Research Article

A CLINICAL STUDY ON THE EFFECT OF *UTKLESHANA, DOSHAHARA* AND *SAMSHAMANA VASTI* IN THE MANAGEMENT OF *AMAVATA*

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ABSTRACT

Basti Chikitsakarma is one of supreme therapy for the elimination of vitiated *Vatadosha* and has entity to entice all *Doshas*. In the present clinical practice with the reference of *Acharya Sushruta,* the scientific application of *Utkleshana, Doshahara*and *Samshana Vasti* has an approach towards *Datugatadoshaharana* in all aspects of diseases. Among them one of the most crippling, disabling and debilitating disorder is *Amavata*. So looking to the etiopathogenesis of *Amavata,* it shows a *Bahudoshayuktavyadhi* mainly involvement *Vata, Kaphadosha's* and a part of *Pitta* predominantly. Its *Udbhavasthana* in *Ama Pakwashaya, Sancharasthana* in *Rasavaha* and *Annavahasrotas*, *Adhistana* and *Vyktasthana* are *Kaphasthana* like *Amashaya Sandhi* etc. As it is a *Kastasadhyaswabhava*, it needs a complete inclusive treatment. In that view the application of *Utkleshanabasti*, followed by *Doshaharabasti* and finally *Samshamanabasti* is selected.

A total of 30 patients presenting with symptomatology of *Amavata* were simple randomly selected for study. The study design, schedule, duration and follow-up of the treatment have clearly explained. Subjective and objective criteria's were statistically analyzed before and after treatment by applied standard statistical method. All subjective and objective parameters showed highly substantial significant result of 73.33% and 80.28 mean grade result found among 22 patients out of 30 *Amavata* patients and a high significant fair result of 26.66% and 71.96 mean grade result found among 08 patients out of 30 *Amavata* patients. The overall assessment mean result was 76.12 in both subjective and objective parameters were observed.

KEYWORDS: *Utkleshana, Doshahara, Samshamana, Rasayana, Dhatugata Dosha, Amavata.*

INTRODUCTION

Modern medicine has established its mastery in every branch of specialization. For *Ayurveda, Panchakarma* is its unique contribution in all perspectives. The importance of *Panchakarma* in *Ayurveda* is borne out by the fact that it is applicable to all cases covering a wide range of preventive, curative and promotive conditions. It is postulated that the vitiated *Doshas* and *Malas* of the body need to be eliminated before any specific measure is taken to cure the disease because no one therapy works well if *Shodhana* measures are not taken beforehand.

Aama is the basic concept of *Ayurveda* in several diseases. Diseases occurs by *Aama* is a type of constitutional diseases. 80% of the disorders in the world are of *Samarogas*. Out of them most crippling and debilitating disorder, which hampers the economy of the world as well as the individual, are musculoskeletal disorders. These are best known as rheumatic disorders. As per ACR (American college of Rheumatology) classification and international classification of rheumatological disorders all appear to be *Samarogas*. Out of such disorders, many disorders have got signs and symptoms similar to *Amavata.* The disease was first explained in detail manner by *Acharya Madhavakara* in *Madhavanidhana* during the period of 7th century AD.[1] He covers a verity of Rheumatological disorders under the light of *Amavata.*

It is a disorder characterized by *Amadosha, Vatadosha, Kaphadosha* (*Bahudoshayukta*) morbidly. This is a disease where in *Rasavahasrotas* is primarily involved. Because of this, the pain spreads from one joint to another joint very quickly. *Rasavahasrotomoola* is *Hridaya* and "*Rasathiaharahargachathi*" *Guna* of *Rasadhatu* lead to the involvement of whole body in short span of time. Being a disease of *Madhyamarogamarga*, involvement of *Marma* (*Hridaya*) makes this disease more and more critical.[2] The treatment proper is also not unidirectional, for e.g.: the antagonistic treatment of *Kaphadosha*, *Amadosha* and *Vatadosha* must be carried out simultaneously and involvement of *Gambiradhatu* (*Asthi*) and *Uttanadhatu* (*Rasa*), makes the treatment still more puzzle.

So looking to the etiopathogenesis of *Amavata*, *Sampraptivighatana chikitsa* (*Vatadosha, Kapha Dosha*, Part of *Pitta Dosha, Agnidusti* and *Ama* in both *Uttana-dhtugataavastha* as well as *Gambhiradhaatugataavastha*) demands *Shodanachikitsa* to eliminate the *Anubanditadosha* along with *Vatadosha*.

Acharyas told different type of *Shodhana* in our classics among them the best one and half of the treatment or full of the treatment credit goes to the *Bastichikitsa* because of *Basti* is one such *Shodhana* procedure having multifaceted approach. Simultaneously *Basti* is also considered as the treatment of excellence in controlling the painful conditions.

