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A Clinical Study to Evaluate the Effect of *Mahaushadhi Kwath* in the Management of *Amavata* Vis-À-Vis Rheumatoid arthritis

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ABSTRACT

Rheumatoid Arthritis (RA) is an autoimmune disorder with multiple joint pain and swelling. RA causes significant morbidity. In modern medicine for treatment of RA, immunosuppressor drugs, steroids and NSAIDS are used that have many adverse effects. Hence there is a need to evaluate an alternate efficacious therapy which does not have any untoward effect. For the present study *Shamana* therapy on *Amavata* by *Mahaushadhi kwath* has been taken. According to Yogratnakar *Amavata Chikitsaprakarana*, *Mahaushadhi kwath* is indicated in *Amavata* because of its contents *Guduchi* that has properties like *Tridoshashamak*, *Samgrahi*, *Balya*, *Dipana*, *Rasayan*, *Raktasodhak*, *Jwaraghna* and *Sunthi* having properties as *Dipana*, *Pachana*, *Anulomana*, *Amadoshahara*, *Vatakaphaha*, *Hrydya*. All these properties are beneficial and effective against *Amavata*, which will do the *Sampraptivishathan* of *Amavata*.

Aims & Objectives – This study was aimed at evaluating the effect of *Mahaushadhi kwath* in the management of *Amavata* vis – a- vis Rheumatoid Arthritis. **Methodology** – In this clinical study 30 patients fulfilling inclusive criteria was given *Mahaushadhi kwath* for 60 days in a dose of 48ml and follow-up after 15 days. All the patients were in *pathya aahara* during the study. **Result** - The relief observed in all the four cardinal symptoms was statistically significant in this study. This proves that the drug *Mahaushadhi Kwath* is effective in alleviating the cardinal symptoms of *Amavata*. **Conclusion** - It was observed that symptomatology of RA closely resembles with the disease *Amavata*. *Mahaushadhi kwath* used in the present study, proved to be a good anti-inflammatory, analgesic formulation. To ascertain the mode of action of *Mahaushadhi kwath* its trial on large sample is recommended.

KEYWORDS *Amavata*, *Rheumatoid Arthritis (RA)*, *Mahaushadhi Kwath*



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INTRODUCTION

In present era of modernization, peoples are shifting their dietary habits, social structure, life style and environment, leading to many crippling diseases. *Amavata* is one of them. From the modern point of view, this disease looks similar to rheumatoid arthritis in its clinical appearance. It is commonest among chronic inflammatory joint disease in which joints become swollen, painful and stiff. Rheumatoid arthritis is an autoimmune disorder with multiple joint pain with swelling¹. The incidence of RA increases between 25 – 55 years of age, after which it plateaus until the age of 75 yrs and then decreases. RA causes significant morbidity- 50% of individuals with RA are unable to work 10years after its onset and life expectancy is reduced by 5years in women and 7 years in men.

Amavata was first described as an independent disease in *Madhav Nidana*. *Amavata* is the disease affecting *Abhyantara* and *Madhyama Roga Marga*, as it involves *Marma*, *Asthi* and *Sandhis*. The disease is a product of vitiation of *Tridosha* though *Ama* and *Vata* are the initiating factors in its pathogenesis the exacerbation make the disease more *Kashtasadhya*². It reflects the equal role of both *Dosha (Vata)* and *Dushya (Ama)* in the causation of this disease. Moreover, the

chief pathogenic factors, being contradictory in nature possess difficulty in planning the line of treatment. Ayurvedic classics Yogratanakar, Bhavaprakash and Bhaishajya ratnavali have mentioned *Amavata* as roga, which has got more similarity to Rheumatoid arthritis. No doubt allopathic system of medicine has got an important role to play in overcoming agony or pain, restricted movement and crippling caused by the articular disease. Drugs are available to ameliorate the symptoms due to inflammation in the form of NSAID's and the long term suppression is achieved by the DMARDs. But most of the NSAIDs have gastrointestinal side effects whereas DMARDs have marrow, renal and hepatic suppression. Hence, the management of this disease is merely insufficient in other systems of medicine and patients are continuously looking with a hope towards Ayurveda to overcome this challenge. Many research work have been done to solve this clinical enigma, but an effective safe, less complicated treatment is still required for the management of *Amavata*. According to Yogratanakar *Amavata*³ *Chikitsa prakarana, Mahaushadhi kwath*³ is indicated in *Amavata*. Where contents *Guduchi* and *Sunthi* are effective and beneficial for *samprapti vishathan* of *Amavata*.



