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Research Article

AMAPACHANA PROPERTY OF *SUNTHI* (*ZINGIBER OFFICINALE* ROXB) IN RAISED ESR ASSOCIATED WITH *AMAVATHA*- A CLINICAL STUDY

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KEYWORDS: *Amavatha, Sunthi, Zingiber Officinale,* ESR, *Amapachana* Property.

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ABSTRACT

Amavatha is a disease caused due to the vitiation or aggravation of *Vayu* associated with *Ama.* Vitiated *Vayu* circulates *Ama* all over the body through *Dhamanies* and takes shelter in *Sleshmastana* (*Amasaya, Sandhi* etc), producing symptoms such as stiffness, swelling and tenderness in small and big joints. The symptoms of *Amavatha* are identical to rheumatoid arthritis and in common clinical practices it can be observed that there will be raised ESR value in conditions like Rheumatoid arthritis due to chronic inflammation. As and when the inflammation aggravates due to *Ama*, the ESR value does not come to the normal level. Various drug trials were already carried out on *Amavatha*, yet there is a lacuna in the management of *Amavatha*. As *Pachana* is considered as the first and for most treatment of *Amavatha*. A research was conducted to find out the *Amapachana* property of *Sunthichurna* in raised ESR associated with *Amavatha*. 30 patients were randomly selected from the outpatient department of *Dravyagunavijnana*, Govt Ayurveda college, Thripunthura. 2gm of *Sunthi churna* in divided dose were given to the patients before food with lukewarm water as *Anupana* for 30 days. The result showed significant decline in the severity of subjective symptoms like *Angamarda* (Pain on body parts), *Aruchi* (Anorexia), *Alasya* (Lethargy), *Gourava* (Heaviness), *Apaka* (Indigestion) and *Sopha* (Oedema) and there is a mild decrease in the value of ESR. The study revealed that the trial drug is effective in case of *Amavatha.*

INTRODUCTION

Ayurveda, the ancient medical system and science of life can be considered as the art of healing and prolonged life. Philosophical and scientific base of *Ayurveda* is the rich house of hidden treasure of principles and practices. As per *Ayurveda,* the diseased state is the disturbance in the equilibrium of *Dosha, Dhathu*, and *Mala*. The right knowledge behind correction cannot be obtained without understanding the depth of pathology. *Ama* is an important factor in the pathology of any diseases[1]. In *Ayurveda* classics the word *Ama* represents a condition in which ingested food (*Ahara)* or functional principles of body (*Doshas*) produce vitiated *Ahara rasa* in stomach (*Amasaya*) [2] and is considered as a root cause of disease. *Amavatha* is a diseased condition especially due to the involvement of *Amadosha* and *Vatha*[3]. The involvement of *Ama* and vitiated *Vata,* results in the inflammation of body parts which is an important sign in. In common clinical practice it can be observed that in conditions like Rheumatoid arthritis, there will be raised ESR value, as a result of chronic inflammatory process. As and when the inflammation aggravates due to *Ama*, the ESR value does not come to the normal level. *Pachana* is the first and foremost treatment of *Ama* recommended by *Acharyas*[4]. In *Sarngadhara Samhitha* the term *Pachana* is defined as the drug action (*Karma*) that digest *Ama*. *Sunthi* (*Zingiber officinale* Roxb) is a *Pachana* drug and is indicated in *Amavatha* and *Sopha*[5]. So a study was conducted to evaluate the *Amapachana* property of *Sunthi* in raised ESR associated with *Amavatha.*

MATERIALS AND METHODS

Objective: To evaluate the *Amapachana* property of *Sunthichurna* in Raised ESR conditions associated with *Amavatha.*

Selection of cases: 30 patients from Out Patient Department of Government Ayurveda College, Tripunithura were selected randomly as per exclusion and inclusion criteria.

Inclusion criteria

- Age – Patients aged between 30 to 65 years
- Diagnosed as *Amavatha* as per subjective criteria, with raised ESR value.
- Men with ESR>20mm/hr
- Women with ESR >30mm/hr

Exclusion Criteria

- Diagnosed disorders like malignancy, gout, trauma T.B. and other connective tissue disorders and associated other systemic diseases.

- Unwilling patients
- Hepatic or renal failure
- Pregnant and lactating mother

Study design: It was an interventional pre post test without control. 30 patients from Out Patient Department of Government Ayurveda College, Tripunithura were selected as per exclusion and inclusion criteria. *Sunthichurna* in the form of capsule had given internally in a dose of 2 gm per day (in divided dose of 1gm twice daily). Clinical evaluations according to subjective and objective criteria were done. Follow up was done after 45 days.