So in case of *Amavata* it is necessary to bring back the *Dosha's* from *Shakha* to *Kosta*, because of its complicated *Samprapti* and nature of wide spreading. For bringing the *Dosha* from *Shakha* to *Kosta. Acharya Sushruta* has made a set of Packaged *Basti* known as *Utkleshana, Doshahara and Samashamana* in a sequential manner.[3] No doubt by *Snehana, Swedana* the tremendous *Utlkleshana* of *Doshas* and to bring back them to *Kosta* is achieved but as comparing to *Utkleshana Basti* the prior one has more time consuming, non-palatable and in case of emergency it's not so easy, in case of *Basti* it over comes all the problems of *Snehana* and *Swedana*. The similar concept also holds good in the *Doshahara* and *Samshamana Basti*.

For *Amavata* different variety of treatment concepts are explained in *Ayurveda*, in view of its acute level to chronic level. Among them *Basti* is one of the major treatment. Keeping the above in view the study of *Utklehana Basti, Doshahara Basti and Samshamana Basti* in Amavata in the frame of *Kala Basti* was taken up, as mentioned by *Acharya Sushruta*.[4]

The *Utkleshaka* drugs like *Erandabeeja, Madhuka, Pippali*etc, *Doshahara* drugs like *Shatahwa, Madhuka, Madhanaphala, Gomutra, Kanji*etc and *Samshamana* drugs like *Priyangu, Musta, Rasanjana, Goksheera* etc[5] are schematically arranged in the pattern of *Kala Basti*, i.e. within total six *Niruha Basti*, the first two *Basti* are *Utkleshana*, the middle two are *Doshahara* and last two become *Samshamana*. The remaining ten are *Anuvasana Basti's* with *Bruhatsaindhavadhya taila.*[6]

The observations on the effect of these procedures will be studied in a specific manner and the results will be enlightened and it will be presented in scientific analytical way.

Aims and Objectives of the Study

1) To assess the impact and consequences of *Utkleshsana Basti, Doshahara Basti* and *Samshamaniya Basti* in *Amavaata.*

2) An analytical study over *Doshotkleshata, Doshaharatwa* and *Doshashamanatwa* by *Basti* Procedure.

Clinical Study Protocol

A clinical study was carried out in following ways:

Source of Data

1. The present study is a clinical trial. Hence the patients will be selected from N.K.J Ayurvedic medical college and hospital.
2. Ayurveda classics and Modern texts.
3. National and international Seminar, journals/ magazines.

Methods of Collection of Data

1. Patients will be selected by simple randomised sampling procedure.
2. Separate Charts (proforma) will be prepared, recording the signs and symptoms of *Aamavata* and *Laxanas* of *Utkleshana*, *Doshahara* and *Samshamana* of *Dosha*, due to the impacts of *Basti karma* procedure respectively.
3. Procedure will be conducted under the supervision of guide and co guide.

Research design

- 30 Patients will be selected by simple randomized method for the study within a single group.
- It is a single blind clinical study with pre-test and post-test design.
- *Utkleshana, Doshahara* and *Samshamana Basti* as explained by *Acharya Sushrutachikitsa* 38/92 will be administered to all patients.
- Pre procedures i.e. *Poorvakarma* should be compulsory and mandatory.
- Before starting treatment thorough counseling of patient and brief explanation regarding the procedure of *Basti karma* will be done
- All Patients should be advised to follow the specific diet chart during the therapy and till *Pariharakaala* completes.

Selection of Chikitsa[7]

- *Bastichikitsa* selected

Selection of Basti[8]

- *Utkleshana Basti*
- *Doshahara Basti*
- *Samshamana Basti* in sequence

Schedule of *Basti*

Utkleshana, Doshahara and *Samshamana Basti* in sequence will be administered in the frame work of *Kaala Basti* as shown below.

Table 1: Showing Schedule of *Utkleshana, Doshahara* and *Samshamana Basti*

No of *Vasti*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Type of *Vasti*	A	U	A	U	A	DH	A	DH	A	SS	A	SS	A	A	A	A

Note: Here UB= *UtkleshanaBasti*, DHB = *DoshaharaBasti*, SSB = *SamshamanaBasti*

