all target features in Group B shows that highly significant results were noticed Nasavarodha, Kshavatu, Nasasrava, Shirashoola, and AEC with 'p' value <0.001.

Intergroup comparison

Difference in changes observed in all parameters after 1st follow up

Statistical status of inter-group difference of changes observed in clinical features

Parameters	Mean BT-FU1 of A	Mean BT-FU1 of B	Mean difference	SE (±)	't' Value	'p' Value	Remarks
Nasa-avrodha	0.8	1.13	-0.33	0.14	2.38	0.01	Sig
Kshvathu	0.53	0.53	00	0.30	00	0.50	NS
Nasasrava	0.4	0.34	0.06	0.31	0.21	0.42	NS
Shirahshoola	0.13	0.47	-0.34	0.25	1.32	0.09	NS



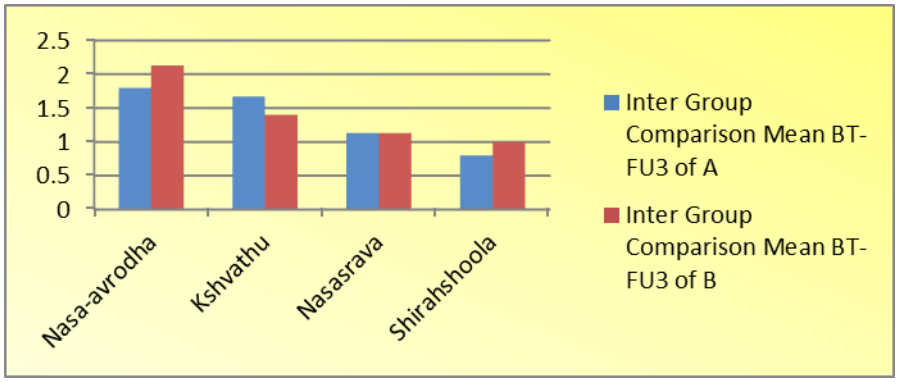
(Difference in changes observed in all parameters at FU1).

The inter group difference in results are insignificant in all parameters, when analyzed by unpaired't' test with 'p' value >0.01 for all four parameters after the end of 1st follow up period except Nasavarodha which is significant at the level of >0.01.

Difference in changes observed in all parameters at the time of 3rd follow up

Statistical status of inter-group difference of changes observed in clinical features

Parameters	Mean BT-FU3 of A	Mean BT-FU3 of B	Mean difference	SE (±)	't' Value	'p' Value	Remarks
Nasa-avrodha	1.80	2.13	-0.33	0.21	1.52	0.07	NS
Kshvathu	1.67	1.40	0.27	0.30	0.89	0.19	NS
Nasasrava	1.13	1.13	00	0.32	00	0.50	NS
Shirahshoola	0.80	1.00	-0.20	0.26	0.76	0.22	NS



(Difference in changes observed in all parameters at FU3).

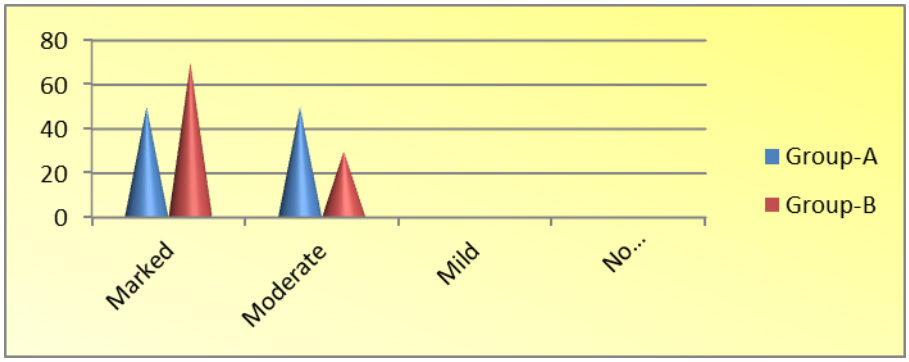
The above mentioned data shows statistically intergroup difference in results are insignificant in all clinical parameters when analyzed by unpaired 't' test with 'p' value 0.01 for all parameters at the time 3rd of follow up.

OVERALL IMPROVEMENT

Overall Improvement in Clinical features Table No. 36

Overall Improvement in Clinical features of Nasarsha in both groups

Overall Improvement	Group-A		Group-B	
	F	%	F	%
Marked	2	50	3	70
Moderate	2	50	1	30
Mild	0	0	0	0
No Improvement	0	0	0	0



(Overall Improvement in Clinical features).

Overall assessment of improvement in clinical features shows marked improvement in 50% features, moderate improvement in 50% features in Group A. and Overall assessment of improvement in clinical features shows marked improvement in 70% features, moderate improvement in 30% features in Group B.

Overall improvement

In Group A, including overall features of 30 patients we got 2 clinical features in marked improvement level and 2 features in the moderate improvement. In Group B, including overall features of 30 patients we got 3 clinical features in marked improvement level and 1 feature in the moderate improvement.

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

H2: Hypothesis has been accepted that the Arkadi Kshara is more effective than Chitrakadi Kshara on the basis of overall assessment of clinical features. But statistically intergroup comparison was proved to be insignificant in all the parameters.

CONCLUSION

Nidana explained in the Ayurvedic classics seems to be initiating or precipitating factors for Nasarsha. Vihara Sambhandi Nidanas like exposure to dust (Raja), smoke (Dhooma), cold breeze (Sheetavayu) and Nidanarthakara Roga like Pratishyaya have significant role in causing Nasarsha.

The Ksharas, Chitraka and Arka were found to be very effective in relieving the severity of disease.

The results were encouraging to start with just after the application of the Ksharas, there was complete relief of the symptoms of Nasal Polyp in almost patients in the study, whereas others also reported alleviation of the same.

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 Arka Kshara showed a bit of better result, there was not much to declared one of the Ksharas to be better than the other.

Statistical comparison of the two groups (unpaired “t” test) also proclaimed that there was no significant difference between the Group A and Group B with respect to the different clinical features.

Both the Ksharas, Chitraka and Arka were highly effective in providing relief to the patients of Nasarsha; as such Kshara Karma can be recognized as a potent and worthwhile procedure in the management of Nasarsha.

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