

A STUDY OF *CHITRARATHAI CHOORANAM (ALPINIA OFFICINARUM HANCE)* IN *VALIAZHAI KEELVAYU (RHEUMATOID ARTHRITIS)*: A RANDOMIZED CLINICAL TRIAL

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ABSTRACT

The present study was aimed to evaluate the efficacy and safety of *Chitrarathai chooranam (Alpinia officinarum Hance)*, a Siddha drug, in patients suffering from *Valiazhal Keelvayu (Rheumatoid Arthritis-RA)*. This was a randomized clinical trial conducted among 51 patients of either sex, with clinical and radiological evidence of RA for a period of 48 days. At the end of study period, 70 % patients showed marked to moderate improvement over their pretreatment symptom score. However, there was no significant improvement in the radiographic images.

This study indicates that in the management of mild-to-moderate RA, *Chitrarathai chooranam (Alpinia officinarum)* is an effective and safer alternative for long-term use.

INTRODUCTION

Valiazhalkeelvayu (Correlated with the clinical features of Rheumatoid arthritis -RA), is a chronic, degenerative disease of the connective tissue. Swelling and pain in multiple, smaller joints are the main features of Rheumatoid arthritis. Body pain, loss of appetite, fever, weakness, excessive thirst and heaviness are also manifested. Involvement of joints restricts the normal body movements which may lead to contracture of muscle and permanent deformities. Blood investigations show a high erythrocyte sedimentation rate (E.S.R.) and positive Rheumatoid arthritis (RA) factor in 30-40% cases. This is the common form of autoimmune disorder and affects 1% of the population worldwide. In RA, 75% of the sufferers are women due to the imbalance of hormones. Successful management of patients with RA needs control of inflammation and pain, faster recovery and improved life quality. The current treatment options available such as NSAID's and DMARDs are not only expensive but also cause side effects. Hence there is a need for complementary and alternative medicine for RA treatment (*Dinesh Khanna, 2007*).

In Siddha system of Medicine numerous plant based drugs are enumerated for neuro-muscular joint disorders with many dietary regulations and life style changes. These diseases are classified under vatha types of clinical manifestations. A simple, cost effective, plant based drug was selected for this clinical study because of the long term therapy needed in the management of RA.

A clinical study was planned to assess the clinical effectiveness of *Chitrarathai chooranam (Alpinia officinarum Hance)* in the management of *valiazhal keel vayu -Rheumatoid arthritis.* (*Mudaliar, 1987*) since this drug is widely used in *Vatha* and *kapha* types of diseases in Siddha system. This is used in many preparations like *Vaathasura kudineer, Arathai kudineer* in painful joints and swelling. (*Siddha vaidya thirattu*), *Chukku thylam (Aatmarakshamiratham vaidya sara sangiragam)*. This is used in fumigation treatment for ch. sinusitis (*Pulipaani vaidyam, 1918*). The rhizome of 'lesser galangal', *Alpinia officinarum*, is smaller and reddish brown in colour and has a stronger odour and taste (*Pichichero, 1992*). The physical qualities of this drug are hot, dry and having *Kaarppu, Kaippu suvaigal* according to Siddha medicine.

AIMS AND OBJECTIVES

The present study was aimed to evaluate the efficacy and safety of *Chitrarathai chooranam (Alpinia officinarum Hance)*, a Siddha drug, in patients suffering from *Valiazhal Keelvayu (Rheumatoid Arthritis-RA)*.

MATERIALS AND METHODS

The crude drug, dried rhizome of *Alpinia officinarum (Hance)* for the purpose of research work was collected from the Drug stores of

Tamilnadu Medicinal Plants Corporation Limited, the origin of which is their herbal garden farm at Kolli hills. Correct identity and authenticity of raw materials was studied for its organoleptic and powder microscopy characters. Later, subject experts of Pharmacognosy department, CCRAS Dr. Brinda M Sc., Ph.D and Dr. E. Sasikala M Sc, Ph D. confirmed the identification.

Patients fulfilling the criteria for the diagnosis of the disease were registered for the present study irrespective of their age (between 18 to 60 years), sex, religion, occupation and other parameters. The patients were selected from the Out Patient Department and inpatient Departments of Aringnar Anna Hospital, Govt. Siddha Medical College, Chennai.

Criteria for selection

Patients having the classical features of Rheumatoid arthritis (*valiazhal keelvayu*) like morning stiffness, pain, tenderness, swelling, fever, raised E.S.R. etc. were included for the present study. Chronicity for more than 10 years, having severe crippling deformity, cardiac disease, pulmonary tuberculosis and Diabetes mellitus patients were excluded. A detailed research proforma was prepared incorporating all the signs and symptoms seen in the disease. Total 51 patients of Rheumatoid arthritis were registered for the present study. Out of these, 43 patients completed the study and there were 8 drop-out cases

Investigations

The routine hematological and biochemical investigation, RA factor were done before and after treatment. Routine stool and urine examination were conducted during the study to see for any changes in the biological system.

Clinical assessment

The changes observed in the signs and symptoms were assessed by adopting suitable scoring method and by using appropriate clinical tools. The detail of scoring pattern adopted for assessment of clinical sign and symptoms are given below:

Parameters Scoring

Pain in joints: No pain- 00, Mild, bearable, comes occasionally - 01, Moderate pain, but no difficulty in joint movement, appears frequently and requires some palliative measures-02, Slight difficulty in joint movements due to pain, requires treatment/may remain thought the day-03, More difficulty in moving the joints/ pain is severe/ disturbing sleep /requires strong analgesics- 04

Swelling of the joint: No swelling -00, Slight swelling-01, Moderate swelling- 02, Severe swelling- 03.

