

**RANDOMIZED CLINICAL STUDY ON UPASHAYATMAKA EFFECT OF KOLADI
PRADEHA IN APABAHUKA VIS-A-VIS FROZEN SHOULDER****Anupama. F. Konanavar¹, Raju. Y. Timmapur², Mamataj. H. Walikar³**

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**ABSTRACT**

Apabahuka is one among those *Vata Vikaras* resulting in *Karmakshaya* of *Bahu* and which hampers most of the functions of the hand. In classics, it is said as *Vataja Nanatmaja vikara*. As Pain and *Amsa sandhi shoola* and *stabdhata* are the main symptoms of *Apabahuka*, it can be correlated to Frozen shoulder which is characterized by pain and restriction of all the shoulder movements. For the present *Upashayatmaka* study on 30 subjects of *Apabahuka*, *Koladi pradeha* was advised as an application on *Amsa sandhi* for twice a day up to 15 days and the following results were obtained.

The overall effect of 30 subjects of *Apabahuka* was, that a maximum of 14 (46.66%) subjects had mild relief, 10 (33.33%) subjects had moderate relief, 3 (10%) subjects had no relief and 3 (10%) subjects had marked relief.

Keywords: Apabahuka, Amsa sandhi, Koladi pradeha, Upashaya, Frozen shoulder.

INTRODUCTION

Due to a busy life schedule, people are unable to follow *Dinacharya*¹ and *Ritucharya*² which may lead to many diseases and most of the diseases may not be life-threatening but hamper day to day life activities of humans. *Apabahuka* is one among these. *Apabahuka* is enumerated as *Vataja Nanatmaja Vyadhi* in *Sharangadhara Samhita*.³ *Acharya Charaka* has not mentioned *Apabahuka* but mentioned *Bahushirshagata Vata*⁴. *Acharya Sushruta*, *Vagbhata*, and *Madhavakara* have explained *Apabahuka* under *Vatavyadhi*^{5,6}. *Acharya Dalhana* has explained the involvement of *Kapha Dosh*.⁷ In *Madhukosha* commentary *Vata* and *Kapha* are mentioned as causative factors for the manifestation of *Apabahuka*.⁸ Hence *Vata* along with *Kaphanubandha* is responsible.

Due to *Vatakara nidana* like *Atiplavana*, *Ativyayama*, *Atibharavahana*, *Balavat vighraha*, *Dukkha Shayya*, *Vataprakopa* takes place, and this vitiated *Vata Dosh* localizes around the *Amsa Pradesha* and causes *Shoshana of Amsa Bandha* as well as *Sira Sankocha* in *Amsa Pradesha* which presents clinical features like *Sandhi shoola* (Joint Pain), *Bahupraspandanahara*, *Amsa shosha* (wasting of Shoulder girdle) resulting in *Karmakshaya* of *Bahu*. Owing to its clinical presentation it can be correlated to Frozen Shoulder also called Adhesive Capsulitis which affects the shoulder joint.⁹ A capsule surrounding the shoulder joint holds the bones, ligaments, and tendons involved there. In Frozen Shoulder, this capsule becomes inflamed and gets thickened and tightened. This results in pain, stiffness, and restricted movements of the shoulder joint.¹⁰

Frozen shoulder is commonly seen in people aged 40-70 years that too more in Females i.e., 70% of people with frozen shoulder are women.

Generally, sufferers go for analgesics, corticosteroids, etc. which on long-term use may create complications. Considering these all points, *Upashayatmaka's* study on *Apabahuka* is chosen. *Upashaya* is "*sukhanubandaha ityarthaha*"¹¹ means

which provides comfort or soothing effect to the patient.

Here, *Koladi Pradeha*¹² containing *kola*, *kulattha*, *masha*, *kushta*, *vacha*, *Eranda*, *suradaru*, *rasna*, *atasi*, *shatahva*, and *yava* which exhibit *Vata Kaphahara* action is taken for the *Upashayatmaka* study.

So, to observe the *Upashaya Anupashaya* of *Koladi Pradeha* in *Apabahuka*, study is being done.

METHODOLOGY

Sample size: 30 subjects fulfilling the diagnostic and inclusion criteria were selected randomly for the study under a single group.

INCLUSION CRITERIA:

- Subjects presenting with signs and symptoms of *Apabahuka* and Frozen shoulder
- Subjects of the age group of 30-70 years irrespective of their sex, religion, occupation, and socioeconomic status.