Duration of *Basti*

- 16 days followed by *Parihaarakala*

Table 2: Showing Intervention chart

Sl. No	Procedure	Drug	Dose	Duration
1	***Poorva karma*** *Sarvangaabhyanga* *Bhaspasweda*	*Moorchitatilataila* *Dashamooladravya's*	Q.S	30 to 40 mins. 10 – 15mins.
2	***Pradhana karma*** *(Kaalavasti)* *Anuvasanavasti* ***Niroohavasti*** a) *Utkleshanabasti* *Dravya's* *Erandabija, Madhuka, Pippali,* *Saindavalavana, Vacha,* and *Haphushakalka*	*Bruhatsaindavadhyataila* *Saindavalavana* *Madhu* *Moorchitatilataila* *Utkeshanabastigatadravyakalka* *Utkeshanabastigataquatha* Total Approximate	120 ml 10gm 40-60gm 100120ml 50-60gm 500-550ml 800 ml	1st,3rd,5th,7th,9th,11th, 13th,14th,15th,16th 2nd, 4th day
	b)*Doshaharabasti Dravya's* *Shatahwa, madhuKa, kutaja* *Beeja, Madanaphala, Kaanjika* and *Gomootra*	*Saindavalavana* *Madhu* *Moorchitatilataila* *Dishaharabastigatadravyakalka* *Doshaharabastigatakashaya* Total Approximate	10gm 40-60gm 100120ml 50-60gm 500 -550ml 800 ml	6th and 8th day
	c)*Samshamanabastidravya's* *Priyangu, Madhuka, Musta,* *Rasanjana* and *Ksheera*	*Saindavalavana* *Madhu* *Moorchitatilataila* *Samshamanabastigatadravyakalka* *Samshamanabastigatakashaya* Total Approximate	10gm 40-60gm 100-120ml 50-60gm 500-550ml 800 ml	10th and 11th day
	Paschath karma	Lift the legs, padding to the buttocks, anti-clockwise massage to abdomen etc.		8-10 mins.

Follow up

There will be two follow ups conducted i.e. 1st soon after the treatment (on 16th Day) and 2nd will be 32nd day after the treatment.

Selection Criteria

a) Inclusion Criteria

1. Patients presenting with the clinical signs and symptoms of *Aamavata* will be selected.
2. Patients age between 18-60 years irrespective of sex and socio economic state.
3. Patients fit for *Bastichikitsa*.

b) Exclusion Criteria

1. *Amavata* associated with *Upadrava* and *Arista laxana*.
2. *Amavata* associated with cardiac diseases other severe complicated diseases.
3. *Amavata* condition followed by or associated with involvement *of Pitta, Rakta, Paaka* and acute *Dhatukshaya*.
4. Patients with severe deformities, severe ankylosed joints, septic arthritis and gouty arthritis etc
5. Patients with genetic and hereditary disorders.
6. Pregnant women.
7. Patients not fit for *Bastichikitsa*.

Assessment criteria

Subjective and objective parameters will be assessed based before and after treatment with appropriate statistical analysis.

Parameters for Assessment

Table 3: Showing List of Subjective parameters[9]

1)	*ApakashoonataAnga*	6)	*SandhiGraha* (Restricted movements of joints)
2)	*Bhramanasheelatwa*	7)	*Jwara*
3)	*Vruschikadamshavatvedana*	8)	*Vivarnata* (Localized discoloration)
4)	*BahuSandhiShoola* (Multiple joint Pain)	9)	*Bahumotratwa*
5)	*BahuSandhiShotha* (Multiple joint inflammation)	10)	*Stambha* (Stiffness)

The above Parameters include standard ACR diagnostic criteria, due to the fear of expansion here not elaborated.

Objective Parameters

1. Hb%
2. ESR
3. CRP
4. ASO titre
5. RA Test

Clinical Assessment Scoring Method

The changes observed in the signs and symptoms were assessed by adopting suitable scoring method and the objective signs by using appropriate clinical tools. The details of scoring pattern adopted for assessment of clinical signs and symptoms is as follows:

Subjective Parameters Assessment Scoring Method

Table 4: *Apakashoonataangha* **(swelling with no inflammatory changes)**

No Swelling	Grade 0
Joint swelling which may not be apparent on casual inspection, but difficult to recognize on casual observation	Grade 1
Joint swelling obvious even on casual observation	Grade 2
Markedly abnormal swelling	Grade 3
Joint swelling to a maximally abnormal degree	Grade 4

Table 5: *Bhramanasheelatwa*

No *Bhramanasheelatwa*	Grade 0
Mild *BhramanaSheelatwa*	Grade 1
Minimal *BhramanaSheelatwa*	Grade 2
Moderate *BhramanaSheelatwa*	Grade 3
Severe *BhramanaSheelatwa*	Grade 4

Table 6: *Vruschikadamshavatvedana*

No tenderness	Grade 0
Slight or mild tolerable discomfort on palpation	Grade 1
More severe pain on ordinary palpation	Grade 2
More intolerable pain even with light palpation or pressure	Grade 3
Pain which may be caused by even a mild stimulus	Grade 4