Keeping this point in view, we have selected this research work entitled “**A Clinical study to evaluate the effect of Mahaushadhi Kwath in the management of Amavata vis-à-vis Rheumatoid Arthritis**”

AIM AND OBJECTIVES

- To do conceptual study of *Amavata*
- To do conceptual study of Rheumatoid Arthritis
- To evaluate the effect of *Mahaushadhi Kwath* in the management of *Amavata*
- To study the Aetiopathogenesis of *Amavata* vis-a-vis to Rheumatoid arthritis
- To Study and evaluate the effect of *Mahaushadhi Kwath* in *Amavata* vis-à-vis Rheumatoid Arthritis

MATERIALS AND METHODS

Source of Materials: Rasasashtra Dept. Shri J.G.C.H. Society's Ayurved Medical College and Research Centre,

Literary Source:

Literature related to disease and drug was reviewed by collecting information from various books of Modern medicine, Samhita & other classical books of Ayurveda.

Clinical source – A minimum of 30 patients of either sex diagnosed to be

suffering from *Aamvata* is selected from O.P.D and I.P.D of Shri.J.G.C.H.S Ayurvedic Hospital Ghataprabha, which fulfil the inclusion criteria, of either sex was selected from the OPD and IPD of Shri J.G.C.H.S Ayurvedic Hospital

Study population – Total 30 patients of either sex.

Drug source -

Drugs is taken as per API standard after authentication and *Mahaushadhi kwath* is prepared at Shri J.G.C.H.S AMC pharmacy by adopting standard procedure of *kwath* preparation.

Methodology

Study design

Clinical study to evaluate the effect of *Mahaushadhi kwath* in *Amavata*.

Plan of study –Minimum 30 patients selected on the basis of

Inclusion Criteria

1. Patients fulfilling the classical signs & symptoms of *Aamvat* vis-à-vis Rheumatoid Arthritis will be selected
2. Patients aged between 20-60years.
3. Patients of either sex

Exclusion Criteria

1. Pregnant female who have been diagnosed *Aamvat*
2. *Aamvat* with *upadrava* and occurring as *aupadrava* in other diseases.

Diagnostic Criteria



Patients are diagnosed clinically on the basis of complete history taking and physical examination

Posology

Mahaushadhi kwath will be given in dose of 48 ml twice daily in *abhaktakala* (2 pala)

Duration of the study

This is a clinical study where patients is given *Mahaushadhi kwath* for 60 days and followup in every 15 days. All the patients were in pathya aahara during the study.

Assessment criteria

Assessment will be based on the Subjective and Objective parameter before and after treatment.

Subjective Parameters:

- *Sandhishabdhattha*
- *Vrishikdamshavedna*
- *Angashunatha*
- *Angamarda*
- *Aruchi*
- *Alasya*
- *Gaurava*
- *Jwara*
- *Apaka*

Objective parameters:

- *Sandhisotha*
- ESR
- CRP
- RA factor

OBSERVATIONS AND RESULTS

This study entitled “A *clinical study to evaluate the effect of Mahaushadhi kwath in the management of Amavata vis-à-vis Rheumatoid arthritis*” was conducted in Shri.J.G.C.H.S Ayurvedic Hospital, Ghataprabha.

A minimum 30 patients of either sex diagnosed to be suffering from *Aamvata* was selected from O.P.D and I.P.D of Shri.J.G.C.H.S Ayurvedic Hospital, Ghataprabha.

These data of clinical trial was well documented and observed data tabulated in systematic manner

Total 30 volunteers of age group between 20 to 60 years was selected for the study. Out of that 3 (10%) belongs to 20-30 age group, 14 (46.7%) belongs to 30-40 age group, 8 (26.7%) belongs to 40-50 age groups, 5(16.7%) belongs to 50-60 age group.

In 30 patients, 20 (66.7%) patients was in female category and 10 (33.3) patients was in male category.

In all 30 patients 12 (40.0%) were Illiterate and 18 (60.0%) were Literate.

In 30 patients 19 (63.3 %) patients were from Rural area, and 11 (36.7%) patients were from Urban area.

