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Research Article

DASHAMOOLADI YAMAKA SNEHA NASYA WITH SHAMANAUSHADI IN THE MANAGEMENT OF AVABAHUKA VIS-A-VIS FROZEN SHOULDER – A CLINICAL STUDY

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Abstract

In the fast developing technological era, most of the diseases may not be life threatening but hamper day-to-day life of a person. It is said that "pain is often severe enough to disturb the sleep". Avabahuka(frozen shoulder) is one such vata predominant disease which is painful and affects the normal routine life style of an individual. Ayurvedic treatment modality is nasya karma with samanaaushadi for Avabahuka (frozen shoulder). Dashamooladi yamaka sneha was used for nasya and Maharasnadi kwatha with Yogarajaguggulu as shamanaushadi was carried out clinically and found good results statistically.

Keywords: Dashamooladiyamaka; Snehanasya; Avabahuka; Frozen Shoulder.

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INTRODUCTION

A number of peri-articular disorders have become increasingly common over the past two or three decades.[1] Self reported prevalence of shoulder pain is estimated to be between 16% to 26%. Estimated prevalence is 11% to 30% in diabetic patients and 2% to 10% in non-diabetics. 5% of consecutive new patients attend a shoulder clinic for the complaint of gleno-humeral disorders like frozen shoulder. It is more common in women between the ages of 40 to 70 year.[2] According to the statistical data, cases of diabetes mellitus are more prevalent in India, so cases of Frozen Shoulder will also be more.

Avabahuka (frozen shoulder) is one such vata predominant disease which is painful. In Avabahuka vitiated Vata Dosha localizes in amsapradesha and does the sankocha of siras leading to the manifestations.[3] Sirasankocha and bahupraspanditaharam can be correlated with painful stiffness and loss of motion of the shoulder joint. With these it can be effectively paralleled with the condition Frozen Shoulder.

Nasya is said to be the first line of treatment in the management of Avabahuka.[4] Bhrumananasya is indicated for Avabahuka in the classics.[5] There is direct reference of nasya with Dashamooladi yamaka sneha, which is mentioned in Chakradatta vatavyaadhi chikitsa. Maharasnadi kwatha with Yogaraja guggulu as anupana is indicated for Avabahuka as a shamanaushadi in Sharangadhara samhitha. Hence an effort has been made to evaluate the effect of Shamanaushadi with Nasya in the management of Avabahuka.

MATERIALS AND METHODS

Literary source

Ayurvedic, Modern literatures and contemporary texts including the journals, websites etc was reviewed pertaining to the drug and diseases in the intended study.

Pharmaceutical source

The formulations selected for research work Dashamuladi Yamaka Sneha Nasya and Maharasnadi Kwatha Choorna, Yogaraja Guggulu was prepared in the M.I.A.M.S. pharmacy as per the Standard Operative procedure.

Preparation of medicine

Dashamooladi yamaka sneha

Kalka was prepared out of dashamoola, bala, masha. Moorchita tila taila and Moorchita ghrta - in equal parts was taken as sneha. Kwatha was prepared with Dashamoola, bala and masha as per general kwatha prepation mentioned in the classics.

Dashamooladi yamaka sneha was prepared by taking kalka, sneha, kwatha in the ratio 1:4:16.

To 1 part of Sneha, one- fourth part of Kalka and 16 parts of Kwatha as Drava Dravya was added and cooked until Mrudu Paka Lakshanas were obtained. Then the sneha was filtered and stored. (Table 1)

Maharasnadi Kwatha Choorna[6]

All the individual drugs were checked for their identity, quantity and quality. Maharasnadi kwatha choorna was prepared by taking double part of rasna and 1 part each of Erandamoola, Dhanvayasa, Bala, Devadaaru, Shati, Vacha, Vasa, Nagara, Pathya, Musta, Punarnava, Guduchi, Vriddhadaru, Shatapushpa, Gokshura, Ashwagandha, Prativisha, Kritamaala, Shatavari, Krishna, Sahachara, Kantakari, Dhanyaka and Brihati. As per the above quantity the individual drugs are mixed and subjected to size reduction in a pulverizer to get coarse powder.

