

CLINICAL STUDY OF “SHTAYADI KWATHA” IN THE MANAGEMENT OF AAMVATA (RHEUMATOID ARTHRITIS)

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ABSTRACT

Ayurveda means “The Science of life.” *Ayurvedic* knowledge originated in India more than 5,000 years ago and is often called the “Mother of all healing.” *Ayurvedic* medicine is a type of ancient medicine practised all over the world. Its fundamental goal is to promote optimal health and well-being through a holistic approach that takes into account the mind, body, behaviour, and environment. For rejuvenation, lifespan promotion, and delaying the ageing process, common spices, as well as herbs and herbal mixtures, are used in treatment. According to *Ayurveda*, *Tridosha* are the factors which are responsible for health (*Doshasamyata*) or cause of disease (*Doshavaishamyata*). Among *Tridosha*, *Vata* is an essential constituent and responsible for maximum disease and ‘*Aamvata*’ is one of them. The disease *Aamvata* can concern the result of combination of *Ama*

and *Vata* due to *Mandagni*. This acts like *visha* in the body and sets in different types of disorders, among them *Aamvata* is very important disease. In modern, *Aamvata* can be correlated with Rheumatoid Arthritis. In the present clinical trial *Shtayadi Kwatha* given orally, administered for 3 months twice a day after food. Routine Blood Examination – Hb%, TLC, DLC, ESR, Fasting Blood Sugar (FBS), C- Reactive Protein (CRP), Rheumatoid Arthritis Factor (RA factor).

KEYWORDS: *Mandagni*, *Tridosha*, *Rasavaha srotas*, *Ama*, Rheumatoid arthritis, *Rasavata*, *Shtayadi Kwatha*.

INTRODUCTION

The changing lifestyle of human being by means of diet and behaviour pattern plays a major role in the manifestation of several disorders. Thus, this type of pattern may also lead to the development of disease *Aamvata*.

No reference of *Aamvata* as a fully clinical entity is found in any of the *Ayurvedic* classics in *Samhita Kala* but little description has been found in relation with *Ama* or *Aamvata*. *Madhavakara* was the first author who has described *Aamvata* as a separate disease entity in his text '*Roga Vinishchaya*' which is later as '*Madhava Nidan*'. In the modern era, *Acharya Gananatha Sena* (1943) has coined the term *Rasavata* for *Aamvata*. The clinician of modern era Prof. *Yadunandan Upadhyaya* (1953) and other eminent scholars has equated the *Aamvata* with Rheumatoid arthritis.

When *Ama* and *Vata* simultaneously get vitiated and enters the *Trika* and *Sandhi* finally leading to *Stabdghata* (stiffness) of the body, the condition is known as *Aamvata*. In early stages only the joint involvement can be seen with cardinal features like *Angamarda*, *Aruchi*, *Alasya*, *Jwara*, *Angashoonata* etc but if it is not treated with systemic treatment procedures, then through the *Madhya Roga Marga*, it will lead to cardiac damage and further complication.

The worldwide prevalence of RA has been estimated as 0.24 percent based upon the Global Burden of Disease 2010 Study. The onset of disease is frequent during 4th and 5th decade of life with 80% of patients developing the disease between 35-50 years of age. Community prevalence study shows that female are more suffers than male and the ratio of occurrence between them is 3:1. Prevalence increases with 5% of women and 2% of men over 55 years being affected.

An effort is made here to study the aetiopathogenesis and *Samprapti Vighatana* of *Aamvata* through *Shtayadi Kwatha*. It can be a major relief to the patient.

AIMS AND OBJECTIVES

- 1) To find out the aetiopathogenesis, Conceptual and Clinical study on *Aamvata* (Rheumatoid Arthritis) according to *Ayurveda* as well as modern science.
- 2) Clinical study of "*Shtayadi Kwatha* in the management of *Aamvata*."
- 3) To evaluate the adverse drug's reaction of the trial drug.

MATERIAL AND METHODS

Following materials and methods will be adopted for conducting the present research project-

A. Selection of Cases

40 patients either sex of suffering with *Aamvata* (Rheumatoid Arthritis) fulfilling the inclusion & diagnostic criteria will be select from OPD & IPD of DSRRAU hospital Jodhpur by simple randomized method. Patient will be examined thoroughly as per history sheet specially prepared for this clinical study. Written consent will be taken from the patient before starting trial.

B. Patient Selection Criteria

(a) Inclusion Criteria

1. Diagnosed and confirmed cases of *Aamvata* (Rheumatoid arthritis) on the basis of the sign and symptoms.
2. Patients between the age group of 20 to 60 years of either sex.

