

THE MANAGEMENT OF AMAVATA (RHEUMATOID ARTHRITIS) WITH VATARI GUGGULU AND BRIHAT SIMHANADA GUGGULU

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ABSTRACT

The detail knowledge on *Amavata* was first explained by *Madhavakar*, whereas *Chakrapani Dutta* first gave knowledge about principle and management of the disease. *Amavata* is a clinical entity very much similar to the chronic but active inflammatory arthropathy, the Rheumatoid arthritis. Till now, the etio-pathogenesis of Rheumatoid arthritis is not known precisely but among the hypothesis, entero-pathy along with autoimmune have important role regarding this disease. In *Amavata*, due to impaired functioning of '*Kayagni*' the *anna-rasa* undergoes fermentation resulted formation of *ama* (biotoxin) which combines with vitiated *Vata* (biophysical force for movement) to form *Amavata*.(1) So, two important entities one is toxin and other is movement, when comes together kha *vaigunya* concept the disease formed which is worst one. That's why swelling, severe pain, and restricted movements are the main features of *Amavata*. Severe pain, difficulty in movements, and swelling on the joints along with fever etc makes the patient's life miserable. Although *Ama* and *Vata* are chiefly pathogenic factors, *Kapha* and *Pitta* are also invariably involved in its pathogenesis (*Samprapti*). The therapeutic approach should be on *Vata dosha*, *Kapha dosha* and correction of *Amadosha* and of *Agni* viz. *Pitta*. The line of treatment for *amavata* also includes *langhanam*, *swedanam*, *tiktam*, *deepana*, *katu* drugs and *sodhana* treatment like *virechana*, *basti* etc. The *shamana* drugs which are having *Vatashamaka*, *Amapachaka*, *Ama Shoshaka*, and *Deepniya* properties can be used in the treatment of this disease. *Vatari Guggulu* and *Brihat simhanada guggulu*

carries indication for *Amavata* according to *Bhaisajya Ratnavali*. The compositions in it are approachable lieu of principles of treatment of *Amavata*. The clinical research shows that in TG I, 7 (46.67%) patients were got Moderate improvement while 8 (53.33%) patients were got Mild improvement. In TG II 10 (66.67%) patients were got Moderate improvement while 5 (33.33%) patients were got Mild improvement.

Keyword- *Amavata*, *Vatari Guggulu*, Rheumatoid arthritis, *Brihat simhanada guggulu* and Ayurveda.

INTRODUCTION

Ayurveda maintains the “*Swasthya* of *swastha* (healthy) person and cures the *vikaras* of an *atura* (diseased) person. The *samprapti* of almost all the diseases begins with the *Agnimandya* “*Rogah sarve api mandeagnou*”. *Agnimandya* leads to formation of *Ama*. This *Ama* is the most important pathological factor responsible for the various diseases. One of the most challenging diseases caused by *Ama* is *Amavata*. *Amavata* is defined as a condition where *Ama* and *Vata Dosh*a are vitiated simultaneously and enters the *Trika* (Pelvic girdle) and *Sandhi* (joints) causing stiffness (*Stabdhat*a) of the body. Here, *Ama* means improperly/partially digested food or undigested *Rasa Dhatu* formed due to poor strength of *Agni*. It simultaneously affects the joints and causes stiffness of the body. Pain and inflammation of one or more joints particularly of hand, foot, tarsals, knee, thigh and sacrum; scorpion bite like pain in the affected joints, loss of appetite, indigestion; fever, vague pain in different parts of the body, feeling of heaviness in the body, lack of initiative, disturbance in sleep habit, stiffness in chest (heart area), constipation are the signs and symptoms of *Amavata*. The disease ultimately leads to the disability.