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Table 1: Ingredients of dashamooladi yamaka sneha (chakradatta)

Sanskrit Name	Botanical Name	Parts	Ratio
Shalaparni	*Desmodium gangeticum*	Mula	1
Prishniparni	*Uraria picta*	Mula	1
Brihati	*Solanum indicum*	Mula	1
Kantakari	*Solanum xanthocarpum*	Mula	1
Gokshura	*Tribulus terrestris*	Mula	1
Bilva	*Aegle marmelos*	Mula	1
Agnimantha	*Premna mucronata*	Mula	1
Shyonaka	*Oroxylum indicum*	Mula	1
Patala	*Stereospermum suaveolens*	Mula	1
Gambharii	*Gmelina arborea*	Mula	1
Bala	*Sida cordifolia*	Mula	1
Masha	*Vigna mungo*	Mula	1

The 100 ml of kashaya was prepared by taking 50 g of Maharasnadi Kwatha Choorna with 8 parts of water, heated on the mild fire and reduced to 1/ 4thparts (100 ml) and divided in two doses per day. (Table 2)

Yogarajaguggulu[7]

It is prepared by taking 1 part each of Nagara, Pippali, Chavya, Pippalimoola, Chitraka, Bhrsta Hingu, Ajamoda, Sarshapa, Jeeraka Dvaya, Renuka, Indrayava, Patha, Vidanga, Gajapippali, Katuka, Ativisha, Bharngi, Vacha, Murva and added with 40 parts of triphala and 60 parts of guggulu. Then bhasma of metals like vanga, roupya, naga and minerals like abhraka, mandoora and rasa sindhoora are added in the quantity of 1 pala each. All ingredients should be boiled to suitable consistency and the above powders are mixed in it. This is made into a fine paste and kept in a vessel stained with ghee. Then make the pills weighing 500 mg. Tablets are prepared with (SOP)Standard Operating Procedures. (Table 3)

Method of administration to the patient

Maharasnadi kwatha choorna - The coarse powder (kwatha choorna) was packed 50 g and the same packet of 30 was sealed for 30 days. Yogarajaguggulu - 500 g pills, 3 packets of 60 tablets in each were sealed for 30 days.

Clinical source

Patients who fulfill the inclusion criteria were randomly selected from OPD and IPD of Muniyal Institute of Ayurveda Medical Sciences and Hospital, Manipal and also from referral sources and special camps conducted for the purpose. The present study is a single blind randomized clinical study.

Inclusion criteria

- Patients between the age group of 20-60 years will be selected.
- Patients presenting with classical signs and symptoms of Avabahuka
- Patients fit for Nasya Karma.

Exclusion criteria

- Patients below 20 years & above 60 years are excluded from the study.
- Patients having fracture or dislocation of shoulder joint.
- Pregnant and Lactating mothers
- Patients suffering from any infective conditions
- Patients suffering from any other systemic disorder, the treatment of which intervenes the procedure of Avabahuka treatment.

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Table 2: Ingredients of maharasnadi kwatha choorna

Name	Botanical Name	Parts	Ratio
Rasna	*Alpinia officinarum*	Mula (root)	2
Dhanvayasa	*Fagonia cretica*	Samula (whole plant)	1
Bala	*Sida cordifolia*	Mula (root)	1
Erandamoola	*Ricinus communis*	Mula (root)	1
Devadaaru	*Cedrus deodara*	Heart wood	1
Shati	*Hedychium spicatum*	Mula (root)	1
Vacha	*Acorus calamus*	Mula (root)	1
Vasa	*Adhatoda vasica*	Samula (whole plant)	1
Nagara	*Zingiber officinale*	Rhizome	1
Pathya	*Terminalia chebula*	Fruit rind	1
Musta	*Cyperus rotundus*	Rhizome	1
Guduchi	*Tinospora cordifolia*	Stem	1
Vriddhadaru	*Argeria speciosa*	Stem	1
Shatapushpa	*Anethum sova*	Seeds	1
Gokshura	*Tribulus terrestris*	Samula (whole plant)	1
Ashwagandha	*Withania somnifera*	Roots	1
Prativisha	*Aconitum heterophyllum*	Roots	1
Kritamaala	*Cassia fistula*	Bark	1
Shatavari	*Asperagus racemosus*	Root	1
Krishna	*Piper longum*	Fruit	1
Sahachara	*Barleria prionitis*	Samula (whole plant)	1
Kantakari	*Solanum xanthocarpum*	Samula (whole plant)	1
Dhanyaka	*Coriandrum sativum*	Seeds	1
Brihati	*Solanum indicum*	Samula (whole plant)	1