Table 7: *Bahusandhishula* **(multiple joint pain (as per Harrison's grading method)[10]**

Pain in 1 large joint.	Grade 0
Pain in 2-10 large joints with mild nature	Grade 1
Pain in 1-3 small joints (with or without involvement of large joints)	Grade 2
Pain in 4-10 small joints (with or without involvement of large joints	Grade 3
Pain in more than 10 joints (with involvement of at least 1 small joint	Grade 4

Table 8: *Bahusandhishotha* **(multiple joint inflammation as per Harrison's grading method)[11]**

Involvement of 1 - 2 large joint with minimal nature	Grade 0
Involvement of 3-10 large joints with mild nature	Grade 1
Involvement of 1-3 small joints (with or without involvement of large joints) with moderate nature	Grade 2
Involvement of 4-10 small joints (with or without involvement of large joints with marked nature	Grade 3
Involvement of more than 10 joints (with involvement of at least 1 small joint with severe nature	Grade 4

Table 9: *Sandhi Graha* **(Restricted movements of joints)**

Normal joint motion	Grade 0
About 25 - 49% loss of motion	Grade 1
About 50% loss of motion	Grade 2
About 75% loss of motion	Grade 3
100% loss of motion or complete ankyloses of the joint	Grade 4

Table 10: *Jwara* In Fahrenheit

No fever	Grade 0
Low Grade fever (100.4–102.2)	Grade 1
Moderate Grade fever (102.2–104.0)	Grade 2
High grade fever (104.0–106.0)	Grade 3
Hyper pyrexia (>106.0)	Grade 4

Table 11: *Vivarnata* (Localized discoloration)

Absent	Grade 0
Mild	Grade 1
Moderate	Grade 2
Marked	Grade 3
Severe	Grade 4

Table 12: *Bahumotratwa*

Normal(4 – 5 times/24 hrs)	Grade 0
Mild (6 – 7 times/24 hrs)	Grade 1
Moderate (8 – 9 times/24 hrs)	Grade 2
Severe (10 – 11 times/24hrs)	Grade 3
Very severe(More than 12 times)	Grade 4

Table 13: *Sandhi Stambha* (Morning Stiffness)

No stiffness or stiffness lasting for 5 minutes	Grade 0
Stiffness lasting for 6 minutes to 30 minutes	Grade 1
Stiffness lasting for 35 minutes to 1 hour	Grade 2
Stiffness lasting for 1 ½ hour to 2 hour	Grade 3
Stiffness lasting for more than 2 hour	Grade 4

Objective parameters assessment scoring method

Table 14: Hb% Assessment Grading

Normal (12 to 15.8 mg/dl)	Grade 0
Mild (10.4 to 11.9 mg/dl)	Grade 1
Moderate (8.8 to 10.3 mg/dl)	Grade 2
Marked (7.2 to 8.7 mg/dl)	Grade 3
Severe (6.6 to 7.1mg/dl)	Grade 4

Table 15: ESR Assessment Grading

0to20mm	Grade 0
21to40	Grade 1
41to60	Grade 2
61 to 80	Grade 3
Above 80	Grade 4

Table 16: CRP Assessment Grading

Negative (< 10 mg/dl)	Grade 0
Low (10.1 to 10.9 mg/dl)	Grade 1
Average (11 to 11.9 mg/dl)	Grade 2
Moderate (12 to 12.9 mg/dl)	Grade 3
High (More than 12.9 mg/dl)	Grade 4

Table 17: ASO Assessment Grading

Normal (< 200 IU/ml)	Grade 0
Low (200 – 300 IU/ml)	Grade 1
Average (301 – 400 IU/ml)	Grade 2
Moderate (401 – 500 IU/ml)	Grade 3
High (More than 501IU/ml)	Grade 4

Table 18: RF Assessment Grading

Negative RF(25 – 50 IU/ml)	Grade 0
Low positive(51 – 55 IU/ml)	Grade 1
Moderate positive(56 – 60 IU/ml)	Grade 2
Marked positive(61 – 65 IU/ml)	Grade 3
High positive (More than 65 IU/ml)	Grade 4

RESULTS

Effect on Subjective Parameters (Cardinal Signs & Symptoms)

Table 19: Showing, Effect of therapy on *Apaka Shoonata Anga*

Total no of Patients	BT	AT	Mean	d	%	Paired 't' test				Result
						S.D.±	S.E.±	t	P	H.S
30	2.66	AT1	1.76	0.9	33.75	0.62	0.11	16.15	P<0.01	
		AT2	0.63	2.03	76.25	0.49	0.08	18.11	P<0.01	