Amavata displays many features in common with a collection of signs and symptoms that are typically diagnosed as “Rheumatoid Arthritis” which is a chronic autoimmune disease that causes inflammation and deformity of the joints.(2) RA can also cause inflammation of the tissues around the joints as well as other organs in the body. It is a common disorder, with varied clinical signs and symptoms related to multiple anatomical sites, both articular and extra-articular. It is a chronic progressive disease-causing inflammation in the joints and resulting in painful de-

formity and immobility, especially in the fingers, wrists, feet and ankles.

RA is widely prevalent throughout the world. According to the annual European Congress of Rheumatology (EULAR 2018 report), Rheumatoid arthritis (RA) is the most common autoimmune inflammatory form of arthritis and affects approximately 1 in 100 people worldwide, with women affected twice as commonly as men.(3)

According to the association of physicians of India, RA steadily increases to 5% in women over the age of 70. Rheumatoid arthritis (RA) affects about 0.92% of adult population in India. There are about 20-40 new cases per Lac population each year and the disease occurs more frequently in females. (4)

In Ayurveda, the line of treatment for *amavata* also includes *langhanam*, *swedanam*, *tiktam*, *deepana*, *katu* drugs and *sodhana* treatment like *virechana*, *basti* etc.(5) The therapeutic approach should be on *Vata dosha*, *Kapha dosha* and correction of *Amadosha* and of *Agni* viz. *Pitta*. The drugs which are having *Vatashamaka*, *Amapachaka*, *Ama Shoshaka*, and *Deepniya* properties can be used in the treatment of this disease. There are various medications elaborated for *samana* therapy in *amavata*. Among them, two drugs (*Vatari Guggulu* and *Brihat Simhanada Guggulu*) had been selected for clinical evaluation on the management of *Amavata* (Rheumatoid arthritis) Joint degeneration has become a commonplace problem in aging populations. The main clinical manifestations include joint pain, joint stiffness and joint swelling with functional disorder. Mega MSM is a nutritional supplement that may provide potential relief for joint problems associated with joint degeneration. The current experiment performed was a 12-week, randomized, double-blind, controlled study conducted on

populations in China experiencing joint degeneration. The objective of the study was to determine whether the daily use of Mega MSM capsules could improve joint function, relieve symptoms of joint degeneration and improve the quality of life in aging populations. A total of 100 male and female participants over 50 years old who had at least one of the related symptoms of joint degeneration (joint pain, joint stiffness, joint swelling, difficulty walking, difficulty getting up from bed and difficulty going down stairs) were recruited and their symptoms of joint degeneration before and after the intervention were recorded. In this study, Mega MSM shows positive effects in improving joint function, relieving symptoms associated with joint degeneration and improving the quality of life in aging populations (4). *Vatari Guggulu* carries indication for *Amavata*, *katisula*, *gridhrasi*, *khanja*, *vatarakata*, *pangu*, *sotha*, *daha* etc. *Brihat Simhanada guggulu* is a known *virechaka* drug also carries indication for *Amavata*, *sandhivata*, *katigraha*, *medo-kapha-ama*

samghata etc.(5) The compositions in both the drugs are approachable lieu of principles of treatment of *Amavata*. *Simhanada Guggulu* and *Vatari Guggulu* have *Guggulu* as main ingredient. Both formulations are used as anti-inflammatory drugs. This effect is probably due to guggulsterones present in both drugs. Guggulsterone is reported to inhibit significantly lipopolysaccharide-induced upregulation of tumor necrosis factor-alpha expression and cyclooxygenase-2 production. (4) Most of the ingredients of above formulations are *Ushna Virya*, *Katu Vipaka*, and having *Snigdha* and *Ruksha* properties. *Ushna Virya* drugs are helpful in digesting and absorbing the vitiated *Ama* by its *Shoshana Karma*. The *Deepniya* property of these drugs also slows down the *Ama* formation. Hence both drugs are selected for the study undertaken with the title "A clinical comparative study on the management of *Amavata* (Rheumatoid arthritis) with *Vatari Guggulu* and *Brihat Simhanada Guggulu*".

Observation and Results

Total 30 patients were considered. They were divided into two groups (TG_I, TG_{II}), each group having 15 patients.