Table 3: Ingredients of Yogarajaguggulu

Name	Botanical Name	Parts	Ratio
Nagara	*Zingiber officinale*	Rhizome	1 part
Pippali	*Piper longum*	Fruit	
Cavya	*Piper chaba*	Root	
Pippali moola	*Piper longum*	Root	
Chitraka	*Plumbago zeylanica*	Root	
Bhrishta Hingu	*Ferula northax*	Exudates	
Ajamoda	*Apium graveolans*	Seeds	
Sarshapa	*Brassica campestris*	Seeds	
Jeeraka	*Cuminum cyminum*	Seeds	
Krshna Jeeraka	*Carum carvi*	Seeds	
Renuka	*Vitex negundo*	Whole plant	
Indrayava	*Hollarrhena antidycentrica*	Seeds	
Patha	*Cissampelos pariera*	Root	
Vidanga	*Embelia ribes*	Fruit	
Gajapippali	*Piper longum*	Fruit	
Katuka	*Pichrorhiza kurroa*	Root	
Ativisha	*Aconoitum heterophyllum*	Root	
Bharngi	*Clerodendrum indicum*	Whole plant	
Vacha	*Acorus calamus*	Root	
Murva	*Marsdenia tenacissima*	Whole plant	
Amalaki	*Emblica officinalis*	Fruit rind	
Haritaki	*Terminalia chebula*	Fruit rind	40 parts
Vibhitaki	*Terminalia bellarica*	Fruit rind	
Guggulu	*Commiphora mukul*	Gum	60 parts

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Laboratory Investigations

Blood: ESR, RBS, RA factor (if necessary)
Radiological: X-Ray of affected Shoulder Joint AP and Lat view (if necessary)

Intervention

A minimum of 15 patients fulfilling the diagnostic and inclusion criteria irrespective of their gender, caste, religion, education status and socio-economic status was taken for the study. Registered patient was randomly included for the study. Maharasnadi Kwatha 50ml BD (after food) with Yogaraja Guggulu 500 mg -3 BD as prakshepa was administered orally for 30 days and Dashamooladi Yamaka Sneha Nasya for 7 days. Duration of treatment was 30 days and Follow up from 31st and 45th day of treatment.

Assessment criteria

The assessment was done on the basis of following Subjective parameters and Objective parameters.

Subjective parameters

- Amsasandhi shoola – shoulder pain (Assessed by Visual Analogue Scale).
- Amsasandhi stabdhatha – shoulder stiffness
- Amsasosha – muscle wasting.

Objective parameters

- Local tenderness
- Bahupraspandhitahara – Restricted movements of shoulder region (Goniometer reading)

Range of Movement for shoulder flexion, extension, abduction, adduction, circumduction were measured using a goniometer.

Patients was assessed based on the assessment criteria and was observed for the symptomatic changes on 31st day. Follow up was taken on 45th day. The results obtained were analyzed statistically.

The clinical presentations of Avabahuka are given below and it was taken as the assessment criteria with scoring. (Table 4 and Table 5)

Statistical analysis

The scores of assessment criteria were analyzed statistically in the form of mean score B.T. (Before Treatment), A.T. (after Treatment), Difference of mean (B.T.- A.T), S.D (Standard Deviation), S.E (Standard Error). Students paired 't' test was carried out.

The results were considered Significant or Insignificant depending upon the value of P. Unpaired T test was carried out to compare the result between the groups.

