

Management of Rheumatoid Arthritis in Siddha System of Medicine - A Case report

Case report

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Abstract

A case of *Uthiravathasronitham* (Rheumatoid arthritis) had been treated with a classical Siddha preparation *Rasa chenduram* (100mg) along with *Thirikadugu choornam* (1 gm) for 3 weeks and with *Pinda thailam* as an external application. The patient condition has been assessed by a validated simplified disease activity measurement tool for Rheumatoid arthritis by Disease activity score (DAS) with 28 joints and formula using Erythrocyte sedimentation rate (ESR) as recommended by EULAR (European League against rheumatism) criteria. The functional status of the patient was evaluated by administering the Health assessment questionnaire disability index (HAQ-DI) and Visual analog scale (VAS) score before and after treatment. The treatment yielded moderate improvement in the patient's health condition.

Key Words: *Uthiravathasronitham*, *Rasa chenduram*, *Thirikadugu choornam*, Disease activity score, Patient reported outcome measure, Health assessment questionnaire.

Introduction

Rheumatoid arthritis (RA) is a chronic, symmetrical, inflammatory autoimmune disease affecting minor and major joints and affects other organs including skin, eyes, heart, kidneys, and Lungs with diverse manifestations of various severity among patients (1). One among the 80 types of vatha diseases described in *Yugi Vaidya Chintamani* (2) is *Uthiravathasronitham* (Siddha morbidity code-Z64) (3). According to the *Siddhar Yugi Muni*, describes the condition of *Uthiravathasronitham* is characterized by severe pain in ankle joints, knee joints, plantar aspect of sole due to inflammation. Depression, an increased sensation of body heat due to inflammation, and anorexia. The symptomological description of the Siddha clinical entity *Uthiravathasronitham* is identical to those of the symptoms described under the clinical diagnosis RA in modern diagnosis. According to basic principles of Siddha deranged *Vata* aggravates *azhal* and affects *vyanan* causes pain and swelling in joints resulting in decreased range of motion. RA is a progressive chronic inflammatory autoimmune disease condition, which causes damage and disability to the joints. To ensure the given therapy was effective, evaluated clinically at regular intervals. To assess the disease activity, well-established valid assessment tools like EULAR (4) (European league against rheumatism) criteria such as Disease activity score with 28 joints Based

on ESR value (DAS 28) (5) had been used. In addition, the health condition of the patient is determined using the Health Assessment Questionnaire disability index (HAQ-DI) (6) score as a patient-reported outcome measure. The HAQ-DI comprises an assessment of fine movements of upper, locomotor activities of the lower extremity and functional abilities of both Upper & Lower limbs. The EULAR response criteria are defined as follows: A DAS28 of higher than 5.1 is indicative of high disease activity, whereas DAS 28 below 3.2 indicates low disease activity. A patient is considered to be in remission if they have a DAS28 lower than 2.6. By comparing a patient's DAS 28 over multiple time points, one can substantiate the improvement or response. This case study was written as per CARE Guidelines. In this case study, a case of *Uthiravathasronitham* (Rheumatoid arthritis) treated with Siddha drug *Rasa chenduram* (7) was assessed on EULAR Criteria & HAQ-DI measure.

Case Presentation

A 60-year-old female having 34 kg under bodyweight, a housewife, and residing in an urban area, suffering from polyarthritis was admitted to the hospital. The patient was suffering from multiple joint pain of minor & major joints of both Upper limb & lower limb. She presented with swollen joints of the left shoulder joint, left elbow joint, both wrist joints & minor joints of the upper limb, and both knee joints of the Lower limb. She had a swan-neck deformity in both hands. Complaints of morning stiffness lasting for 45 minutes and malaise. On physical examination, she found to have severe tenderness over the minor joints of hands involving Metacarpophalangeal joints and major joints such as left shoulder joint, wrist joints, knee joints, ankle joints with symmetrical involvement due to synovitis. She came with

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difficulty in walking, though no significant knee joint swelling with severely restricted movements to carry out regular daily activities. She is a known case of seropositive Rheumatoid arthritis for the past 10 years. According to Siddha, she was categorized as *vathapitha prakriti* under the classification of body constitution. There was no relevant family history. She underwent Siddha or homeopathy treatment on & off elsewhere. There were no features of an extra-articular manifestation of Rheumatoid arthritis.

Diagnosis

According to the American College of Rheumatology (ACR) and European League against Rheumatism (EULAR) criteria 2010, it was a case of RA. According to Siddha differential diagnosis (*Yugi*), *Vali azhal keel Vayu* (Gout) and *Azhal keel Vayu* (Osteoarthritis) was considered. The affliction of both minor and major joints with morning stiffness, wherein the absence of elevated serum uric acid as in *Valiazhal keel Vayu* was ruled out. The absence of pain due to rest in major joints and the involvement of symmetrical involvement of small joints of both hands ruled out *Azhal keel Vayu*. In conclusion, aggravated pain and swelling in minor and major joints of both upper limb and lower limb, presence of morning stiffness, restricted movements in joints, swan-neck deformity in both hands indicating chronicity of illness lead to be diagnosed as *Uthiravathasronitham*. The diagnosis was confirmed by performing routine laboratory investigations and some specific investigations such as rheumatoid factor (RF), Erythrocyte sedimentation rate (ESR), an acute-phase reactant such as C-reactive protein (CRP).