Observation on Clinical Data

1. Showing the incidence of patients according to Presence of clinical features

Sl. No	Clinical Features	TG I		TG II		
		f	%	f	%	
1	Stabdha gatrata (Morning stiffness)	15	100%	15	100%	
2	Angamarda (Bodyache)	15	100%	15	100%	
3	Aruchi (Anorexia)	11	73.33%	10	66.67%	
4	Trishna (Thirst)	6	40%	11	73.33%	
5	Alasya (Laziness)	8	53.33%	9	60%	
6	Gaurava (Heaviness)	15	100%	15	100%	
7	Apaka (Indigestion)	15	100%	15	100%	
8	Sunatanganam (Sandhi sotha/swelling in joints)	15	100%	15	100%	
9	Ruja (Continuous pain in joints like Scorpion bites)	15	100%	15	100%	
10	Jwara (Fever)	6	40%	8	53.33%	
11	Grip strength	Right	15	100%	15	100%
		Left	15	100%	15	100%
12	Foot pressure	Right	15	100%	15	100%
		Left	15	100%	15	100%
13	Rheumatoid Arthritis score (ACR / EULAR -2010)	15	100%	15	100%	
14	Simple disease activity index score	15	100%	15	100%	

Observation - In this study, presence of clinical features shows 15 (100%) in *Stabdha gatrata* (Morning stiffness), *Angamarda* (*Bodyache*), *Gaurava* (Heavi-

ness), *Apaka* (Indigestion), *Sunatanganam* (*Sandhi Sotha*/swelling in joints), *Ruja* (Continuous pain in joints like Scorpion bites). 11 (73.33%) & 10

(66.67%) in *Aruchi* (Anorexia), 6 (40%) & 11 (73.33%) in *Trishna* (Thirst), 8 (53.33%) & 9 (60%) in *Alasya* (Laziness), 6 (40%) & 8 (53.33%) in *Jwara* (fever) of TG I & TG II respectively. In both groups,

Grip strength (Right), Grip strength (Left), Foot pressure (Right), Foot pressure (Left), Rheumatoid Arthritis score (ACR / EULAR -2010), Simple disease activity index score was assessed in all patients.

2. Showing the incidence of patients according to Degree of Severity of sign & symptoms in subjective parameters Before and After treatment in TG I

Sign & Symptoms	Gradation	TG I		TG II	
		BT	AT	BT	AT
Stabdha gatrata (Morning stiffness)	G0	0	1	0	3
	G1	0	11	1	10
	G2	9	3	10	2
	G3	6	0	4	0
Angamarda (Bodyache)	G0	0	3	0	2
	G1	0	5	1	10
	G2	8	7	6	3
	G3	7	0	8	0
Aruchi (Anorexia)	G0	0	5	0	4
	G1	1	4	1	5
	G2	10	2	8	1
	G3	0	0	1	0
Trishna (Thirst)	G0	0	1	0	3
	G1	1	4	2	5
	G2	3	1	3	3
	G3	2	0	6	0
Alasya (Laziness)	G0	0	1	0	2
	G1	2	5	2	5
	G2	5	2	6	2
	G3	1	0	1	0
Gaurava (Heaviness)	G0	0	3	0	4
	G1	2	9	2	8
	G2	8	3	8	3
	G3	5	0	5	0
Apaka (Indigestion)	G0	0	2	0	5
	G1	0	10	2	7
	G2	9	3	9	3
	G3	6	0	4	0
Sunatanganam (Sandhi sotha/swelling in joints)	G0	0	3	0	4
	G1	0	9	1	7
	G2	11	3	8	4
	G3	4	0	6	0
Ruja (Continuous pain in joints like Scorpion bites)	G0	0	3	0	3
	G1	1	6	1	7
	G2	7	6	6	5
	G3	7	0	8	0
Jwara (Fever)	G0	0	7	0	7
	G1	6	1	6	1
	G2	2	0	2	0
	G3	0	0	0	0
Grip strength (RIGHT)	G0	0	1	0	1
	G1	0	11	0	11
	G2	9	3	9	3