Agni – In 30 patients, 13 (43.3%) patients was having *Mandagni*, 6 (20.0%) was having *Samagni*, 3 (10.0%) was having



Tikshnagni, and 8 (26.7%) was having *Vishamagni*.

Koshta -In the group of 30 patient, 6 (20.0%) was having *Drava kosta*, 18 (60.0%) patient was having *Kathinkosta*, 6 (20.0%) patient was having *Prakritkosta*.

Diet – In total 30 patients, 19 (63.3%) patients was having Mixed diet, and 11 (36.7%) was having veg diet.

Trishna – In all 30 patients, 9 (30.0%) patient was having *Alptrishna*, 11 (36.7%) was having *Atikshudha*, and rest 10 (33.3%) patient was having *Madhyamtrishna*.

Appetite – In 30 patients, 10 (33.3%) was having good appetite, 12 (40.0%) was having moderate appetite and rest 8 (26.7%) was having poor appetite.

Exercise - In 30 patients, 8 (26.6%) were doing *Alpa* exercise, 2 (6.7%) were doing *Ati* exercise, 4 (13.3%) were doing *Madhyam* exercise and rest 16 (53.3%) were doing no exercise.

Addictions -In 30 patients , 1(3.3 %) had no addiction, 1(3.3%) had addiction of alcohol with smoke, 1(3.3%) had addiction of coffee, 1(3.3%) had addiction of coffee, smoke, alcohol, 1(3.3%) had addiction of smoke with tobacco, 2 (6.7%)had addiction of smoking, tobacco with alcohol and tea, 15 (50.0%) patient were addicted to tea, 5 (16.7%) were addicted to tea and tobacco, 1(3.3%) patient was addicted, 1 (3.3%) patient was addicted to tea and smoke, 1

(3.3%) was addicted to tea, smoke and alcohol

Nidra – In 30 patients, 19 (63.3%) was having irregular pattern of *nidra*, and rest 11 (36.7%) was having irregular pattern of sleep.

Prakriti – In 30 patients, 4 (13.3%) patient was having *Vatapittaprakriti*, 4 (13.3%) was having *Pittakaphaprakriti* and rest 22 (73.3%) was having *Vatakaphaprakriti*.

Ahara shakti – In all 30 patients, 4 (13.3%) patient was having *Pravaraahara Shakti*, 23 (76.7%) was having *Madhyamahara Shakti*, and rest 3 (10.0%) patient was having *Avaraahara Shakti*.

Abhyavaran shakti - In 30 patients, 5 (16.7%) patient were having *Pravar Abhyavaranshakti*, 6 (20.0%) patient was having *Madhyamabhyavaran Shakti*, and rest 19 (63.3%) patient was having *Avara Abhyavaran Shakti*.

Jarana shakti - In 30 patients, 13 (43.3%) patient were having *Madhyam Jaranshakti*, rest all 17 (56.7%) patient were having *Avara jarana Shakti*

Family history of RA - In 30 patients, 16 (53.3%) patient was having Negative family history of RA and rest 14 (46.7%) patient were having Positive family history of RA

The frequency distribution of respondents according to Prodromal Symptoms -



In all 30 patients, 22 (73.3%) patient was having *Sandhithabdhatta*, 19 (63.3%) patient was having *Sandhishotha*, 14 (46.7%) was having *Vrishikdamshavedna*, 18 (60.0%) patient was having *Angasunnata*.

The frequency distribution of respondents according to Associated Symptoms -

In 30 patients, 17 (56.7%) patient was having *Aruchi*, 13 (43.3%) was having *Trishna*, 13 (43.3%) was having *Alasya*, 13 (43.3%) was having *Gauravata*, 9 (30.0%) was having *Daurbalyata*, 12 (40.0%) was having *Chhardi*, 10 (33.3%) was having *Vibandha* and 10 (33.3%) patients was having *Praseka*.

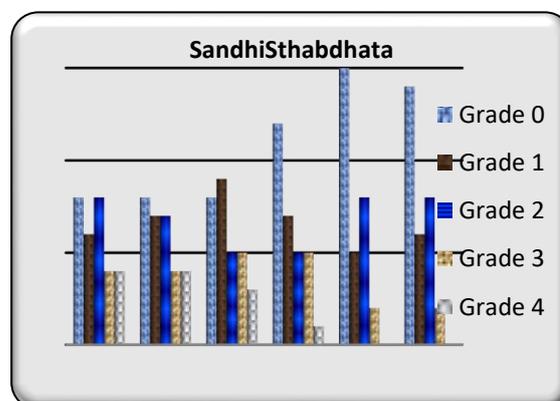
In all 30 patients, 13 (43.3%) patient was having *Antrakujana*, 15 (50.0%) was having *Agnimandya*, 12 (40%) was having *Kandu*, 10 (33.3%) was having *Apaka*, 10 (33.3%) was having *Jwara*, and 16 (53.3%) was having *Angamarda*.