Plan of intervention

Drug: *Sunthichoorna* (powder of rhizome of *Zingiber officinale*).

Form of Medication: Capsule

Dose: 2capsule (each of 500mg) twice a day (morning and evening).

***Anupana*:** lukewarm water

Time of administration: before food,

Duration of study : 30days

Period of study: 18months

Preparation of medicine

The collected raw drugs were washed thoroughly, removed all earthy and foreign materials, chopped into small pieces, then dried properly and made into fine powder. Powdered drugs individually passed through sieve number 85 to prepare a fine powder. Then made in to capsule, each capsule contains 500mg of *Sunthichurna*.

Assessment criteria

The patients were assessed on the basis of subjective and objective criteria.

Subjective criteria

Subjective symptoms were assessed by the grading system. Scoring was done from 0 to 3 depending on the severity of symptoms (Grade 0 is the normal, Grade 1 is mild, Grade 2 is moderate and Grade 3 is severe in all the subjective criteria).

Lakshana seen in the condition of *Ama* and in the disease *Amavatha.*

- *Angamarda* (pain on the body parts)
- *Aruchi* (Anorexia)
- *Thrishna* (Thirst)
- *Aalasya* (Laziness)
- *Gourava* (Heaviness)
- *Jwara* (fever)
- *Apaka* (Indigestion)
- *Sopha* (Oedema)

Objective criteria

E.S.R (Westergren method)

Statistical Analysis

The result was Statistically analyzed using Wilcoxon test and paired t test.

Study variable

Study variables-age, economic status, nutritional status, educational status etc.

Ethical clearance

Ethical clearance was obtained from Institutional Ethical Committee(Dated 05/05/2015).

OBSERVATION AND RESULTS

Observations and results in the study were detailed in table

Table 1: Distribution of Patients according to Clinical Symptoms

Clinical Symptoms	No: of Patients	Percentage
Angamarda	26	86.7%
Aruchi	20	66.7%
Thrishna	0	0.0%
Alasya	11	36.7%
Gourava	10	33.3%
Jwara	0	0.0%
Apaka	7	23.3%
Sopha	14	46.7%

Table 2: Change in *Angamarda* after Treatment

Angamarda	Before Treatment	After Treatment	Z – value
Grade 0	0 (0.0%)	25 (83.3%)	5.099**
Grade 1	25 (83.3%)	1 (3.3%)	
Grade 2	1 (3.3%)	0 (0.0%)	
Grade 3	0 (0.0%)	0 (0.0%)	

** The change is significant at 0.01 level

Table 3: Change in *Aruchi* after Treatment

Aruchi	Before Treatment	After Treatment	Z – value
Grade 0	0 (0.0%)	20 (66.7%)	4.472**
Grade 1	20 (66.7%)	0 (0.0%)	
Grade 2	0 (0.0%)	0 (0.0%)	
Grade 3	0 (0.0%)	0 (0.0%)	

** The change is significant at 0.01 level

Table 4: Change in *Alasya* after Treatment

Alasya	Before Treatment	After Treatment	Z – value
Grade 0	0 (0.0%)	11 (36.7%)	3.317**
Grade 1	11 (36.7%)	0 (0.0%)	
Grade 2	0 (0.0%)	0 (0.0%)	
Grade 3	0 (0.0%)	0 (0.0%)	

** The change is significant at 0.01 level

Table 5: Change in *Gourava* after Treatment

Gourava	Before Treatment	After Treatment	Z – value
Grade 0	0 (0.0%)	10 (33.3%)	3.162**
Grade 1	10 (33.3%)	0 (0.0%)	
Grade 2	0 (0.0%)	0 (0.0%)	
Grade 3	0 (0.0%)	0 (0.0%)	

** The change is significant at 0.01 level

Table 6: Change in *Apaka* after Treatment

Apaka	Before Treatment	After Treatment	Z – value
Grade 0	0 (0.0%)	7 (23.3%)	2.646**
Grade 1	7 (23.3%)	0 (0.0%)	
Grade 2	0 (0.0%)	0 (0.0%)	
Grade 3	0 (0.0%)	0 (0.0%)	

** The change is significant at 0.01 level

Table 7: Change in *Sopha* after Treatment

Sopha	Before Treatment	After Treatment	Z – value
Grade 0	0 (0.0%)	13 (43.3%)	3.606**
Grade 1	13 (43.3%)	0 (0.0%)	
Grade 2	1 (3.3%)	1 (3.3%)	
Grade 3	0 (0.0%)	0 (0.0%)	

** The change is significant at 0.01 level

Objective criteria

Table : 8 Change in ESR after Treatment

ESR	Mean	SD	t – value
Before Treatment	51.73	19.56	
After Treatment	51.43	20.26	0.638^{NS}
After Follow up	50.27	20.51	1.672^{NS}