EXCLUSION CRITERIA:

- Subjects have a chronic contagious infectious diseases such as active tuberculosis, hepatitis B or C, and HIV.
- Auto immune disorders like SLE, RA, etc.
- Fracture and Dislocation of Shoulder joints
- Subjects with uncontrolled Diabetes Mellitus

Interventions:

Aushadha: *Koladi Pradeha* (prepared by using *Sukoshna Kanji*)

Thickness: ¼th anguli, till *pradeha* dries up

Duration: 15 days (Twice a day)

Follow up: Once in 15 days for 1 month

DIAGNOSTIC CRITERIA

SUBJECTIVE PARAMETERS:

1. *Amsa Sandhi Shula* (Shoulder Joint Pain).
2. *Amsa Sandhi Sthabdhatha* (Stiffness of shoulder joint).

OBJECTIVE PARAMETERS:

1. Localized Tenderness
2. Restricted range of movements (Goniometer reading)

ASSESSMENT CRITERIA

Subjective parameters:

- 1) *Amsa Sandhi Sthabdhatha*

- a) Can do work unaffectedly Grade -0
- b) Can do strenuous work with difficulty Grade -1
- c) Can do daily routine work with great difficulty Grade -2
- d) Cannot do any work Grade -3

2) Amsa Sandhi Shoala

- a) No pain Grade -0
- b) Mild pain, can do strenuous work with difficulty Grade -1
- c) Moderate pain, can do the normal work with support Grade -2
- d) Severe pain, unable to do work at all Grade -3

Objective parameters

1) On Palpation-tenderness

- a) No tenderness Grade -0
- b) Patient complains of pain (tolerable) on palpation Grade -1
- c) Patient complains of pain and grimace on palpation Grade -2
- d) Patient complains of pain, grimace, and withdrew joint on palpation Grade -3
- e) Patient complains of severe pain, grimace, and withdrew joint on palpation Grade -4

2) Range of Shoulder movements (Goniometric readings)

FLEXION

- a) Up to 180° Grade - 0
- b) Up to 135° Grade - 1
- c) Up to 90° Grade 2
- d) Up to 45° Grade - 3
- e) Cannot flex Grade - 4

EXTENSION

- a) Up to 60° Grade - 0
- b) Up to 45° Grade - 1
- c) Up to 30° Grade - 2
- d) Up to 15° Grade - 3
- e) Cannot extend Grade- 4

INTERNAL ROTATION

- a) Up to 90° Grade - 0
- b) Up to 70° Grade - 1
- c) Up to 50° Grade - 2
- d) Up to 30° Grade - 3
- e) Cannot rotate Grade - 4

EXTERNAL ROTATION

- a) Up to 90° Grade - 0
- b) Up to 70° Grade - 1
- c) Up to 50° Grade - 2
- d) Up to 30° Grade- 3
- e) Cannot rotate Grade - 4

ABDUCTION

- a) Up to 180° Grade - 0
- b) Up to 135° Grade - 1
- c) Up to 90° Grade - 2
- d) Up to 45° Grade - 3
- e) Cannot abduct Grade - 4

ADDUCTION

- a) Up to 0° Grade - 0
- b) Up to 45° Grade - 1
- c) Up to 90° Grade - 2
- d) Up to 135° Grade- 3
- e) Up to 180° Grade - 4

OVERALL ASSESSMENT CRITERIA:

The data, which are obtained by the observational clinical trial, were statistically analyzed by applying the student's t-test.

Relief of subjective and objective parameters before and after the treatment were assessed and the result was recorded as:

Marked relief - Above 75% improvement

Moderate relief - 50%-75% improvement

Mild relief - 25%-50% Improvement

No relief - Below 25% improvement

Ingredients of Koladi Pradeha:

Kola, Kulattha, Masha, kushta, vacha, Eranda, suradaru, rasna, atasi, shatahva, yava, and ushna Kanji is used for the application.