Morning stiffness – From 30 Patients, 20 (66.7%) patients was having morning stiffness, and 10 (33.3%) was not having morning stiffness.

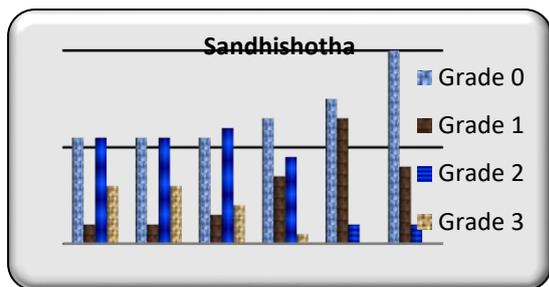
RA factor – From 30 patients, 7 (23.3%) patient was having negative RA factor, 17 (56.7%) was having low positive RA factor, 6 (20.0 %) was having high positive RA factor.

ESR – From 30 patients, before treatment no patient was having ESR less than 20, 14 (46.7%) was having ESR between 20-40, 13 (43.3%) was having ESR between 41-60, and rest 3 (10.0%) was having ESR between 61-80. After treatment from 30 patients, 12 (40.0%) patients was having ESR below 20, 15 (50.0%) was having ESR between 20-40, 3 (10.0%) was having ESR between 41-60. No patients was found to have ESR above 60 after treatment.

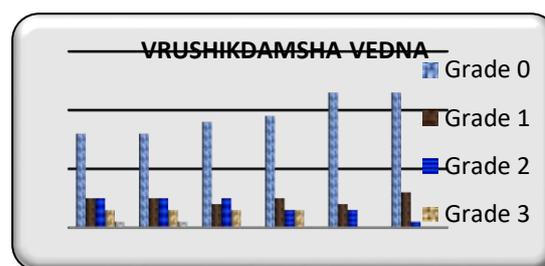
CRP – From total 30 patients, before treatment 3 (10.0%) patient was having negative CRP, 18 (60.0%) Patients was having positive CRP, and 9 (30.0%) patients was having highly positive CRP. And after treatment 13 (43.3%) had negative CRP, 16 (53.3%) had positive CRP and 1 (3.3%) had strong positive CRP. Observation of Prodromal symptoms with their follow up are shown in the table no 1, 2, 3 & 4 and Graph 1, 2, 3 and 4. These shows the effect of mahaushadhi kwath in the patient in there follow up period.



Graph 1 Distribution of the respondents According to Sandhithabdhatta



Graph 2 Distribution of respondents according to Sandhishotha



Graph 3 Showing distribution of respondents according to vrushikdamshavedna

Table 1 The frequency distribution of respondents according to *Sandhi Sthabdhatta*

Sr.no	<i>Sandhi Sthabdhatta</i>	BT	1st FU	2nd FU	3rd FU	4th FU	AT
1.	Grade 0	8	8	8	12	15	14
	%	26.7	26.7	26.7	40.0	50.0	46.7
2.	Grade 1	6	7	9	7	5	6
	%	20.0	23.3	30.0	23.3	16.7	20.0
3.	Grade 2	8	7	5	5	8	8
	%	26.7	23.3	16.7	16.7	26.7	26.7
4.	Grade 3	4	4	5	5	2	2
	%	13.3	13.3	16.7	16.7	6.7	6.7
5.	Grade 4	4	4	3	1	0	0
	%	13.3	13.3	10.0	3.3	0.0	0.0
	Total	30	30	30	30	30	30
	%	100.0	100.0	100.0	100.0	100.0	100.0