Grip strength (LEFT)	G3	6	0	6	0
	G0	0	1	0	1
	G1	0	11	0	11
	G2	9	3	9	3
	G3	6	0	6	0
Foot pressure (RIGHT)	G0	0	1	0	1
	G1	0	11	0	11
	G2	9	3	9	3
	G3	6	0	6	0
	Foot pressure (LEFT)	G0	0	1	0
G1		0	11	0	11
G2		9	3	9	3
G3		6	0	6	0
Rheumatoid Arthritis score (ACR / EULAR -2010)		G0	0	1	0
	G1	0	11	0	10
	G2	6	3	7	2
	G3	9	0	8	0
	Simple disease activity index score	G0	0	7	0
G1		0	8	0	8
G2		10	0	9	0
G3		5	0	6	0

Observation

Regarding Individual features like *Stabdha Gatrata (Morning stiffness)*, TGI shows 0, 0, 9, 6 cases of before treatment came to 1, 11, 3, 0 after treatment whereas TGII shows 0, 1, 10, 4 cases of before treatment came to 3, 10, 2, 0 after treatment in respected severity gradations of G₀, G₁, G₂, G₃.

Regarding Individual features like *Angamarda (Body ache)*, TGI shows 0, 0, 8, 7 cases of before treatment came to 3, 5, 7, 0 after treatment whereas TGII shows 0, 1, 6, 8 cases of before treatment came to 2, 10, 3, 0 after treatment in respected severity gradations of G₀, G₁, G₂, G₃.

3. Statistical analysis showing the effectiveness of Trial drugs in both groups

Sign & Symptoms		Mean Score		Mean diff.	± S.D.	± S.E.	w- Value	p - Value	Remark
		B.T.	A.T.						
Stabdha gatrata (Morning stiffness)	TG I	2.40	1.13	1.27	0.46	0.12	120.00	< 0.0001	E.S.
	TG II	2.20	0.93	1.27	0.46	0.12	120.00	< 0.0001	E.S.
Angamarda (Bodyache)	TG I	2.47	1.27	1.20	0.68	0.17	91.00	0.0002	E.S.
	TG II	2.47	1.07	1.40	0.51	0.13	120.00	< 0.0001	E.S.
Aruchi (Anorexia)	TG I	1.91	0.73	1.18	0.75	0.23	45.00	0.0039	V.S.
	TG II	2.00	0.70	1.30	0.48	0.15	55.00	0.002	V.S.
Trishna (Thirst)	TG I	2.17	1.00	1.17	0.41	0.17	21.00	0.0313	S.
	TG II	2.36	1.00	1.36	0.50	0.15	66.00	0.001	E.S.
Alasya (Laziness)	TG I	1.88	1.13	0.75	0.46	0.16	21.00	0.0313	S.
	TG II	1.89	1.00	0.89	1.05	0.35	15.00	0.0625	N.Q.S.
Gaurava (Heaviness)	TG I	2.20	1.00	1.20	0.41	0.11	120.00	< 0.0001	E.S.
	TG II	2.20	0.93	1.27	0.46	0.12	120.00	< 0.0001	E.S.
Apaka (Indigestion)	TG I	2.40	1.07	1.33	0.62	0.16	105.00	0.0001	E.S.
	TG II	2.13	0.87	1.27	0.46	0.12	120.00	< 0.0001	E.S.
Sunatangananam (Sandhi sotha/swelling in joints)	TG I	2.27	1.00	1.27	0.59	0.15	120.00	< 0.0001	E.S.
	TG II	2.33	1.00	1.33	0.49	0.13	120.00	< 0.0001	E.S.
Ruja (Continuous pain in joints like Scorpion bites)	TG I	2.40	1.20	1.20	0.41	0.11	120.00	< 0.0001	E.S.
	TG II	2.47	1.13	1.33	0.49	0.13	120.00	< 0.0001	E.S.