Table 20: showing, Effect of therapy on *Bramana Sheelatwa*

Total no of Patients	BT	AT	Mean	d	%	Paired 't' test				Result
						S.D.±	S.E.±	t	P	H.S
30	3.2	AT1	2.1	1.1	34.37	0.60	0.11	14.96	P<0.01	
		AT2	0.8	2.4	75	0.55	0.10	23.33	P<0.01	

Table 21: showing, Effect of therapy on *Vruschika Damshavat Vedana*

Total no of Patients	BT	AT	Mean	d	%	Paired 't' test				Result
						S.D.±	S.E.±	t	P	H.S
30	2.96	AT1	1.93	1.03	34.8	0.52	0.09	13.67	P<0.01	
		AT2	0.73	2.23	75.28	0.44	0.08	19.53	P<0.01	

Table 22: showing, Effect of therapy on *Bahu Sandhishoola*

Total no of Patients	BT	AT	Mean	d	%	Paired 't' test				Result
						S.D.±	S.E.±	t	P	H.S
30	3.5333	AT1	2.13	1.4	39.62	0.62	0.11	15.38	P<0.01	
		AT2	0.76	2.76	78.30	0.50	0.09	30.06	P<0.01	

Table 23: Showing, Effect of therapy on *Bahu Sandhishotha*

Total no of Patients	BT	AT	Mean	d	%	Paired 't' test				Result
						S.D.±	S.E.±	t	P	H.S
30	3.533	AT1	2.2	1.33	37.73	0.66	0.12	13.35	P<0.01	
		AT2	0.9	2.63	74.52	0.66	0.12	20.07	P<0.01	

Table 24: Showing, Effect of therapy on *Sandhi Graha*

Total no of Patients	BT	AT	Mean	d	%	Paired 't' test				Result
						S.D.±	S.E.±	t	P	H.S
30	3.1666	AT1	2.5	0.66	21.05	0.73	0.13	7.61	P<0.01	
		AT2	0.76	2.4	75.78	0.67	0.12	23.33	P<0.01	

Table 25: Showing, Effect of therapy on *Jwara*

Total no of Patients	BT	AT	Mean	d	%	Paired 't' test				Result
						S.D.±	S.E.±	t	P	H.S
30	2.7666	AT1	2.33	0.43	15.66	0.71	0.12	4.70	P<0.01	
		AT2	0.7	2.06	74.69	0.70	0.12	21.73	P<0.01	

Table 26: Showing, Effect of therapy on *Vivarnata*

Total no of Patients	BT	AT	Mean	d	%	Paired 't' test				Result
						S.D.±	S.E.±	t	P	H.S
30	3.4	AT1	2.73	0.66	19.60	0.73	0.13	6.67	P<0.01	
		AT2	0.8	2.6	76.47	0.66	0.12	28.58	P<0.01	

Table 27: Showing, Effect of therapy on *Bahu Mootratwa*

Total no of Patients	BT	AT	Mean	d	%	Paired 't' test				Result
						S.D.±	S.E.±	t	P	H.S
30	3.3333	AT1	2.6	0.7	22	0.62	0.11	8.93	P<0.01	
		AT2	0.66	2.66	80	0.60	0.11	30.46	P<0.01	

Table 28: Showing, Effect of therapy on *Stamba*

Total no of Patients	BT	AT	Mean	d	%	Paired 't' test				Result
						S.D.±	S.E.±	t	P	H.S
30	3.5	AT1	2.6	0.9	25.71	0.67	0.12	9	P<0.01	
		AT2	0.8	2.7	77.14	0.61	0.11	27.64	P<0.01	

Effect of Therapy on Objective Parameters

Table 29: Showing, Effect of therapy on Hb%

Total no of Patients	BT	AT	Mean	d	%	Paired 't' test				Result
						S.D.±	S.E.±	t	P	H.S
30	2.6	AT1	0.53	2.06	79.48	0.50	0.09	21.73	P<0.01	
		AT2	0.36	2.23	85.89	0.49	0.08	21.52	P<0.01	

Table 30: Showing, Effect of therapy on ESR %

Total no of Patients	BT	AT	Mean	d	%	Paired 't' test				Result
						S.D.±	S.E.±	t	P	H.S
30	3.4	AT1	1.5	1.9	55.88	0.50	0.092	19	P<0.01	
		AT2	0.53	2.86	84.31	0.50	0.092	24.96	P<0.01	

Table 31: Showing, Effect of therapy on RA %

Total no of Patients	BT	AT	Mean	d	%	Paired 't' test				Result
						S.D.±	S.E.±	t	P	H.S
30	3.5	AT1	2.26	1.2	35.23	0.73	0.13	15.70	P<0.01	
		AT2	1.6	1.9	54.28	0.67	0.12	21.65	P<0.01	