Table 2 The frequency distribution of respondents according to Sandhishotha

Sr.no	<i>Sandhishotha</i>	BT	1 st FU	2 nd FU	3 rd FU	4 th FU	AT
1.	Grade 0	11	11	11	13	15	20
	%	36.7	36.7	36.7	43.3	50.0	66.7
2.	Grade 1	2	2	3	7	13	8
	%	6.7	6.7	10.0	23.3	43.3	26.7
3.	Grade 2	11	11	12	9	2	2
	%	36.7	36.7	40.0	30.0	6.7	6.7
4.	Grade 3	6	6	4	1	0	0
	%	20.0	20.0	13.3	3.3	0.0	0.0
	Total	30	30	30	30	30	30
	%	100.0	100.0	100.0	100.0	100.0	100.0

Table 3 The frequency distribution of respondents according to *Vrushikdamsha Vedana*

Sr.no	<i>Vrushikdamsha Vedna</i>	BT	1 st FU	2 nd FU	3 rd FU	4 th FU	AT
1.	Grade 0	16	16	18	19	23	23
	%	53.3	53.3	60.0	63.3	76.7	76.7
2.	Grade 1	5	5	4	5	4	6
	%	16.7	16.7	13.3	16.7	13.3	20.0
3.	Grade 2	5	5	5	3	3	1
	%	16.7	16.7	16.7	10.0	10.0	3.3
4.	Grade 3	3	3	3	3	0	0
	%	10.0	10.0	10.0	10.0	0.0	0.0
5.	Grade 4	1	1	0	0	0	0
	%	3.3	3.3	0.0	0.0	0.0	0.0
	Total	30	30	30	30	30	30
	%	100.0	100.0	100.0	100.0	100.0	100.0



Graph 4 Distribution of respondents as per Angasunnsta

Frequency distribution of respondents as per ALD index –

In 30 patients, 6(20.0%) was having symptoms with or without difficulty, 14 (46.7%) was having symptoms with some difficulty, 10 (33.3%) was having symptoms with much difficulty.

After treatment of 60 days, 16 patients (53.3%) were having symptoms with or without difficulty, 13 (43.3%) were having symptoms with some difficulty, 1 (3.3%) were having symptoms with much difficulty.

DISCUSSION

Amavata is one of the most challenging joint disorders to the human beings as it is chronic in nature and this disease affected lot of people in the country. Changing life style like sedentary & stressful situation and fast food dietetic pattern are responsible for the manifestation of disease.

The aetiological factors like *Guru Ahara*, *Viruddhahara*, *Viruddha Chesta*, *Mandagni*, *Snigdhabhuktattvata* *Vyayama* etc are responsible for *Àmavata*².

Derangement of *Agni* that is *Agnimandya* (hypo-functioning of *Agni*) is a chief factor responsible for the formation of *Àma*, which is main pathological entity of the disease³. In

the *Samprapti* the *Mandagni*, *Amotpatti* *Evam* *Vataprakopa* are important factors.

Due to their similar mode of presentation the term Rheumatoid arthritis can be broadly grouped under heading of *Àmavata*. Indications and contraindications play a chief role in the treatment of the disease.

In all 30 patients taken in this study was between the ages of 20-60 years. In which 14 (46.7%) patients registered was in the age group of 30-40 years which shows its predominance in middle age group. In this *vatadosha* acts as major predisposing factor for this disease process⁴. In this stage of life peoples mainly shift their dietary habits, social structure, life style and environment, leading to aam utpatti and accumulation of *dosha* in the body, thus this age group is found more prone for this disease.

In this study sample, it was observed that most of the patients were female (66.7%) thus showing that predominance of female was higher compared to male patients. In which maximum number of patients were house wife (46.7%). This shows that the nature of household work which includes *vegadharana* & irregular dietary habits would have probably triggered disorder more in females.

Most of the patients of this study was taking mixed diet i.e 63% followed by 36.7% patients were on vegetarian diet.



In addition to diet, maximum patients was highly addicted to tea i.e (50%). The addition is said to be cause of *mandagni* and *dhatu kshaya*^{5, 6} which leads to *vataprakopa* and deranged immunity.

All the patients in study was of *dwi-doshaja prakriti*. In which majority of them were having *Vata-Kapha Prakriti* (73.3%). Thus they are more prone to *vatakapha* disorder like *Amavata*. The samprapti of the disease indicates the involvement of *Ama* (similar quality of *kapha*) and *Vata* chiefly.

Study also concluded that 43.3% of patients had incidence of *Mandagni* and 60% of patient had *kathinkostha*. It can also be said as highest percentage of etiological factor among the patients of this study indicating etiological importance of *Mandagni & kapha* in involvement of this disease. *Mandagni* are the root cause of all the diaesae⁷ and particularly of *Amavata*.