Treatment

The patient went purgation therapy as per the first line of treatment, administered with *Meganatha kuligai* (8) one in the early morning with hot water. The patient purged 4 to 5 times after purgation therapy. The great *Siddhar* Therayar, had said “*vathamalaadhu meni kedaadhu*” Patient felt better after purgation for lessening in the heaviness of the body. Following, the patient was administered the metallic drug *Rasa chenduram* of 100mg along with *Thirikadugu Choornam* (9) which contains equal parts of *Chukku* (*Zingiber officinale* Roscoe.), *Milagu* (*Piper nigrum* Linn.) and *Thippili* (*Piper longum* Linn.) was administered as 1 gm for 3 weeks, twice a day after food with honey as adjuvant. *Rasa chenduram* is a crystalline, mercurial metallic medicine with nanoparticles and of size 28-30 nm (10). In *Rasa chenduram*, purified hydrargyrum and purified sulphur were present in equal half quantity which ground together with lime juice and subjected to *putam* (process of sublimation) resulting in chenduram. According to Siddha literature, the pharmacological action of *Rasam* (Mercury) as deobstruent, anti-*vata*, in *soolai noigal* (anti- arthralgia or anti-neuralgia condition). No toxicological signs were observed in albino Wistar rats in 28 days repeated acute oral toxicity study up to 90mg dose (11).

Rasam (Mercurial’s) can be administered in *Mukkutra noigal*. Also, *Pinda thailam* (12) was used for external application over affected joints. This herbal formulation

was a well-known potent anti-inflammatory topical application (13).

Treatment Outcomes

On administration of purgative therapy, a mild reduction in body ache was reported. Following the first week, the administration of *Rasa chenduram* along with *Thirikadugu choornam*, morning stiffness reduced mildly. In the second week, the pain and swelling in both smaller and bigger joints reduced to mildly. Followed by the third week of drug administration, the patient was able to abduct the left shoulder joint, able to walk downstairs and climb upstairs with reduced difficulty, and was able to squat with difficulty, able to hold small objects in both hands, and flex fingers. Reduction in duration of morning stiffness was reported by the patient as reduced from 45 minutes of duration to 30 minutes. Performed a swollen and tender joint examination of the patient, noting each affected joint before treatment and after treatment. Also, obtained and recorded the patient’s general health on a VAS score, Plugged the appropriate values into the formula & calculated using the DAS28 (ESR) online calculator. The functional status of the patient was evaluated by HAQ-DI was also recorded before & after treatment.

Table 1. Outcome measurement scales and scores during before and after treatment

Outcome measured	Before treatment	After treatment
DAS 28 (ESR)	7.73	5.98
HAQ-DI	1.55	1.20
VAS SCORE (mm)	100	70

DAS 28: Disease activity score of 28 joints, ESR: Erythrocyte sedimentation rate, HAQ-DI: Health assessment questionnaire disability index, VAS: Visual analog scale, mm: millimetre.

Laboratory Investigations

In this case study, the assessment of serological parameters is enumerated below.

Table 2. Laboratory investigations done before and after treatment.

Laboratory parameters	Before Treatment	After Treatment
Haemoglobin(gm%)	10.1	10.5
T.WBC (cells/cu.mm)	8100	7300
DC (%)	P -72, L- 2, E- 8	P-61, L-21, E-10
RBC(1million/cu.mm)	4.1	4.0
ESR (1 hr) (mm)	95	87
PCV (%)	33	32
AST(IU/ml)	20	18
Total Protein(gm%)	8.1	7.6
S. Albumin(gm%)	3.7	3.5
ALT(IU/ml)	10	10
SAP(IU/ml)	81	53
Bilirubin(mg%)	0.5	0.4

FBS (mg%)	86	90
PPBS (mg%)	138	129
RA Factor	168.3	141
CRP	68	66
Uric acid(mg%)	2	2
Bl. Urea(mg%)	26	18
S. Creatinine(mg%)	0.5	0.5
Blood smear	Normochromic normocytic anaemia	Normochromic normocytic anaemia
Urine (R)	Color: Straw yellow, pH-6	Color: Straw yellow, pH-6

T.WBC: Total White Blood corpuscles, DC: Differential Count, P: Polymorphs, L: Lymphocytes, M: Monocytes, RBC: Red blood corpuscles ESR: Erythrocyte sedimentation rate PCV: Packed Cell volume, AST: Aspartate amino transferase, Albumin: Serum albumin, ALT: SAP: Bilirubin: FBS: Fasting blood sugar, PPBS: Postprandial blood sugar, RA Factor: Rheumatoid factor CRP: C-reactive protein S. Uric acid: Serum uric acid, S. Creatinine: Serum creatinine, Urine (R): Urine routine

Discussion

The difference in DAS 28 (ESR) was about 1.75 indicates moderate response in improvement over time as per EULAR Criteria. Changes in baseline values of RA factor, ESR, CRP was significant after treatment. Morning stiffness of the patient had reduced from 45 minutes to 30 minutes correlates with improvement in VAS Score. Although, the patient-reported outcome HAQ DI measurement indicates no significant improvement. Renal and liver function parameters were within the normal range.

Conclusion

This case study ascertains the *anti-vata* therapeutic efficacy of *Rasam* (mercury) preparation and reported no adverse effects, when administered for a short duration.

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Ethics Statement: The author certify that appropriate patient consent was obtained.

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