NS ➔ The change is significant

DISCUSSION

***Angamarda* (pain on body parts):** Out of 30 patients participated the study, most of the patients had *Angamarda* as a common symptom. Before treatment severity of the *Angamarda* reported as 1 patient (3.3%) had grade 2, 25 patients (83.3%) as grade 1. Here the p-value is less than the significance level 0.01; indicating that the change in *Angamarda* after treatment is significant. The study reveals that 83.3% cases of grade 1 is reduced to grade 0 and 3.3% cases of grade 2 is reduced to grade 1 after treatment. *Angamarda* is a main symptom of *Amavatha.* Here *Srothorodha* by *Ama* results in the vitiation of *Vatha*. As *Sunthi* is having both *Pachana* and *Deepana* action*, Ama* get digested and thus results in the *Anulomana* of *Vatha*. *Katu rasa* of the drug act as *Srothosodhana*. *Laghuguna* and *Ushnaveerya* of the drug is beneficial to increase digestive fire. *Snigdaguna* and *Madhura vipaka* of *Sunthi* will alleviate *Vatha.*

Aruchi: Out of 30 patients participated the study, most of the patients had *Aruchi* as a common symptom. Before treatment severity of the *Aruchi* reported as 20 patients (66.7.%) as grade 1, Here the p-value is less than the significance level 0.01; the change in *Aruchi* after treatment is significant. The table shows that 66.7% cases of grade 1 *Aruchi* was seen before treatment and is reduced to grade 0 after treatment. *Katu rasa* of the drug act as *Srothosodhana* and *Kaphahara*. *Ushnaveerya* and *Laghuguna* of the drug also alleviate *Kapha* and *Amadosha* thus helps to alleviates *Aruchi*.

Alasya: Out of 30 patients participated the study, most of the patients had *Alasya* as a common symptom. Before treatment severity of the *Alasya* reported as 11 patients (36.7%) as grade 1. Here the p-value is less than the significance level 0.01; the change in *Alasya* after treatment is significant. The table shows that 36.7% cases of grade 1 *Alasya* was seen before treatment and is reduced to grade 0 after treatment. As the drug *Sunthi* is having *Srodhosodhana, Deepana* and *Pachana* Property it works as an effective drug in *Alasya.*

Gourava: Out of 30 patients participated the study, most of the patients had *Gourava* as a common symptom. Before treatment severity of the *Gourava* reported as 10 patient (33.3%) as grade 1. Here the p-value is less than the significance level 0.01; the change in *Gourava* after treatment is significant. The table shows that 33.3% cases of grade 1 *Gourava* was seen before treatment and is reduced to grade 0 after treatment. *Ama* is the main

cause of *Gourava*. *Srodhorodha* due to *Ama* will manifest as *Gourava*. *Pachana* of *Ama* helps to retain the *Laghutwa* of the body

Apaka: Out of 30 patients participated the study, most of the patients had *Apaka* as a common symptom. Before treatment severity of the *Apaka* reported as 7 patient (23.3%) as grade 1. Here the p-value is less than the significance level 0.01; the change in *Apaka* after treatment is significant. The table shows that 23.3% cases of grade1 *Apaka* as seen before treatment and is reduced to grade 0 after treatment. *Deepana* and *Pachana* property of *Sunthi* will alleviates *Apaka.*

Sopha: Out of 30 patients participated the study, most of the patients had *Sopha* as a common symptom. Before treatment severity of the *Sopha* reported as 13 patient (43.3%) as grade 1, 1 patients (3.3%) as grade 2. Here the p-value is less than the significance level 0.01; the change in *Sopha* after treatment is significant. The table shows that 43.3% cases of grade 1 *Sopha* was seen before treatment and is reduced to grade 0 after treatment. The drug possesses *Grahi* property by which it act as *Drava soshaka* and it helps to reduce *Sopha.*

ESR: Here both the p-values are greater than the significance level 0.05; the change in ESR after treatment is not significant. The table shows that the ESR is almost same before treatment (51.73 ± 19.56), after treatment (51.43 ± 20.26) and after follow up (50.27 ± 20.51). there is a mild decrease in ESR. As the disease is chronic inflammatory more time duration is needed for better result.

CONCLUSION

From the Clinical study, it can be summarized that the drug *Sunthi (Zingiber officinale* Roxb*)* showed significant result in reducing the subjective symptom, also, it showed a mild decrease in ESR value. This drug can be effectively administered in reducing the subjective symptoms of *Amavatha*. Since toxicity studies of the study drug were done early, the treatment can be administered safely. No adverse effect was observed during clinical trial.

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