RESULTS

Before the treatment, the mean score of Pain was 2.000, which was then reduced to 0.5333 after the treatment. There was 73.33% improvement. The Statistical analysis shows that the result was extremely significant at $p<0.0001$. The mean score of Stiffness before the treatment was 1.267, which was reduced to 0.6000 after the treatment. There was 52% improvement. The statistical analysis shows that the result was very significant at $p<0.0069$. The mean score of Tenderness was 0.5333 before the treatment which was reduced to 0.2000 after the treatment. There was 62% improvement. The statistical analysis shows that the result was significant at $p<0.0192$.The mean score of Wasting of muscles before the treatment was 0.4000 which was reduced to 0.2667 after the treatment. There was 33 % improvement.The statistical analysis shows that the result was not significant at $P<0.1643$.

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Table 4: Subjective criteria for assessment

Sl.No.	Parameters	Symptoms	Scoring
1	Pain	No pain	0
		Mild pain (up to 3 mark)	1
		Moderate pain (up to 4-6 marks)	2
		Severe pain (up to 7-8 marks)	3
		Intolerable pain (up to 9-10 marks)	4
2	Stiffness	No stiffness	0
		Mild, has difficulty in moving the joints without support	1
		Moderate, has difficulty in moving, can lift only with support	2
		Severe, unable to lift	3
3	Amshashosha (wasting of muscles)	No wasting	0
		Mild wasting, can do work	1
		Moderate wasting , works with difficulty	2
		Severe wasting, cannot move	3

Table 5: Objective criteria for assessment

Sl.No.	Parameters	Symptoms	Scoring
1	Tenderness	No pain on pressure	0
		Pain on pressure	1
		Winces with pain	2
		Winces & withdraws affected part	3
		Does not allow to touch the affected part	4
2	Bahupraspanditahara Flexion (Akunchana)	161^0-180^0	0
		81^0-160^0	1
		10^0 - 80^0	2
		Cannot flex	3
3	Extension (Prasarana)	41^0 - 60^0	0
		21^0 - 40^0	1
		0^0 - 20^0	2
		Cannot extend	3
4	Abduction (Unnamana)	161^0-180^0	0
		81^0-160^0	1
		10^0 - 80^0	2
		Cannot abduct	3
5	Adduction (Avannamana)	21^0 - 30^0	0
		11^0 - 20^0	1
		0^0 - 10^0	2
		Cannot adduct	3
6	Circumduction (Triyakgamana)	Normal	0
		Pain on Circumduction	1
		Circumduction not possible due to stiffness	2

Before the treatment the mean score was 1.400 which was reduced to 0.4667 after treatment 52.38% improvement. There was 58% improvement seen.The statistical analysis shows that the result was extremely significant at $p<0.0001$.

The mean score of Extension before the treatment was 1.733 which was reduced to 0.8000 after the treatment.

There was 53% improvement. The statistical analysis shows that the result was extremely significant at $p<0.0001$.

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The mean score before the treatment for the symptom Abduction is 0.9333 which was reduced to 0.4000 after the treatment. There was 57% improvement. The statistical analysis shows that the result was very significant at $p<0.0013$. The mean score before the treatment for Adduction is 1.667 which was reduced to 0.6667 after the treatment. There was 60% improvement. The statistical analysis shows that the result was extremely significant at $p<0.0001$. The mean score before the treatment for Circumduction is 1.000 which was reduced to 0.5333 after the treatment. There was 46% improvement. The statistical analysis shows that the result was very significant at $p<0.0035$. (Table 6)

DISCUSSION

Apabahuka has been described as one among the Vataja Nanatmaja Vyadhi. The Aggravated Vata, which takes Sthana Samsraya in Amsa Moola, wherein there is already Shleshaka Kapha Kshaya causes the Sirasankochana (constriction of the Sira) locally and produces Praspandanahara (restricted movement) of Bahu, manifesting as Apabahuka.

There are many clinical conditions described in the medical texts, which involves the shoulder joint, from which the most common condition is Adhesive Capsulitis or Frozen shoulder. Frozen shoulder is a condition that causes restricted active and passive glenohumeral movements in the shoulder joint.

The capsule surrounding the shoulder joint contract and form scar tissue called adhesions. Contraction of the capsule surrounding Shoulder joint and the formation of the adhesions cause the shoulder to become stiff and cause movements, more painful. There is also lack of synovial fluid, which normally lubricates the gap between arm bone and socket to help shoulder joint move.

In this condition pain and stiffness of the shoulder joint are the cardinal symptoms leading to inability of movement of the affected upper limb.