Stiffness of the joint: No stiffness- 00, Stiffness lasting for 2hrs-01, Stiffness lasting for 2-8 hrs- 02, Stiffness lasting for more than 8 hrs- 03.

Tenderness of the joints: No tenderness – 00, Subjective feeling of tenderness -01, Wincing of face on pressure-02, Wincing of face with withdrawal of affected parts on pressure- 03, Resists to touch – 04.

Follow-up

A follow-up was done one month after completion of the treatment to check for any recurrences.

Dietary restrictions

These patients were strictly advised to follow certain restrictions and guidelines regarding food, and life style as suggested in Siddha system like avoidance of tubers, tamarind etc.

Dosage

Patients were given *Chitrathai chooranam (Alpinia officinarum)* 2gm thrice daily with honey for 48 days. As per the indication in the classics, treatment of the chooranam was started with vellai ennai purgation on first day for all the patients

Ovservations

In this study majority of patients, i.e., 73.26% belonged to the age group of 31-50 years and 84.15% were female of them 91.08% were

married, 71.28% patients were housewives, 67.32% were from low income group and 79.20% of the patients were consuming analgesic and steroids. Majority of the patients had *Vata-Kapha Degi* (46.53%) and 50.49% had *Vata-Pitta Degi*. Most of the patients, i.e., 42.57% had positive family history of RA, 62.37% of patients had gradual onset and 51.48% had chronicity of more than 2 years. In this study, RA factor was found Positive in 41.68% of patients and raised E.S.R found in 78.21% of the patients. With respect to cardinal symptoms, Pain, swelling of the joints, stiffness of the joints, was observed in all the patients, i.e., 100%, followed by tenderness in 96.03% of patients. Rise of body temperature was found in 8.92% patients. It was observed that *Proximal Interphalangeal Joint (P.I.P)* was involved in 97.02% of the patients. 84.15% patients had wrist, 80.17% knee, 66.36% ankle, 59.40% elbow, 56.42% shoulder, 46.53% neck, 22.67% hip and 27.74% patients had meta carpo phalangeal joint involvement.

Overall effect of therapy

It was observed that from 43 patients those who completed the course, 46% of them showed marked improvement in overall symptoms, 34.88 % of them showed moderate improvement while 18.11 % showed mild improvement with remissions of the symptoms.

RESULTS

Table 1: Effect of therapy on Joint pain

S. No	Jt. pain Improvement in %	No. of Patients	% of improvement
1	Unchanged (1-25 %)	01	2.32
2	Mild improvement (26- 50 %)	10	23.25
3	Moderate improvement (51-75 %)	13	30.23
4	Marked improvement (76-100 %)	19	44.18

Table 2: Effect of therapy on swelling of the Joint

S. No	Jt. swelling Improvement in %	No. of Patients	% of improvement
1	Unchanged (1-25 %)	01	2.32
2	Mild improvement (26- 50 %)	07	16.27
3	Moderate improvement (51-75 %)	11	25.58
4	Marked improvement (76-100 %)	24	55.91

Table 3: Effect of therapy on Stiffness of the joint

S. No	Jt. stiffness improvement in %	No. of Patients	% of improvement
1	Unchanged (1-25 %)	01	2.32
2	Mild improvement (26- 50 %)	08	23.25
3	Moderate improvement (51-75 %)	19	30.23
4	Marked improvement (76-100 %)	15	44.18

Table 4: Effect of therapy on Tenderness of the Joint

S. No	Tenderness Improvement in %	No. of Patients	% of improvement
1	Unchanged (1-25 %)	00	00
2	Mild improvement (26- 50 %)	12	27.90
3	Moderate improvement (51-75 %)	15	34.88
4	Marked improvement (76-100 %)	16	37.92

Table 5: Overall Effect of therapy

S. No	Tenderness Improvement in %	No. of Patients	% of improvement
1	Unchanged (0- 25 %)	00	00
2	Mild improvement (26- 50 %)	08	18.60
3	Moderate improvement (51-75 %)	15	34.88
4	Marked improvement (76-100 %)	20	45.98

DISCUSSION

Sedentary life style, stressful situations and fast food dietary patterns are responsible factors for the manifestation of this disease by increasing the *vatha* and *kapha* principle. In due course pitha is also vitiated and inflammatory process is set in. *Chitrarathai* is hot, bitter and pungent and thus it reduces *vatha* principle. Evaluation of recent studies of this drug explained about its anti inflammatory effect, anti oxidant effect by inhibiting NO production in activated macrophages and anti tumor activity. (Jongbae park, 2005). Galangal and phenylpropanoid galangin are two chemical principles studied quite intensely over the recent past. Galangin is a proven anti-oxidant which contributes in preventing lipid peroxidation. Galangin also shows a significant systemic anti-inflammatory effect through COX inhibition and a strong cardioprotective effect through anti-platelet aggregation (Evans, 2002). Many such studies prove its efficacy on inflammatory conditions which provides rationale of its usage in traditional Siddha medicine.

CONCLUSION

At the end of the study, observations made suggest that the disease *valiazhal keelvayu* (Rheumatoid arthritis) is produced by the

Tridosha, though *Vata* is principle initiating factor for its pathogenesis. Better results were observed in cardinal signs like joint pain, swelling and stiffness, with long term use of *chitrarathai chooranam* with dietary restrictions.

This study indicates that in the management of mild-to-moderate RA, *Chitrarathai chooranam* (*Alpinia officinarum*) is an effective and safer alternative for long-term use.

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