According to modern concept of RA, genetic predisposition is one, among the major causes of this disease. But the data shows that 53.3% pts have negative family history of the disease. So, it can be said that *nidan sevana* plays an important role in the manifestation of the disease compared to presence of family history.

In this series 76.7% patient was sero positive, while 23.3 % patient were sero negative for RA Factor. The presence of Rheumatoid Factor does not establish the diagnosis for

RA, but it can be of prognostic significance, because patients with high titres tend to have more severe and progressive disease with extra-articular manifestation.

As given in table no.5, It was observed that maximum numbers of patient was having *sandhishotha* (63.3%), *sandhishabdthata* (73.3%) *Vrishikdamshavedna* (46.7%) and *Angasunnata* (60.0%). These are the cardinal symptoms of the disease.

Table 5 The effect of therapy on cardinal signs and symptoms of the disease

Sr.no	Cardinal Symptoms	Relief
1.	Sandhishabdthata	44.0 %
2.	Sandhishotha	71.43%
3.	Vrishikdamshavedna	71.42%
4.	Angasunnata	56.25%

In total 30 patients, as explained in table no.6, 17 (56.7%) patients was having *Aruchi*, 13 (43.3%) was having *Trishna*, 13 (43.3%) was having *Alasya*, 13 (43.3%) was having *Gauravata*, 9 (30.0%) was having *Daurbalyata*, 12 (40.0%) was having *chardi*, 10 (33.3%) was having *Vibandha* and 10 (33.3%) patients was having *praseka*, 13 (43.3%) was having *Antrakujana*, 15 (50.0%) was having *Agnimandya*, 12 (40%) was having *kandu*, 10 (33.3%) was having *Apaka*, 10 (33.3%) was having *Jwara*, and 16 (53.3%) was having *Angamarda*.

Table 6 The effect of therapy in various signs and symptoms of the disease

OVERALL EFFECT OF THERAPY

In assessing overall effect of therapy it was seen that none of the patients was



completely relieved in while marked

Sr.no	Symptoms	Relief %
1.	ESR	57.14%
2.	CRP	50.0%
3.	Sandhisthabdhata	44.0 %
4.	Sandhishotha	71.43%
5.	Vrishikdamshavedna	71.42%
6.	Angasunnata	56.25%
7.	Aruchi	82.14%
8.	Trishna	70.0%
9.	Alasya	47.83%
10.	Gaurava	50.0%
11.	Jwara	85.0%
12.	Angamarda	80.0%
13.	Apaka	45.0%

improvement was seen in all the parameters i.e prodromal symptoms and associated symptoms.

Thus, it is obvious from the above observations that *Mahaushadhi kwath* has provided better relief in Sandhisthabdhata, *Sandhi Shotha*, *vrishikdamshavedna*, *angasunnata*, *Aruchi*, *Trishna*, *Alasya*, *Gaurava*, *Apaka*, *Jwara* and *Angamarda*

Probable Mode of Action of the Drug:-

Samprapti Vighatana is said to be the treatment. Therefore the action of a drug means to dismantle the *Samprapti Ghataka* of the disease. Hence to explain the mode of action of a drug means to establish a relationship between the *Samprapti Ghataka* of the disease and pentafold principles of *Rasa*, *Guna*, *Virya*, *Vipaka* and *Prabhava* of a drug. On the basis of these results and *yogratnakaraam vata chikitsa prakarna*⁸ general principle of mode of action of drug the probable mode of action *Mahaushadhi kwath* containing

Sunthi & *Guduchi* in the disease *Amavata* is being discussed here.

Probable Mode of Action of Mahaushadhi Kwath:-

The ingredients of *Mahaushadhi kwath* are *Sunthi* and *Guduchi*, *Guduchi* having properties as *Tridoshashamak*, *Samgrahi*, *Balya*, *Dipana*, *Rasayan*, *Raktasodhak*, *Jwaraghna* and *Sunthi* having properties as *Dipana*, *Pachana*, *Anulomana*, *Amadoshahara*, *Vatakaphaha*, *Hrudya*. These properties of the drug are against the *Guru*, *Snigdha*, *Pichchila*, *Sheeta* properties of *Ama* and these properties help to mitigate the *Ama* in to the body.

The drug also increases the *Agni bala* i.e *Pachakagni* and *Dhatvagni* in to the body by its *Agni deepaniya* action and hence it prevents the further formation of *Ama* in to the body.