(b) Exclusion Criteria

1. Patients below 20 & above 60 yrs.
2. Pregnant women & lactating mother.
3. Patients suffering from serious systemic disorders like Hypertension, Cardiac and Renal Disorders, Malignant disease, Diabetes mellitus, Major liver disorders, Immune compromised host etc.

(c) Withdrawal Criteria

1. Progressive worsening of disease & development of complication during trial.
2. Patient who does not complete the trial duration with follow up.
3. Death of patient due to any cause.

(d) Study Design

Type of study - Randomised open labelled clinical trial

No. of patients - 40

Trial duration - 3 months

Follow up - On every 7 days

Dose of *Shtayadi Kwatha* – 20 ml twice in a day after food.

CRITERIA FOR ASSESSMENT

(a) Subjective parameters

The following sign and symptoms of *Aamvata* will be assessed for any improvement before and after the therapy- *Sandhishoola* (Pain in joint), *Angmarda* (Bodyache), *Aruchi* (Anorexia), *Trishna* (Polydipsia), *Alasya* (Lassitude), *Gaurava* (Heaviness of body), *Jwara* (fever), *Apaka* (Indigestion of food), *Bahumutrata* (Polyuria) etc.

Different sign & symptoms found in various text of *Ayurveda* and Modern medicine will be graded on the basis of score ranging from 0 to 4. In the present study the sign & symptoms will be graded & scored as described in the following tables –

1. *Sandhishoola* (Pain in joints)

Rating	Pain level
0	No pain
1	Mild pain (nagging, annoying, interfering little with activities of daily living)
2	Moderate pain (interferes significantly with activities of daily living)
3	Severe pain (disabling; unable to perform activities of daily living)

2. *Sandhishotha* (Swelling of the joints)

1.	No swelling	0
2.	Mild swelling	1
3.	Moderate swelling	2
4.	Severe swelling	3

3. *Sandhijadya* (Stiffness of the joints)

1.	No stiffness or stiffness lasting for 5 mints	0
2.	Stiffness lasting for 5 min to 2 hours.	1
3.	Stiffness lasting for 2 to 8 hours.	2
4.	Stiffness lasting for more than 8 hours.	3

4. *Angmarda* (Bodyache)

1.	No body ache	0
2.	Generalized (<i>Sarvang</i>) body ache of and on during the day	1
3.	Generalized body ache during most part of the day not affecting any work	2
4.	Generalized body ache throughout the day but person is able to do	3

5. *Aruchi* (Anorexia)

1.	Willing toward all <i>Bhojya Padartha</i>	0
2.	Unwilling toward some specific <i>Ahara</i> but less than normal	1
3.	Unwilling toward some specific rasa i.e- <i>Katu/Amla/Madhura</i> food	2
4.	Unwilling for food but could take the meal	3

6. Trishna (Excessive thirst)

1.	Feeling of thirst (7-9 times /24 hours) and relieved by drinking water	0
2.	Feeling of moderate thirst (>9-11 times /24 hours) and relieved by drinking water.	1
3.	Feeling of excess thirst (>11 – 13 times/24 hours) not relieved by drinking water.	2
4.	Felling of severe thirst (>11-13 times/24 hours) not relieved by drinking water	3

7. Alasya (Laziness)

1.	No <i>Alasya</i> (doing satisfactory work with proper vigour and in time)	0
2.	Doing satisfactory work/ late initiation, like to stand in comparison to walk	1
3.	Doing unsatisfactory work/late initiation, like to sit in comparison to stand	2
4.	Doing little work very slow, like to lie down in comparison to sit	3

8. Gaurava (Heaviness)

1.	Feeling of heaviness	0
2.	Occasional feeling of heaviness	1
3.	Continuous feeling of heaviness, but patient does usual work	2
4.	Continuous felling of heaviness which hampers usual work	3

9. Jwara (Fever)

1.	No fever	0
2.	Occasional fever subsides by itself	1
3.	Daily one subsides by itself	2
4.	Daily once subsides by drug	3

10. Apaka (Indigestion of food)

1.	No <i>Apaka</i> / Indigestion / prolongation of food digestion	0
2.	Period occasionally related to heavy meal	1
3.	<i>Avipaka</i> occurs daily after each meal take 4 to 6 hours for <i>Udagara</i>	2
4.	<i>Shuddhi</i> etc.	3

11. Bahumootrata (frequency of micturition per 24 hours)

1.	Less than 4 times /24 hrs	0
2.	4-6 times /24 hrs	1
3.	6 -10 times /24 hrs	2
4.	10 times /24 hrs	3

(b) Objective Parameters (Laboratory Profile)

Following investigation will be assessed for objective assessment-

- Routine Blood Examination – Hb%, TLC, DLC, ESR
- Fasting Blood Sugar (FBS)
- Serum Uric acid
- C- Reactive Protein (C-RP)
- Rheumatoid Arthritis Factor (RA factor)

- Urine examination Routine and Microscopic (R /M)
- CRP, R.A Factor, ESR- After every month to be.