OBSERVATIONS

Table 01: DISTRIBUTION BASED ON OVERALL ASSESSMENT OF SUBJECTIVE PARAMETER

SUBJECTIVE PARAMETER	TOTAL NO OF SUBJECTS			
	BT	%	AT	%

Amsa Sandhi Shoola	30	100 %	22	73.33 %
Amsa Sandhi Stabdhatta	30	100 %	16	53.33 %

Table 02: DISTRIBUTION BASED ON OVERALL ASSESSMENT OF OBJECTIVE PARAMETER

OBJECTIVE PARAMETER	TOTAL NO. OF SUBJECTS			
	BT	%	AT	%
Tenderness (On palpation)	19	66.66 %	10	33.33 %
ROM – Flexion	25	83.33 %	13	43.33 %
ROM – Extension	30	100 %	19	63.33 %
ROM – Internal rotation	06	20.00 %	02	6.66 %
ROM – External rotation	26	86.66 %	14	46.66 %
ROM – Abduction	29	96.66 %	24	80 %
ROM – Adduction	10	33.33 %	05	16.66 %

RESULTS

Table No 1: SHOWING EFFECT ON AMSA SANDHI SHULA

No. of subjects	MEAN		Mean difference	% Of relief	SD	SE	t value	P value	Statistical significance
	BT	AT							
30	1.8	0.93	0.27	48.33%	0.35	0.06	13.72	<0.0001	HS

Table 02: SHOWING EFFECT ON AMSA SANDHI STABDHATA

No. of subjects	MEAN		Mean difference	% Of relief	SD	SE	t value	P value	Statistical significance
	BT	AT							
30	1.47	0.9	0.57	38.78 %	0.50	0.09	6.158	<0.0001	HS

Table 03: SHOWING EFFECT ON TENDERNESS (ON PALPATION)

No. of subjects	MEAN		Mean difference	% Of relief	SD	SE	t value	P value	Statistical significance
	BT	AT							
30	0.73	0.33	0.4	54.79%	0.50	0.09	4.39	<0.0001	HS

Table. No. 4: SHOWING EFFECT ON FLEXION

No. of subjects	MEAN		Mean difference	% Of relief	SD	SE	t value	P value	Statistical significance
	BT	AT							
30	1	0.56	0.44	44 %	0.50	0.09	4.709	<0.0001	HS

Table. No. 5: SHOWING EFFECT ON EXTENSION

No. of subjects	MEAN		Mean difference	% Of relief	SD	SE	t value	P value	Statistical significance
	BT	AT							
30	1.46	0.73	0.73	50%	0.43	0.08	9.761	<0.0001	HS

No. of	MEAN	Mean	% Of	SD	SE	t value	P value	Statistical
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subjects	BT	AT	difference	relief					significance
30	0.2	0.06	0.14	70%	0.35	0.06	2.112	0.0434	Significant

Table No. 6: SHOWING EFFECT ON INTERNAL ROTATION

Table 07: SHOWING EFFECT ON EXTERNAL ROTATION

No. of subjects	MEAN		Mean difference	% Of relief	SD	SE	t value	P value	Statistical significance
	BT	AT							
30	1.13	0.63	0.5	44.25%	0.51	0.09	5.385	<0.0001	HS

Table 08: SHOWING EFFECT ON ABDUCTION

No. of subjects	MEAN		Mean difference	% Of relief	SD	SE	t value	P value	Statistical significance
	BT	AT							
30	1.3	0.9	0.4	30.77%	0.45	0.08	8.93	<0.0001	HS

Table 09: SHOWING EFFECT ON ADDUCTION

No. of subjects	MEAN		Mean difference	% Of relief	SD	SE	t value	P value	Statistical significance
	BT	AT							
30	0.33	0.16	0.17	51.52%	0.43	0.08	2.408	0.0226	Significant

Table 10: Overall effect of Koladi Pradeha on 30 subjects of Apabahuka

% Of RELIEF	SUBJECTS	PERCENTAGE	REMARKS
> 75 %	03	10 %	Marked relief
50 – 75 %	08	26.67 %	Moderate relief
25 – 50 %	15	50 %	Mild relief
< 25 %	04	13.33 %	No relief