Table 32: Showing, Effect of therapy on ASO %

Total no of Patients	BT	AT	Mean	d	%	Paired 't' test				Result
						S.D.±	S.E.±	t	P	H.S
30	3.1666	AT1	0.7	2.46	77.89	1.05	0.19	15.01	P<0.01	
		AT2	0.4	2.76	87.36	0.67	0.12	26.66	P<0.01	

Table 33: Showing, Effect of therapy on CRP %

Total no of Patients	BT	AT	Mean	d	%	Paired 't' test				Result
						S.D.±	S.E.±	t	P	H.S
30	3.7333	AT1	0.63	3.1	83.03	1.03	0.18	15.52	P<0.01	
		AT2	0.3	3.43	91.96	0.59	0.10	25.83	P<0.01	

Table 34: Showing, Overall effect of Therapy

Treatment Response	Total effect of treatment in %	Total No. of Patients	Percentage	Mean grade result
No response to Therapy	0%	00	00	00
Mild response to therapy	1 – 25%	00	00	00
Moderate response to therapy	25.1% - 50%	00	00	00
Fair response to therapy	50.1% - 75%	8	26.66	71.96
Good response to therapy	75.1% - 100%	22	73.33	80.28

DISCUSSION

Brief mode of action of *Utkleshana*, *Doshahara* and *Samshanabasti*

The *Utkleshana Basti* having the properties of *Teekshana*, *Snigdha*, *Laghu*, *Sookshma*, *Picchila* and Part of Guru, are having similar properties of *Kapha* and *Ama* by that they spread to all over the body with the help of *Apana Samana* and *Vyanavayu* through the medium of *Rasavahasrotas*, their increase in the quantitative consistency of *Doshothklesha*, and bring back to the *Kosta* i.e. *Pakwashaya* and expel the unwanted mala by keeping *Uthklistadosha* in their own site, followed by administration of *Doshaharabasti* causes the elimination of *Dhatugatadosha* and *Utklistadosha* from its root level by the virtue of its *Ushana, Teekshna, Vyavayi, Vikashi* and

Srotogamiguna's, after that, at lastly for the purpose of Pacification of *Leenadosha*, to prevent the further formation of *Ama* and restoration of normal health is achieved with the help administration of *Samshamana Basti* by the virtue of their *Madhura, Tikta Rasa* with *Snigdha, Laghu and Rookshaguna's* These three packaged *Basti* have mainly acts by virtue of their presence of drug effect as well as the procedure effect.

Discussion on effect of the therapy

➢ The administration of *Utkleshana, Doshahara and Samshamana Basti* showed the following results.

➢ The effect of treatment after follow up, in the parameter of *Apaka Shoonataanga* was 76.25%, in reducing the *Shotha*. Finally the treatment was found statistically highly significant (P<0.01) indicating that it is the best package of *Basti* to eliminate the *Ama* factors in the body by which the *Shotha* is relieved.

➢ The effect of treatment after follow up, in the parameter of *Bramanasheelatwa* was 75%, indicating that the treatment is highly effective in alleviating the *Srotavarodha* and *Khavaigunya* by which the movement of *Vata* is unopposed and pacified. Statistically also the treatment was found highly significant (P<0.01).

➢ The effect of treatment after follow up, in the parameter of *Vrushika Damshavata Vedana* was 75.28%, it alleviated the *Srotavarodha* and helped in free movement of *Vyanavata*, hence no pain and swelling. Finally statistically also the treatment was found highly significant (P<0.01).

➢ The effect of treatment after follow up, in the parameter of *Bahusandhi Shoola* was 78.28%,. Indicating the treatment was found statistically highly significant (P<0.01) in reducing the pain in multiple joints (poly arthritis).

➢ The effect of treatment after follow up, in the parameter of *Bahusandhi Shotha* was 74.52%, indicating the treatment is statistically highly significant (P<0.01). in reducing the inflammation in multiple joints because *Amapachana* and *Vatashamana* are effects of the treatment.

➢ The effect of treatment after follow up, in the parameter of *Sandhigraha* was 75.78%, indicating the treatment is statistically highly significant (P<0.01), in reducing the abnormal condition of joint movements.

➢ The effect of treatment after follow up, in the parameter of *Jwara* was 74.69%, indicating the treatment is statistically highly significant (P<0.01), in reducing the *Sookshma Ama rasa* by alleviating the *Ama* factors and *Amapachana* effect of the treatment.

➢ The effect of treatment after follow up, in the parameter of *Vivarnata* was 74.69%, indicating the treatment is statistically highly significant (P<0.01), in reducing the local discoloration.