Data Documentation and Statistical Analysis

Data collected in various stages of the clinical trial were analysed using Graph Pad Instat (version 3.10, 32 bits for window created July 10, 2009)

TRIAL DRUGS

SHTAYADI KAWATH

Shtayadi Kwatha is mentioned in *Chakradatta*, chapter 25, *Aamvata Chikitsa Prakaram* 3rd *Shloka*.

Table No. 1: Showing contents of *Shtaydi Kwatha*.

S. No.	Name of drug	Botanical name	Used part	Proportion
1.	<i>Shati</i>	<i>Hedychium spicatum</i>	Rhizome	1part
2.	<i>Shunthi</i>	<i>Zingiber officinale</i>	Rhizome	1part
3.	<i>Abhya</i>	<i>Terminalia chebula</i>	Fruit	1part
4.	<i>Vacha</i>	<i>Acorus calamus</i>	Rhizome	1part
5.	<i>Devdaru</i>	<i>Cedrus deodara</i>	Twak	1part
6.	<i>Ativisha</i>	<i>Aconitum heterophyllum</i>	Root	1part
7.	<i>Amrita</i>	<i>Tinospora cordifolia</i>	Rhizome	1part

OBSERVATION

Table No. 2: Showing Effect of Therapy in Subjective Parameters variables -

- Wilcoxon matched paired single ranked test in individual group before and after scores.

Variable	Mean		Mean Diff.	% Relief	SD±	SE±	P	S
	BT	AT						
<i>Sandhishoola</i>	2.25	1.175	1.075	47.7	0.474	0.075	<0.0001	ES
<i>Sandhishotha</i>	2.15	1.100	1.050	48.8	0.450	0.071	<0.0001	ES
<i>Sandhijadyata</i>	1.95	1.150	0.800	41.0	0.5639	0.089	<0.0001	ES
<i>Angmarda</i>	2.025	0.850	1.175	58.0	0.5495	0.0868	<0.0001	ES
<i>Aruchi</i>	1.575	0.625	0.950	60.3	0.5524	0.0873	<0.005	S
<i>Trishna</i>	1.750	0.700	1.050	60.0	0.5038	0.0796	<0.0001	ES
<i>Alasya</i>	1.76	0.675	1.075	61.0	0.655	0.1037	<0.0001	ES
<i>Gaurava</i>	1.650	0.800	0.850	51.1	0.5796	0.0916	<0.005	S
<i>Jwara</i>	2.0	0.975	1.025	51.2	0.5305	0.0838	<0.0001	ES
<i>Apaka</i>	1.90	0.800	1.100	57.8	0.4961	0.0784	>0.005	NS
<i>Bahumutrata</i>	1.85	0.775	1.075	58.1	0.5723	0.0904	<0.005	S

Table no. 3: Showing Effect of Therapy on Objective Parameters.

- Paired 't' test (P = Two tailed 'p' value) in individual group comparing before and after scores.

Variable	Mean		Mean Diff.	% Relief	SD±	SE±	T	P	S
	BT	AT							
Hb (gm%)	11.38	11.853	0.465	4.08	0.8133	0.128	3.622	0.004	ES
TLC	9424.5	8432.1	992.4	10.5	1603.1	413.7	2.396	0.0311	S
ESR	37.78	33.99	3.79	10.7	4.925	0.8991	4.189	0.0002	HS
Serum uric acid	4.888	4.410	0.4775	9.77	0.3497	0.0552	8.63	<0.0001	ES
Fasting Blood Sugar	94.67	91.500	3.175	3.34	2.899	0.4584	6.927	<0.0001	ES
RA factor	33.73	15.703	18.028	53.8	5.812	0.9190	19.61	<0.0001	ES
CRP	6.900	2.950	3.950	57.2	1.431	0.2263	17.45	<0.0001	ES

DISCUSSION ON EFFECT OF TREATMENT ON CHIEF COMPLAINTS

Table No. 4: Showing Overall % Effect of Therapy on Subjective Parameters.

S.NO.	SUBJECTIVE PARAMETERS	% RELIEF
1.	SANDHISHOOLA	47.7%
2.	SANDHISHOTHA	48.8%
3.	SANDHIJADYATA	41.0%
4.	ANGAMARDA	58.0%
5.	ARUCHI	60.3%
6.	TRISHNA	60.0%
7.	ALASYA	61.0%
8.	GAURAVA	51.15%
9.	JWARA	51.2%
10.	APAKA	57.8%
11.	BAHUMOOTRATA	58.1%
OVERALL AVERAGE % EFFECT		54.09%

Table no. 4 reveals that symptomatically 54.09 % relief was observed in present clinical trial.