Sign & Symptoms		Mean Score		Mean diff.	± S.D.	± S.E.	t- Value	p - Value	Remark
		B.T.	A.T.						
Jwara (Fever)	TG I	99.65	98.42	1.35	0.29	0.12	11.37	< 0.0001	E.S.
	TG II	99.81	98.40	1.41	0.38	0.13	10.524	< 0.0001	E.S.
Grip strength (Right)	TG I	80.67	140.00	59.33	20.36	5.26	11.29	< 0.0001	E.S.
	TG II	81.73	142.40	-60.67	20.36	5.26	11.538	< 0.0001	E.S.
Grip strength (Left)	TG I	82.13	142.67	60.53	29.69	7.67	7.90	< 0.0001	E.S.
	TG II	83.73	146.67	-62.93	32.83	8.48	7.43	< 0.0001	E.S.
Foot pressure (Right)	TG I	12.73	22.00	9.27	4.30	1.11	8.35	< 0.0001	E.S.
	TG II	12.67	22.13	-9.47	4.44	1.15	8.26	< 0.0001	E.S.
Foot pressure (Left)	TG I	12.60	21.60	9.00	4.47	1.16	7.79	< 0.0001	E.S.
	TG II	12.93	22.27	-9.33	4.32	1.12	8.37	< 0.0001	E.S.
Rheumatoid Arthritis score (ACR / EULAR -2010)	TG I	9.00	6.60	2.80	1.01	0.26	10.69	< 0.0001	E.S.
	TG II	9.27	6.20	3.07	0.96	0.25	12.36	< 0.0001	E.S.
Simple disease activity index score	TG I	37.38	24.85	12.53	3.50	0.90	13.86	< 0.0001	E.S.
	TG II	40.33	24.71	15.63	5.40	1.39	11.22	< 0.0001	E.S.

4. Showing the incidence of patients according to the % of improvement after treatment in both group

Cardinal features	% of improvement	
	TG I	TG II
Stabdha gatrata (Morning stiffness)	52.79	57.59
Angamarda (Bodyache)	48.64	56.75
Aruchi (Anorexia)	61.92	65.00
Trishna (Thirst)	53.85	57.70
Alasya (Laziness)	40.00	47.06
Gaurava (Heaviness)	54.55	57.59
Apaka (Indigestion)	55.54	59.40
Sunatanganam (Sandhi sotha/swelling in joints)	55.89	57.14
Ruja (Continuous pain in joints like Scorpion bites)	50.00	54.03
Jwara (Fever)	1.35	1.42
Grip strength (Right)	73.55	74.23
Grip strength (Left)	73.70	75.16
Foot pressure (Right)	72.78	74.74
Foot pressure (Left)	71.43	72.16
Rheumatoid Arthritis score (ACR / EULAR -2010)	31.11	33.10
Simple disease activity index score	33.53	38.74

Observation

Percentage (%) of improvement among TG I & TG II shows 52.79% & 57.59% in *Stabdha Gatrata* (Morning stiffness), 48.64% & 56.75% in *Angamarda* (Bodyache), 61.92% & 65.00% in *Aruchi* (Anorexia), 53.85% & 57.70% in *Trishna* (Thirst), 40.00% & 47.06% in *Alasya* (Laziness), 54.55% & 57.59% in *Gaurava* (Heaviness), 55.54% & 59.40% in *Apaka* (Indigestion), 55.89% & 57.14% in *Sunatanganam*

(*Sandhi Sotha*/swelling in joints), 50.00% & 54.03% in *Ruja* (Continuous pain in joints like Scorpion bites), 1.35% & 1.42% in *Jwara* (Fever), 73.55% & 74.23% in Grip strength (Right), 73.70 % & 75.16% in Grip strength (Left), 72.78% & 74.74% in Foot pressure (Right), 71.43% & 72.16% in Foot pressure (Left) , 31.11% & 33.10% in Rheumatoid Arthritis score (ACR / EULAR -2010) , 33.53% & 38.74% in Simple disease activity index score respectively.