➢ The effect of treatment after follow up, in the parameter of *Bahumootrata* was 80%, indicating that the treatment is statistically highly significant (P<0.01), in reducing the accumulation of *Ama* in circulation there by reduction in quantity and frequency of Urine.

➢ The effect of treatment after follow up, in the parameter of *Stambha* was 77.14%, indicating the treatment is found statistically highly significant (P<0.01). In reducing the Stiffness of *Gatra* and *Sandhi* by removing *Srotovarodha* and *Ama*.

➢ The effect of treatment after follow up, in the parameter of *Jwara* was 74.69%, in reducing the *Sooksma Ama rasa* and relieving the obstruction of the *Srotas*. Finally the treatment was found statistically highly significant (P<0.01).

➢ The effect of treatment after follow up, in the parameter of *Angamarda* was 70.29%, in reducing the *Vata Prakopa* relieve the body pain. Finally the treatment was found statistically highly significant (P<0.01).

➢ The effect of treatment after follow up, in the parameter of *Aruchi* was 76.63%, in reducing the *Ama rasa*, *Mandagni* and improves the loss of appetite. Finally the treatment was found statistically highly significant (P<0.01).

➢ The effect of treatment after follow up, in the parameter of *Gourava* was 77.22%, in reducing obstruction of the *Srotas* and relieves the heaviness of the body. Finally the treatment was found statistically highly significant (P<0.01).

➢ The effect of treatment after follow up, in the parameter of *Dourbalya* was 73.83%, in reducing the *Jataragni* and *Dhatwagni Mandhya*, improves the *Bala* of the patient. Finally the treatment was found statistically highly significant (P<0.01).

➢ The effect of treatment after follow up, in the parameter of *Agnimandhya* was 76.08%, in reducing the *Madagni* by elimination of *Ama* at *Jataragni* and *Dhatwagni* level. Finally the treatment was found statistically highly significant (P<0.01).

➢ The effect of treatment after follow up, in the parameter of *Vibhanda* was 74.10%, in reducing the constipation by *Vatanulomata* of *Vata*. Finally the treatment was found statistically highly significant (P<0.01).

➢ The effect of treatment after follow up, in the parameter of *Alasya* was 73.78%. Indicating that the treatment is statistically highly significant (P<0.01). in reducing the *Alasya* by providing proper neutrino to the *Dhatus* in the way of *Samsamana Basti.*

➢ The effect of treatment after follow up, in the parameter of *Nidralpata* was 75.51%, in reducing the irregularity of Sleep by elimination the *Ama* and by regulating the *Vata*. Finally the treatment was found statistically highly significant (P<0.01).

➢ The effect of treatment after follow up, in the parameter of Hb% was increased in 85.89%, indicating the treatment is statistically highly significant (<0.01) in oxidizing the *Sookshma Ama rasa* and improving *Raktadhatwagni*, giving rise to *Raktadhatuposhana* properly.

- The effect of treatment after follow up, in the parameter of ESR was 54.28%, indicating that the treatment is found statistically highly significant (P<0.01). in reducing the *Amatatwa* in *Rasa dhatu* and reducing the *Gurutwa* of fibrinogen, globulin and Plasma proteins resulting in normal ESR.
- The effect of treatment after follow up, in the parameter of RA was 74.69%, indicating the treatment is statistically highly significant (P<0.01) by reducing the positive antigen (*Amatatwa*) naturally results in reduction of antibody production, which expressed through the test for RA factor.
- The effect of treatment after follow up, in the parameter of CRP was 91.96%, indicating the treatment is statistically highly significant (P<0.01) by *Amapachana*, there is reduction of antigen antibody reactions resulting in absence of inflammation thereby lesser production of C Reactive proteins.

