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A PILOT STUDY ON THE EFFECT OF *NARSINGHA CHURNA* IN THE MANAGEMENT OF *AMAVATA* (RHEUMATOID ARTHRITIS)

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The study was conducted in 44 clinically diagnosed cases of Amavata (RA) with an objective of clinical evaluation of compound drug formulation Narsingha Churna in the management of Amavata (RA) on the basis of various scientific parameters.

Statistically significant improvement was observed in clinical, functional and haematological parameters in group A (treated with Narsingha Churna) and no improvement was observed in these parameters in group B (placebo group), patients after the course of the therapy.

Narsingha Churna is an effective remedy in the management of uncomplicated and new cases of Amavata (Rheumatoid arthritis)

Introduction

Amavata has striking similitude with disease entity rheumatoid arthritis depicted in modern texts. Unequivocal role of *Ama* in the pathogenesis and treatment of *Amavata* was delineated by Acharyas and evidenced by successfully employing it in the management of *Amavata*. After contemplative consideration of pathogenesis, it was decided to evaluate the efficacy of compound herbal formulation *Narsingha Churna* [Chakradatta, Vrishyadhikara 15-24] in the management of disease *Amavata* (RA).

Riddle of causative factors of Rheumatoid Arthritis (RA) is yet mysterious for modern medical science. Upto much extent success has been achieved in exploring the consequential pathogenesis of RA, but deficient results of treatment, established on these fundaments, again but its viability under the clouds.

On this glooming background of modern medical science, Ayurveda is effectively treating the disease *Amavata* from the day's of yore, if patient approaches in early

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stage or before the development of deformities. To reverify ayurvedic fundamentals, it was considered useful to evaluate certain ayurvedic drugs which may be used as safe, effective, cheap and readily available remedies for the treatment of this major disease. For this purpose a very popular preparation described in Chakradatta namely *Narsingha Churna,* (Vrishyadhikar, 15-24) was selected.

The *Narsingha Churna* is a compound preparation having 14 herbal drugs. Amongst them *Chitraka, Bhallataka, Trikatu* and *Tila* are best *Agni Vardhaka, Ama Pachaka* and mainly *Kapha- Vata Dosha Shamaka* drugs. *Shatavari, Guduchi, Varahikanda* and *Vidarikanda* are well known for their *Rasayana* properties. *Gokshura* is well known *Shothaghna* and diuretic drug. Formulation like *Narsingha Churna* with these pharmacodynamic properties is likely to break the chain of events occurring in the pathogenesis of disease *Amavata.* Selected formulation appears to be appropriate treatment for disease *Amavata (RA)*

It is expected that *Narsingha Churna* will check the formation of *Ama Dosha* at the level of GIT by improving the status of *Agni.* On the other hand it is also expected to bring about certain fundamental changes in the body of the patient which will arrest the progress of the disease *Amavata (RA).* With this background *Narsingha Churna* was tried clinically in the management of a series of uncomplicated cases of *Amavata* on various scientific parameters. Results obtained are very much encouraging.

Materials and Methods

44 cases suffering from *Amavata* (RA) were selected from OPD/IPD wings of *Kaya Chikitsa* Deptt. of Kayachikitsa, National Institute of Ayurveda, Jaipur on the basis of specific proforma prepared according to signs and symptoms of *Amavata* (RA) as described in Madhava Nidana and diagnosis was confirmed on the basis of recent criteria laid down by American Rheumatism Association (1987). Selected patients were randomly divided in two groups.

In Group A, 32 clinically diagnosed cases of *Amavata* (RA) were registered. Amongst them 2 cases were dropped from trial due to development of hyper sensitivity to compound drug *Narsingha Churna.* In rest 30 cases *of Amavata, Narsingha Churna* was administered in the dose of 3 gm. B.D. with lukewarm water for 30 days along with local dry hot fomentations to the affected joints.

In group B of 12 controlled subjects, glucose powder (in capsule packing) was administered as a placebo in the dose of 5 gm B.D. with luke warm water for 30 days.

Restrictions regarding diet and other activities were followed in both groups, as indicated in ayurvedic texts. No other antibiotic or anti-inflammatory drug was given in either of the groups during the study period.