5. Comparison of effects on different parameters of both drugs

Symptom		No of pts	Means	Mann-Whitney (U value)	p-Value	Remark
Stabdha gatrata (Morning stiffness)	TGI	15	1.267	112.5	0.9784	not significant
	TGII	15	1.267			
Angamarda (Bodyache)	TGI	15	1.2	96	0.4493	not significant
	TGII	15	1.4			
Aruchi (Anorexia)	TGI	11	1.182	51.5	0.8106	not significant
	TGII	10	1.3			
Trishna (Thirst)	TGI	6	1.167	26.5	0.4456	not significant
	TGII	11	1.364			
Alasya (Laziness)	TGI	8	0.75	35	0.9574	not significant
	TGII	9	0.8889			
Gaurava (Heaviness)	TGI	15	1.2	105	0.692	not significant
	TGII	15	1.267			
Apaka (Indigestion)	TGI	15	1.333	103	0.6577	not significant
	TGII	15	1.267			
Sunatanganam (Sandhi sotha)	TGI	15	1.2	92.5	0.272	not significant
	TGII	15	1.333			
Ruja (pain)	TGI	15	1.2	97.5	0.4326	not significant
	TGII	15	1.333			
Symptom		No of pts	Means	t – value	p-Value	Remark
Jwara (Fever)	TGI	6	1.35	0.3618	0.7244	not significant
	TGII	8	1.413			
Grip strength (Right)	TGI	15	59.333	0.1793	0.859	not significant
	TGII	15	60.667			
Grip strength (Left)	TGI	15	60.533	0.21	0.8352	not significant
	TGII	15	62.933			
Foot pressure (Right)	TGI	15	9.267	0.1253	0.9012	not significant
	TGII	15	9.467			
Foot pressure (Left)	TGI	15	9	0.2076	0.8371	not significant
	TGII	15	9.333			
Rheumatoid Arthritis score	TGI	15	2.8	0.7391	0.4662	not significant
	TGII	15	3.067			
SDAI score	TGI	15	12.533	1.862	0.0749	not significant
	TGII	15	15.627			

Observation - The difference of effect of trial drug on various symptoms in TGI and TGII was not significant that means the relief provided by both group was nearly similar.

6. Showing the incidence of patients according to clinical effect of therapy

Clinical effect of therapy	Overall Effect of therapy			
	TG I		TG II	
	f	%	f	%
Marked improvement (>75%)	0	0	0	0
Moderate improvement (>50 – 75%)	7	46.67%	10	66.67%
Mild improvement (>25 – 50%)	8	53.33%	5	33.33%
Unsatisfactory (<25%)	0	0	0	0

Observation
In above table, the clinical effect of therapy shows in TG I, 7 (46.67%) patients were get Moderate improvement while 8 (53.33%) patients were get Mild

improvement. In TG II 10 (66.67%) patients were get Moderate improvement while 5 (33.33%) patients were get Mild improvement whereas no patients were there in Marked / Unsatisfactory improvement group in both groups.

CONCLUSION

The **statistical adjudication** with suitable parameters shows that both drugs (*Vatari Guggulu & Brihat Simhanada Guggulu*) were extremely significant with p-value < 0.0001 on subjective & objective parameters among both groups in maximum cases.

The **Clinical assessment of results** shows that in TG I, 7 (46.67%) patients were get Moderate improvement while 8 (53.33%) patients were get Mild improvement. In TG II 10 (66.67%) patients were get Moderate improvement while 5 (33.33%) patients were get Mild improvement.

On comparing the effect of two therapies it can be concluded that TG II (*Brihat Simhanada Guggulu*) was more than TG I (*Vatari Guggulu*), but Mann-whitney test and unpaired t - test for comparison of effect of trial drugs between TGI and TGII shows statistically not significant that means the relief provided by each group was not so much differ.

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