Discussion on retention of *Basti*

- During this research trial work after assessing the time period of retention capacity in 30 *Amavata* patients showed that, maximum number of patients i.e. 46.67% (14) have 11 to 15 hrs *Anuvasanabasti* retention capacity, followed by minimal number of patients i.e. 43.33% (13) have 16 to 20 hrs *Anuvasana Basti* retention capacity and remaining 10% (3) have 06 to 10 hrs *Anuvasana Basti* retention capacity.
- The above data suggests that the *Bruhat-saindhavadhyataila* having the nature of longer period of retention in the body due to its pharmacodynamics.
- During this research trial work after assessing the time period of retention capacity in 30 *Amavata* patients showed that, maximum number of patients i.e. 60% (18) have 06 to 10 mins. *Utkleshanabasti* retention capacity, followed by remaining minimal number of patients i.e. 40% (12) have 11 to 15 mins. *Utkleshanabasti* retention capacity. The above data revealed that, as *Utkleshanabasti* having the property of *Picchila, Snigdha, Sooksma* etc *Guna's* it has retained more time as compare to *Doshaharabasti*.
- During this research trial work after assessing the time period of retention capacity in 30 *Amavata* patients showed that, maximum number of patients i.e. 83.33% (25) have 06 to 10 mins. *Doshaharabasti* retention capacity, followed by remaining minimal number of patients i.e. 16.667% (05) have 0 to 05 mins. *Doshaharabasti* retention capacity. The above data envisage that due to *Ushna, Teekshna, Sookshma* property, it was come out suddenly after administration.
- During this research trial work after assessing the time period of retention capacity of *Samshamana Basti* in 30 *Amavata* patients showed that, maximum number of patients i.e. 70% (21) have 15 to 20 mins. *Samshamanabasti* retention capacity, followed by remaining minimal number of patients i.e. 30% (09) have 11 to 15 mins. *Samshamanabasti* retention capacity. The above data suggests that due to

Mandha, Guru, Anabhishyandhiguna it will stay long time as compared to *Utkleshana* and *Doshahara*.

- The Overall effect of treatment after follow up, in all prescribed parameters was 73.33% (22) and 26.66% (08) which are rated as good and fair response respectively. Finally the overall mean grade result is 80.28 (22) under good response and 71.96 (08) under fair response in relieving the disease Amavata. Indicates that the administration of package of *Utkleshana, Doshahara* and *Samshamana Basti* in sequence of *Kalavasti* by adding *Brihat Saindhavaditaila* as *Anuvasana Basti* in between has good impact and to be considered as a best treatment in controlling, relieving and curing *Amavata* condition.

CONCLUSION

- No doubt *Basti* is one of the supreme line of treatment among all *Panchakarama's*, because of its multi-dimensional actions in a multi corners.
- The spectrum of *Amavata* is broad one; under this many Rheumatological disorders are explained.
- In *Amavata* only *Kaphasthana's* are becomes more susceptible to affect rather than others. In that only *Sleshakaslesmayukta Sandhi's* are affected.
- *Basti* is one of the prime treatment choice in chronic *Amavata* condition but in acute also has best therapy only when the condition of *Ama* becomes *Niraama*.
- Among all three *Basti* i.e. *Utkleshana, Doshahara* and *Samshamana, Utkleshana* has fine effect on *Doshatkleshana* due to presence of *Erandabeeja, Pippali, Hapusha* etc are most *Utkleshaka* drugs without irritating to the patient.
- The *Doshahara Basti* has supreme eradicative method of already *Utklishtadosha* as comparing to other *Teekshna Basti* mentioned in classics. Even after giving 800ml to the patients of *Madhymabala* etc., it not at all creates the side effects, because of presence of *Madhanaphala* and *Kutaja*.
- The *Samshamana Basti* has best choice immediately after *Shodhana* because as it digest the *Linadosha's* as well as prevents the further formation of *Ama* also it has prevents the complications if aroused by *Doshahara* or any *Teekshna Basti* and restore the normal health in all the ways, due to active ingredient like *Goksheera, Priyangu, Rasnjana, Madhuka* etc.
- All the *Basti's* are set under a packaged form having action like preventive, curative and promotive of health in a step ladder manner.
- This packaged form *Basti* if we used under the light of *Kaala Basti* has highly significant results as compared to *Yoga Basti*.
- The overall assessment mean result was 76.12 in both subjective and objective parameters of *Amavata*.
- The retention capacity of *Samshana Basti* (6 – 10 min, 70%) is relatively more compared to *Utkleshana Basti* (6 -10 min 60%).

- The retention capacity of *Doshahara Basti* was 6 - 10 mins. 83.33%.
- Retention time of *Utkleshana Basti, Doshahara Basti* and *Samshamana Basti* gradually increased and on the 8th day it was maximum up to 11 - 15 mins, 6 to 10 mins. and 15 to 20 mins. respectively.
- The retention capacity of *Anuvasana Basti* was 11 to 15 hrs, 46.67%.
- Retention capacity of *Anuvasana Basti* gradually increased on 7th day it was maximum up to 20 hours.
- The Overall effect of treatment after follow up, in all prescribed parameters was 73.33% (22) and 26.66% (08) which are rated as good and fair response respectively. Finally the overall mean grade result is 80.28 (22) under good response and 71.96 (08) under fair response in relieving the disease *Amavata*. Indicates that the administration of package of *Utkleshana*, *Doshahara* and *Samshamana Basti* in sequence of *Kala Basti* by adding *Brihat Saindhavaditaila* as *Anuvasana Basti* in between has good impact and to be considered as a best treatment in controlling, relieving and curing *Amavata* condition.

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