Formulation of *Narsingha Churna* (Chakradatta, Vrishyadhikar 15-24)

Drugs	Required Quantity (for 1 Kg.)	Pharmacological action
Bhallataka (Semecarpus anacardium line.f.)	*110 gm*	Anti -inflammatory, Anti-oxidant
Satavari (Asparagus racemosus Willd.),	55 gm	Immuno-modulation
Guduchi (Tinospora cordifolia Willd. Miers.),	90 gm	
Vidari (Pueraria tuberosa DC.)	*55 gm*	
Varahi Kanda (Dioscorea bulbifera Line.)	70 gm	
Chitraka (Plumbago zeylanica Line.)	40 gm	Appetizer, hepatoprotective
Trikatu Shunthi, (Zingiber officinale Rose),	30 gm	Bio-availability
Marica (Piper nigrum linn.),		enhancer action
Pippali (Piper longum Linn.)		
Tila (Sesamum orientale Linn.)	55 gm	Toxicity neutralizing action Of *Bhallataka),* Anti-oxidant
Gokshura (Tribulus terrestris Linn.)	55 gm	Diuretic, *Shothaghna*
Madhu (Honey),	125 gm	Synergistic action, adjuvants
Ghrita, (Claritied butter.)	65 gm	
Sharkara (Sugar)	250 gm	

Criteria of assessment: During the trial and follow up study the patients were assessed on the following parameters:

Subjective improvement: Attempts were made to elicit the subjective improvements produced by the drug under trial. Patients were specifically asked about growing feeling of well being and improvement of joint functions after the therapy.

Clinical improvement: For this purpose the Symptom Rating Scale (Sharma, et. al) was used to assess the relief in symptoms like morning stiffness, numbers of joints involved, joint pain, swelling in joints, restriction of movements, diffuse musculoskeletal pain, anorexia, thirst, malaise, fatigue, fever and indigestion etc.

Functional assessment: Grip power, pressing power, walking time and functional index were used for the assessment of functional status and to assess the pattern of clinical recovery.

Haematological and biochemical studies: Hb gm%, ESR, TLC, DLC, C-reactive protein, RA factor and serum uric acid levels were recorded before and after the therapy in registered cases to evaluate the nature and extent of changes in relation to course of the disease *Amavata* (RA).

Observations and Results

There was a growing feeling of well being after the course of therapy in the patients treated with *Narsingha Churna.* No such change in the feeling of well being after the therapy was reported by any patient of placebo treated group. Other observations are summarized below:

Clinical improvement: Table 1 shows that the observations obtained in group A (treated with *Narsingha Churna)* were highly significant regarding the clinical recovery. Statistical analysis of the data showed highly significant improvement in all symptoms except thirst and fever.

It's clear from table 2 that no improvement was observed in placebo treated group B.

Functional improvement: Various observations summarized in table 3 & 4 indicate highly significant improvement in functional parameters in group A whereas no improvement was observed in group B.

In group A, highly significant improvement in grip power of right and left hand was observed. Similarly highly significant improvement in pressing power of both the hands was observed. There was a trend of decrease in walking time which is statistically highly significant. Highly significant improvement was noticed in functional index of patients after the therapy.

In group B, no significant changes were observed in initial and final mean score of functional parameters after the therapy.

Haematological changes: Table No. 5 & 6 show statistically significant reduction in the level of ESR and TLC in group A with minimal elevation in the level of Hb gm%, which was statistically insignificant, whereas statistically insignificant changes were observed in all haematological parameters of group B.

Biochemical changes: No changes were observed in serological investigations before and after the therapy in both the groups.

Overall effect of therapy: Table 7 indicates the comparative overall percentage of improvement in both the groups on the basis of three parameters viz i) Clinical improvement, ii.) Functional improvement and iii.) Haematological changes. It was statistically significant in group A (treated with *Narsingha Churna),* whereas insignificant in group B (placebo group).

Table 1
Clinical recovery in 30 patients of *Amavata* (RA) treated with *Narsingha Churna*

Observation	Mean			S.D.	S.E.	't'	'p'
	B.T.	A.T.	Diff.	±	±	value	value
Morning stiffness	1.90	0.77	1.13	0.82	0.15	7.58	<.001
No. of joints involved	8.93	6.80	2.13	2.29	0.42	5.11	<.001
Joint pain	3.07	1.03	2.03	0.81	0.15	13.77	<.001
Swelling on joints	2.83	1.03	1.80	0.81	0.15	12.24	<.001
Restriction of movement	1.96	0.85	1.12	0.71	0.14	7.99	<.001
Diffuse musculoskeletal pain	2.57	0.57	2.00	0.79	0.14	13.90	<.001
Anorexia	2.00	0.21	1.79	0.72	0.15	12.17	<.001
Thirst	1.25	0.25	1.00	0.82	0.41	2.45	<.05
Malaise	2.38	0.46	1.92	0.69	0.13	14.25	<.001
Fatigue	2.14	0.46	1.68	0.61	0.12	14.52	<.001
Fever	1.00	0.00	1.00	0	0	0	>.05
Indigestion	1.70	0.10	1.60	0.70	0.22	7.24	<.001