Amongst Panchakarma ‘Nasya karma’ carries importance as it deals with the most important body part ‘shiras’. Nasya karma is the foremost treatment for urdhwajatrugatavikara with varied classifications and its vast action. Hence it is indicated in manyasthambha, apabahuka, vishwachi, manyagraha, greevagraha, asthimajjagatavata, and bahushirshagatavata etc. There is a direct indication and utility of dashamooladi yamaka sneha for nasya karma in Apabahuka. This highlights the importance & relevance of Nasya karma in the treatment of Apabahuka.

In general the Brumhana, Tarpana qualities of marsha nasya are helpful in management of the degenerative conditions due to vata and the combination of ghruta and taila as yamakasneha processed with dashamoola, balaandmasha is having balya, brumhana with tridoshghna properties.

The media of used drug is lipid which is processed with dashamoola, bala and masha. Thus the lipid medium works as a carrier for these drugs through bilipid cellular membrane into the cells. This lipophilic nature of cell membrane provides higher transport and concentration into channels.

The respiratory mucosa is highly vascular in nature and for drug administration the respiratory epithelium is major pathway where absorption is facilitated into the systemic circulation utilizing the same pathways as amy other epithelia in body via transcellular & paracellular passive absorption, carrier mediated transport and absorption through transcytosis.

Vascular path transportation is possible through the pooling of nasal venous blood into the venous sinuses of the brain.

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Table 6: Effect on symptoms

Symptoms	Mean		(%)	SD	SE	"T" Value	"P" Value
	BT	AT					
Pain	2.000	0.5333	73.33	0.5164	0.1333	11.000	<0.0001
Stiffness	1.267	0.6000	52	0.8165	0.2108	3.162	<0.0069
Tenderness	0.5333	0.2000	62	0.4880	0.1260	2.646	0.0192
Wasting of muscles	0.4000	0.2667	33	0.3519	0.09085	1.468	0.1643
Flexion	1.400	0.4667	58	0.5936	0.1533	6.089	<0.0001
Extension	1.733	0.8000	53	0.5936	0.1533	6.089	<0.0001
Abduction	0.9333	0.4000	57	0.5164	0.1333	4.000	0.0013
Adduction	1.667	0.6667	60	0.6547	0.1690	5.916	<0.0001
Circumduction	1.000	0.5333	46	0.5164	0.1333	3.500	0.0035

On this basis, the drug absorption into meninges and related parts of intracranial organs can be worth considering point. The poorvakarma of nasya - mukhabhyanga and swedana activates the transdermal absorption, increases the localised peripheral blood circulation by vasodilatation effect in and around the nasal area which results in faster and better absorption of drug.

In the present study the nasyaaushadha is a yamakasnehaand hence it is good in vata - pittasamsargajaavastha and processing of the yamakasneha in dashamoola, Bala, and Masha increases its potency and spectrum on dosha shamana. Hence the active principles of dashamoola, bala and masha are carried by sneha dravya to the affected area and produces the shothahara, shoolahara, vata-kaphashamaka properties along with vata-pitta shamaka properties of taila and ghrita.

Maharasnadi kwatha with Yogaraja Guggulu as Prakshepaka dravya is mentioned in Sharangadara for Apabahuka chikitsa. Maharasnadi kwatha has anti-inflammatory, analgesic, anti-arthritic properties. It provides relief from pain, tenderness and stiffness. Hence it is a best drug of choice in the disease Avabahuka.

Rasna which is the active ingredient present in it is a best vatahara drug and majority of the ingredients present in it has kapha vatahara and shoolahara properties.

Guggulu has ushna, anabhishyandi, srotoshuddhikara property hence it is a major vatashamaka drug. So it is very useful in treating disease.

CONCLUSION

Dashamooladi yamaka sneha was used for nasya and Maharasnadi kwatha with Yogaraja guggulu as shamanaushadi was carried out clinically and found good results statistically. In Avabahuka, Vatasamana and Brmhana Dravyas are useful in the form of Nasya and shamanaushadhi. Dashamooladi Yamaka sneha is having Vatasamana and Brmhana property. Dashamooladi Yamaka Sneha Nasya with Shamanaushadhi had very significant effect on stiffness.

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