It reduces the *Pratyatma Lakshana* (Cardinal clinical features) of *Amavata* i.e *Sandhishhula*, *Sandhisotha*, *Sandhi-sparsha-asahyata* and *Sandhi-stabdhatta* by its *Vedanasthapana*, *Sothahara* and *Mutrakaraka* action.

It relieves the *Samanyalakshana* (General clinical features), *Pravriddhavastha Lakshana* and *Dosanubandha lakshana* of *Amavata* i.e *Angamarda*, *Jwara*, *Gaurava*, *Alasya*, *Aruchi*, *Trishna*, *Avipaka*, *Agnidaurbalya*, *Utsahahani*, *Daha*, *Hrid-graha*, *Kandu*, etc by its



Angamardanashaka, Jwaraghana, Aruchi nashaka, Trishana nashaka, Deepaniya, Balya, Dahanashaka, Hridya and *kandughna* action.

It reduces *Vidvibandha, Anaha, Kukshi Kathinata, Kukshishula, Antrakujana* by its *Shulaghana* and *Anulomana* i.e purgative like action. In the *Srotoabhishyanda* by the *Ama*, drugs dose *Sroto shodhana* by the help of its *lekhana* action. By antioxidant property it mitigates the *Ama* (i.e Free radical like substance) due to *Rasayana* effect of its some ingredients. It also replenishes and rejuvenates the impaired *Dhatus* by its *Rasayana* effect.

CONCLUSION

At the end of the study, following conclusion was drawn on the basis of observations, results achieved and through discussion in the present context, it can be summarised as

- *Àmavata* as a separate disease, it is not described in *Brihatrayi*, first time its detailed description is available in medieval period text Madhava Nidana.
- *Àmavata* is Chronic disease in nature (Arthritis rank second as the most prevalent chronic ailment after heart disease) and has insidious onset.

• As the word suggests, in *Àmavata*, the pivoting entities in disease process are *Àma* and Vitiated *Vata*.

• It can be concluded that hypo-functioning of *Agni* otherwise termed as *Mandagni* is largely responsible for the formation of *Àma* which chief pathogenic factor of the disease.

• All the subtypes of *Vata* are involved either earlier or in the later stages of *Àmavata*.

• All the *Nidanas* of *Àmavata* ultimately results in *Vataprakopa* and *Mandagni* (*Àma* production) initiating further pathogenesis.

• Pathogenesis of *Àmavata* is initiated by *Àma*, occupying various *Shleshma Sthanas*, mainly joints.

• It is observed that symptomatology of Rheumatoid arthritis closely resembles with the disease *Àmavata* in ayurveda.

• From this study, it is concluded that non-compliance of code of *dincharya*, along with *aharsevana vidhi* and *kaal* plays a major role in causation of disease. Hence, we can say that code and conduct of healthy eating must be followed to achieve early and better results of the disease.

Àmavata is the disease having *Vata* and *Kapha* predominance. But, in fact it is *Tridoshika* with origin from both *Pakvashaya* and *Àmashaya*.



This study has provided better relief in most of the cardinal, general and associated features of the disease at significant level. Also better relief was observed in *Sandhishotha*, *Vrishikdamshavedna*, *Angamard*, *Aruchi*, *Jwara*, *Trishna*, *Apaka*, *Alasya*, *Gaurava* and *Angasunnata* at significant level.

- In further studies, estimation of serum IgE level should be done before and after treatment to prove its efficacy on immune system.
- The prevalence of R.A. is estimated to be 1.2% out of 60% of the population having some form of Arthritis by the age of 30-40, being three times more common in women than in man.
- Medication such as aspirin and NSAID are used to reduce pain with inflammation in R.A. but these drugs are often associated with hazardous side effects such as G.I. bleeding, ulcers and abdominal pain to name few.
- *Mahaushadhi kwath* used in the present study, proved to be a good anti-inflammatory, analgesic formulation. Due to certain limitations, it was not possible to carry out chemical analysis of this medicine. In future, a Pharmacological as well as Phytochemical study may be planned.

- To ascertain the mode of action of *Mahaushadhi kwath* its trial on large sample is recommended.
- As definitive co-relation was found between the stated properties of *Àma* and free radicals, it opens gate for another study to find out whether the formulation possess Anti-oxidant properties.



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