So, it can be said that significant/ satisfactory relief was found during this research.

Discussion regarding probable mode of action of *Shtayadi Kwatha*.

S. No.	Drugs name	Rasa	Guna	Vipaka	Veerya	Doshaghnta
1.	Shati	Katu, Tikta, Kashaya	Laghu, Tikshna	Katu	Ushna	Kaphavata shamak
2.	Shunthi	Katu	Laghu, Snigdha	Madhura	Ushna	Vatakapha shamak
3.	Abhya	Madhura, Amla, Katu, Tikta, Kashaya	Laghu, Ruksha	Madhura	Ushna	Tridoshashamak (Vatashamak)
4.	Vacha	Katu, Tikta	Laghu, Tikshna	Katu	Ushna	Kaphavata shamak
5.	Devdaru	Tikta	Laghu, Snigdha	Katu	Ushna	Kaphavata shamak
6.	Ativisha	Tikta, Katu	Laghu, Ruksha	Katu	Ushna	Tridoshashamak (Visheshtah Kaphapitta)
7.	Amrita	Tikta, Kashaya	Guru, Snigdha	Madhura	Ushna	Tridoshashamak

From the above table it is clear that maximum no. of drugs of *Shtayadi Kwatha* contain *Katu* and *Tikta Rasa* with *Laghu* and *Ruksha Guna*. Most of the drugs have *Tridoshashamaka* mainly *Kaphavata shamak Doshkarma* and are *Shothahara*, *Pachana*, *Deepana*, and *Vatanulomana* characteristics increase *Agni's* ability to digest *Ama* and minimize swelling.

Shati is *Shoolahara*, *Grahi*, *Kaphavataghna*, *Mukhashodhana Karma*.

Shunthi has also been found to be useful in the treatment of rheumatic and musculoskeletal diseases, providing pain and swelling alleviation.

Amarita is anti-inflammatory and immune-stimulating properties. Due to the chronic nature of the disease, patients remain in a state of general debility (*Daurbalya*). This medication improved the quality of *Dhatu* production while also restoring the *Dushti* of *Dhatu*s because it is a *Rasayana* (*Dushya*). The patient's *Vyadhikshamatva* was improved by this *Rasayana* medication.

Ativisha with *Deepana*, *Pachana*, antipyretic, and analgesic qualities.

Abhaya with *Rasayana*, *Shothahara*, *Deepana*, *Pachana*, *Vatanulomana*, and anti-inflammatory qualities in fruits.

Devdaru has anti-inflammatory, analgesic, and spasmolytic effects.

Vacha with *Vatanulomana Deepana* and *Vedanasthapana* characteristics.

Discussion on effect of treatment on the clinical symptomatology

After calculation and observation following facts reveals that the patients showed statistically Highly Significant changes in symptoms of *Sandhishoola*, *Sandhijadya*, *Sandhishotha*, *Angamarda*, *Alasya*, *Jwara*, and *Trishna*, Significant changes in the symptoms of *Aruchi*, *Gaurava*, *Apaka* and *Bahumootrata*.

Discussion on effect of treatment on the lab investigation

After calculation and observation following facts reveals that the patients showed Statistically Highly Significant changes in ESR, CRP, R.A. Factor. Statistically significant changes were found in Fasting Blood Sugar, Serum Uric Acid. Statistically Not significant changes were found in specific gravity of urine, PH of urine, RBC Count, WBS Count, platelet count.

CONCLUSION

- *Shtayadi Kwatha* are effective in management of *Aamvata* when used with therapeutic lifestyle changes. It is definitely reducing all the symptoms of *Aamvata* that includes *Sandhishoola* (Pain in joints), *Sandhijadya* (Stiffness in joints), *Sandhishotha* (Swelling in joints), *Angamarda* (Bodyache), *Alasya* (Laziness), *Jwara* (Fever), *Trishna* (Thirst), *Aruchi* (Anorexia), *Gaurava* (Heaviness), *Apaka* (Indigestion of food) and *Bahumootrata* (Frequency of urine per 24 hours). These improvements in symptoms are brought about by *Samprapti Vighatana* of the disease. It proves that the trial drug possess hypoglycemic effects.
- Drug was well tolerated by all the patients and no toxic or unwanted effects were noticed in any patient, suggesting that the drug selected for current clinical trial are absolutely safe for internal use.