DISCUSSION

Discussion improves knowledge from all angles and becomes the base for the establishment of the concept. Any research work without a discussion about its nature, utility, and importance is said to be incomplete and meaningless. Movement is the sign of life that demarcates living beings from non-living things, life without movement for any living being is said to be the worst tragedy, it has been estimated by a research group that the hand performs approximately a thousand different functions in ordinary day-to-day activity. Apabahuka is one among those Vata Vikaras resulting in Karmakshaya of Bahu and which hampers most of the foresaid functions of the hand. And probably this may be one of the reasons for considering Vata Vyadhi among Asta Mahagadas in Ayurvedic Literature. The specific Nidana of Apabahuka has not been

separately mentioned. However, the Nidanas of Vata Vyadhi in general may be considered as Nidana for Apabahuka. While enlisting the Nidana of Vata Vyadhi many Nidana have been elaborated. Amongst them, the Nidanas like Mithya Ahara, Ativyayama, Vishama Chestha, Dhatu Kshaya, and Marmabhighata should also be considered which are said to be hetus of Apabahuka. As Madhukosha says that in Apabahuka both Vata and Kapha dosha is involved. Along with Vataja nidana, Kaphaja nidana is also responsible for the causation of Apabahuka. When pradeha is applied over the surface of skin opposite to the direction of the hair on it, with a proper base, the active principles of the ingredients of lepa are released into that base. After that, this combination enters the romakooopa and further gets absorbed through the Swedavahi srotas and Siramukha. This method of applying the drug increases the skin temperature which might be

speeding up the pilosebaceous uptake and skin permeation of the drug as heat causes dilation of the capillary end.

Results on the effect of Koladi pradeha on subjective parameters showed that among 30 subjects all 30 had Amsa sandhi shoola and Amsa sandhi stabdhata, which after treatment reduced to 22 and 16 respectively. The relief was 48.33% in Amsa sandhi shoola and Amsa sandhi stabdhata, relief was 38.78%.

In objective parameters, 19 subjects who had tenderness on palpation, were reduced to 10 after treatment which showed relief by 54.79%. 25 subjects who had difficulty in Flexion were reduced to 13 after treatment and relief was 44%. 30 subjects who showed difficulty in Extension, were reduced to 19 after treatment showing relief by 50%. The number of subjects with difficulty in Internal rotation was reduced from 6 to 2 after treatment which showed relief by 70%. 26 subjects had difficulty in external rotation after treatment subjects were reduced to 14 showing relief by 44.25%. 29 subjects with difficulty in Abduction were reduced to 24 after treatment which showed relief by 30.77%. 10 subjects with difficulty in Adduction were reduced to 5 and the relief was 51.52%.

CONCLUSION

Apabahuka is one among Nanatmaja vata vyadhi as in this Vata dosha plays a major role and takes Adhithana in Amsa Sandhi. Analysis of textual references regarding the aetiology of Apabahuka discloses the fact that Vatakara and kaphakara nidana plays a significant role in the manifestation of Apabahuka. Lakshanas of Apabahuka are Amsasandhi shula, Amsa sandhi stabdhata, Bahucheshta nasha. These lakshanas have a close resemblance with symptoms of the Frozen shoulder in modern science where Pain, Stiffness, tenderness, and restricted movements are the most regular and common complaints.

Apabahuka is managed by Shamana and bahirparimarjana chikitsa. Bahirparimarjana in the form of Lepa was selected which is easily done and

acts as Sthanika chikitsa for fast relief. In the present study, it was observed that Apabahuka was more seen in the age group between 40 -50 years in both sexes. Out of 30, females (16 subjects) were more affected by Apabahuka than males. Apabahuka was more observed in Housewives, middle-class people, and subjects who followed irregular dietary habits. It was found that Aharaja nidana like Ruksha guna, katu rasa pradhana ahara and vishamashana and viharaja nidana like, Atibharavahana and Dukkhashayya were found to be more common causes in manifestation of Apabahuka. Upashaya is one of the effective tools mentioned in Ayurveda for diagnosis and to get relief from diseases. The present study aimed to analyse the utility of Koladi pradeha. The drugs of Koladi pradeha had the following properties: Vatakapha hara, Shoolahara, and Anti-inflammatory actions. The student's t-test was applied to the obtained data to analyse the results statistically. In 30 subjects of Apabahuka, a maximum of 15 (50%) subjects had mild relief, 08 (26.66%) subjects had moderate relief, 4 (13.33%) subjects had no relief and 3 (10%) subjects had marked relief. Overall effect: The formulation "Koladi Pradeha" shows a mild Upashayatmaka effect in Apabahuka. The therapeutic effects of Vedana Sthapaka and Stambha Hara were achieved, by relieving Shoola and improving the movement of Bahu.

No adverse effects of drugs were seen in any of the subjects.

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