B.T. - Before Treatment, A.T. - After Treatment, Diff. – difference

Table 2
Clinical recovery in 12 patients of *Amavata* (RA) of placebo group

Observation	Mean			S.D.	S.E.	't'	'p'
	B.T.	A.T.	Diff.	±	±	value	value
Morning stiffness	2.17	2.17	0	0	0	0	<.05
No. of joints involved	8.67	8.67	0	0	0	0	<.05
Joint pain	3.08	3.00	0.08	0.29	0.08	1	<.05
Swelling on joints	2.92	2.92	0	0	0	0	<.05
Restriction of movement	1.33	1.33	0	0	0	0	<.05
Diffuse musculoskeletal pain	2.25	2.17	0.08	0.29	0.08	1	<.05
Anorexia	1.55	1.55	0	0	0	0	<.05
Thirst	1.00	1.00	0	0	0	0	<.05
Malaise	1.91	1.91	0	0	0	0	<.05
Fatigue	2.00	2.00	0	0	0	0	<.05
Fever	0	0	0	0	0	0	0
Indigestion	0	0	0	0	0	0	0

B.T. - Before treatment, A.T. - After treatment, Diff. - Difference

Table 3

Functional changes in 30 patients of *Amavata* (RA) treated with *Narsingha Churna*

Observation		Mean			S.D.	S.E.	't'	'p'
		RT.	AT.	Dill.	+	+	value	value
Grip power in mmHg	RT	234.37	246.20	11.83	16.11	2.94	4.02	<.001
	LT	222.2	233.0	10.80	16.56	3.02	3.57	<..01
Pressing power in mm Hg	RT	89.53	101.73	12.20	13.40	2.45	4.99	<.001
	LT	73.54	83.93	10.40	13.31	2.43	4.28	<.001
Walking time in seconds		122.07	115.0	7.07	4.23	0.77	9.16	<.001
Functional index		1.63	1.22	0.40	0.50	0.09	4.40	<.001

B. T. - Before Treatment, A. T. - After Treatment, Diff. - Difference

Table 4

Functional changes in 12 patients of *Amavata* (RA) of placebo group

Observation		Mean			S.D.	S.E.	't'	'p'
		B.T.	AT.	Diff.	+	+	value	value
Grip Power in mmHg	RT	235.00	235.83	0.83	2.89	0.83	1.00	>.05
	LT	220.83	222.5	1.67	3.89	1.12	1.48	>.05
Pressing power in mm Hg	RT	106.67	109.17	2.5	4.52	1.31	1.91	>.05
	LT	95.0	98.33	3.33	1.78	2.25	148.00	>.05
Walking time in seconds		119.08	117.42	1.67	3.96	1.14	1.46	>.05
Functional index		1.25	1.25	0	0	0	0	>.05

B.T. - Before Treatment, A.T. - After Treatment, Diff. – Difference

Table 5

Haematological changes in 30 patients of *Amavata* (RA) treated with *Narsingha Churna*

Observation	Mean			S.D.	S.E.	't'	'p'
	B.T.	AT.	Diff.	+	+	value	value
Haemoglobin in gm %	11.91	12.08	0.17	0.86	0.16	1.11	>.05
ESR in mm/ hr.	31.30	23.77	7.53	11.30	2.06	3.65	<.01
Total leucocyte count	7716.63	6923.57	793.17	1862.67	340.08	2.33	<.05

B.T. - Before Treatment, A.T. - After Treatment, Diff. - Difference

Table 6

Haematological changes in 12 patients of *Amavata* (RA) of placebo group

Observation	Mean			S.D.	S.E.	't'	'p'
	B.T.	A.T.	Diff.	+	+	value	value
Haemoglobin in gm %	11.61	11.53	0.08	0.64	0.18	0.45	>.05
E.S.R. in mm/ hr.	38.67	33.0	5.67	9.70	2.80	2.02	>.05
Total leucocyte count	9741.67	8875.00	866.67	1918.49	553.82	1.59	>.05

B.T. - Before Treatment, A.T. - After Treatment, Diff. - Difference

Table 7

Comparative percentage of improvement in different groups of Amav*ata* (R.A) on the basis of various parameters

Assessment of parameters		Group	
		Treatment	Placebo
Clinical improvement	%	56.61	0.97
	t	6.32	1.96
	P	<.001	>.05
		Highly significant	Insignificant
Functional improvement	%	6.68	0.86
	t	4.79	1.51
	P	<.01	<.05
		Significant	Insignificant
Haematological change	%	1.42	0.72
Hb gm%	t	1.11	0.45
	P	<.05	>.05
		Insignificant	Insignificant
TLC/cu.mm	%	10.28	8.89
	t	2.33	1.59
	P	<.05	>.05
		Significant	Insignificant
ESR in mm/hr.	%	24.05	14.66
	t	3.65	2.02
	P	<.01	>.05
		Significant	Insignificant

Discussion

It is practically impossible to treat chronic and complicated cases of *Amavata* with single drug or simple preparations used in *Samshamana* therapy. Multifactorial approaches are needed to check the aetiopathogenesis of disease *Amavata*. Considering all these factors it was decided to launch a clinical trial of *Narsingha Churna* in the management of a series of uncomplicated patients of *Amavata*.

The clinical evaluation of *Narsingha Churna* indicated a significant symptomatic relief in patients of *Amavata* (RA) after the course of therapy. A significant reduction in the severity of pain, swelling, tenderness, morning stiffness, restriction of movement, fatigue and anorexia was recorded. No improvement in symptoms was observed in placebo treated group. There was statistically significant improvement in grip power, pressing power, walking time and functional index in patients treated with *Narsingha Churna*, suggesting tremendous improvement in joint functions of upper and lower extremities. On the contrary no change were observed in placebo treated group on these parameters. Besides clinical and functional recovery the present series of patients treated with *Narsingha Churna* showed significant improvement in haematological parameters.

It is felt that the beneficial effects of Narsingha *Churna* therapy in the management of *Amavata* (RA) as observed in present series of patients may not be simply due to anti-inflammatory and analgesic activities of this preparation. The component drugs of *Narsingha Churna* might be producing more fundamental changes in the system which might be responsible for effects of therapy and other restoratives effects.

It is of an utmost importance to understand that *Bhallataka (Semecarpus anacardium)* is one of the important ingredients of *Narsingha Churna*, which possess anti- inflammatory, anti- oxidant and *Rasavana* properties. *Shatavari, Guduchi, Bhallataka, Vidari* and *Varahi Kanda* have potent immunomodulating effects. Since *Amavata* is a chronic debilitating disease, so administration of such drugs is of great help to the patient. It is worth mentioning here that *Trikatu* has potent bio-availability enhancer activity. Thus *Trikatu* acts as a catalyst in inducing anti-inflammatory and immunomodulating effect of other components of *Narsingha Churna*. Basically *Gokshura* is a potent diuretic agent which acts as specific *Shothaghna* agent. To the compound *Narsingha Churna, Tila, Ghrita, Sharkara, Madhu* and *Chitraka* are also added which act synergistically. *Tila* specifically neutralizes the toxic effects of *Bhallataka*.

Therefore the compound drug *Narsingha Churna* is a classical agent and is a good remedy for the management of *Amavata (RA)*. Two patients reported hypersensitivity to *Narsingha Churna*. They reported itching all over the body, probably

due to *Bhallataka*, which was controlled when the drug was withdrawn.

Conclusion

It can be concluded that *Amavata* (RA) is a systemic disease with remarkable psycho somatic background associated with gastro intestinal dysfunction.

Narsingha Churna is a good remedy for the management of *Amavata* (RA) as it not only produces symptomatic relief and anti-inflammatory effects on inflammed joints but also influences the level of *Agni* and breaks the chain of events in the production of *Ama Dosha* and *Amavata*.

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सारांश

आमवात रोग की चिकित्सा में नरसिंह चूर्ण की कार्मुकता का वैज्ञानिक अध्ययन

अजय कुमार शर्मा एवं सुनील बोरकर

आमवात के 44 नवीन एवं उपद्रव रहित रोगियों पर किये गये शोध कार्य में शमन चिकित्सा के रूप में नरसिंह चूर्ण को एकल रूप में प्रयोग करने पर सांख्यिकी दृष्टि से महत्त्वपूर्ण लाक्षणिक सुधार के साथ शोधहर प्रभाव भी दृष्टिगोचर हुआ है। नरसिंह चूर्ण का प्रयोग कोष्ण जल के अनुपान से किया गया। विभिन्न वैज्ञानिक परीक्षणों के आधार पर आमवात रोग की चिकित्सा में नरसिंह चूर्ण का प्रयोग एक महत्त्वपूर्ण औषधि के रूप में सिद्ध हुआ है। प्लेसिबोग्रुप के रोगियों में चिकित्सा उपरान्त किसी भी प्रकार का लाभ नहीं पाया गया।