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Case Report

AYURVEDIC MANAGEMENT OF CHRONIC RHEUMATOID ARTHRITIS WITH MULTIPLE DEFORMITIES AND POTT'S SPINE: A CASE REPORT

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ABSTRACT

Rheumatoid arthritis (RA) is an immunologically driven long term condition and characterized by persistent joint inflammation. Spinal Tuberculosis (TB) or Pott's spine is the commonest extra pulmonary manifestation of TB, in which lower thorasic and lumbar vertebrae are the most common sites. Here we are reporting a chronic case of rheumatoid arthritis diagnosed as 'Amavata' (with 11 years history) with multiple deformities (boutonniere's deformity, z deformity, hallux valgus deformity, secondary osteoarthritis with fusion of all large and small joints, pott's spine), bed ridden, with no movement at any joint (unable to walk, sit, rotate and stand) and with no hope in conventional management, came for Ayurvedic treatment as last option. Continuous seven months of panchakarma treatment, patient was able to sit, relieved from pain and fever, improvement in general condition, reduced stiffness and initiation of movements at various joints (peripheral & central) and able to do her routine activities with minimum support along with improved quality of life. Even though deformities were not cured, there was marked improvement in the mobility of the joints and in stiffness. Ayurvedic panchakarma procedures, seems to provide tremendous relief even in chronic RA patients with deformities.

Key Words: Rheumatoid arthritis, Pott's spine, Deformities, Ama vata, Ayurveda, Panchakarma

INTRODUCTION

Rheumatoid arthritis (RA) is an immunologically driven long term condition and it is characterized by persistent joint inflammation. Ongoing joint inflammation damages bone, cartilage and tendons. Uncontrolled active RA causes disability, decreases quality of life, and increases co morbidity which in turn results in loss of work, high medical and social costs, substantial morbidity and mortality.[1] The management of RA rests on several principles like, anti rheumatic drugs, non-steroidal anti inflammatory drugs (NSAID's), glucocorticoids and various non pharmacological measures but currently, clear and consensual international recommendations on RA treatment are not available.[2] Spinal Tuberculosis (TB) or Pott's spine is the commonest extra pulmonary manifestation of TB. Lower thorasic and lumbar vertebrae are the most common sites of spinal TB. Immuno suppressive treatment is one of the predisposing factor for the development of spinal TB and paraplegia is the most devastating complication of spinal TB.[3]

RA was compared with the Ayurvedic condition called 'Amavata' by previous scholars and it was described as most crippling and disabling condition.[4] Even though, a substantial amount of research has been conducted on Amavata / RA in Ayurvedic field, there is lack of data or studies on Ayurvedic management protocol especially for chronic, long standing RA patients with deformities. Here we are reporting a chronic, bedridden case of RA with multiple deformities and pott's spine came for Ayurvedic treatment. Written informed consent was obtained from the patient for the publication of this case report and accompanying images.

CASE DESCRIPTION

A 42 years aged female patient came to our care (26.11.2014) with the complaints of, deformities of all joints (including small and large) of the body, pain and fever. The patient came on stretcher in supine position and was unable to sit, stand, bend, turn and unable to do any other movements due to deformities of all joints. Patient was totally bed ridden and unable to do her regular activities without support. These problems have been developed gradually and progressive in nature since 2003.

Patient had developed constipation, abdominal gaseous distension and loss of appetite initially. Later she had suffered with episodes of fever, swelling and pain at small joints of fingers of both hands which gradually spread to all other joints. During this period patient took allopathic consultation and treatment but didn't get constant relief. Patient was diagnosed as 'Rheumatoid arthritis during this period. Patient was also diagnosed as having 'bilateral osteo arthritis of knee with varus deformity' (2004). Gradually the swelling, pain and episodes of fever were worsened and gradually involvement of other joints like knee, hip, elbow, wrist, shoulder and neck had occurred. Patient was diagnosed as having pulmonary koch's with pott's spine (2010) and took treatment for same. Since last four years (2010) patient had developed deformities of all joints and got handicapped.

Patient was non smoker, non alcoholic and not having allergy to any substance. No past history of any major medical illness found. No family member had similar problem. At the time of examination, patient was found emaciated and various deformities like z deformity of thumb, boutonniere deformity (Figure 1) and ulnar deviation were observed in both hands. Hallux valgus deformity (Figure 2) was found in both toes. All metacarpo phalangeal, proximal and distal inter phalangeal and wrist joints of the both hands were severely affected. Spasticity of the fingers and wasting was observed. Both the hands were in flexed positions at elbows and patient was unable to extend the hands due to severe spasticity. Onycholysis was found in left index finger nail (Figure 3). Both the knee joints got fused and quadriceps muscle wasting found. Movements like flexion, extension, rotation were totally absent in joints like, knee, hip, ankle, elbow, wrist, neck and at lumbar region.

Thyroid profile, serum calcium and vitamin B_{12} levels were found normal. ANA (Anti Nuclear Antibodies) antibodies, RA (Rheumatoid factor) were found negative. Hemoglobin levels were decreased and ESR (Erythrocyte Sedimentation Rate), CRP (C - reactive protein) was found increased. All other hematological reports and biochemical tests were found normal. X- Ray of dorso lumbar spine revealed, consolidation of lower thoracic vertebrae (pott's spine) (Figure 4) (Table 1).

Diagnosis, Assessment & Treatment

Patient has satisfied the diagnostic criteria of RA, according to 'The 2010 American College of Rheumatology (ACR) / European League Against Rheumatism classification criteria for rheumatoid arthritis (EULAR)'.[5] Before treatment and at the time of discharge total two assessments was carried out. A criterion of assessment was based on the scoring of 'Arthritis Impact Measurement Scales 2' (AIMS2). The AIMS is a widely used disease-specific measure that has a broad scope, measuring many aspects of health status. AIMS2 is more responsive in patients with arthritis than any of the generic measures. AIMS2 contains 101 items or questions. AIMS2 contains 12 subscales (mobility, physical activity, dexterity, household activity, social activity, activities of daily living, pain, depression, anxiety, arm function, social support and work) and the content of this scale is based on 5-factor structure (physical, work, affect, pain and social interaction).[6]

The patient was initially diagnosed as "ama vata" and later on it was changed to "sarvanga vata". The treatment is primarily based on to reduce the pain, stiffness, to improve the mobility and general condition of the patient. Treatment mainly consist various panchakarma procedures such as, snehana (internal and external oleation), swedana (sudation) and vasti (enema) along with internal medicines (Table 2&3). Treatment was revised frequently according to the condition of the patient and need.

DISCUSSION

Patient took continuous IPD treatment (which consist various panchakarma procedures, internal medication and physiotherapy) for the period of more than 7 months. During initial screening it was found that, CRP (C - reactive protein) and ESR (Erythrocyte Sedimentation Rate) levels were elevated and hemoglobin levels were decreased (26.11.2014) (Table 1). All modern medicines were stopped before starting Ayurvedic treatment. Patient had jwara (fever) and saama vata lakshana's[7] like, vibandha (constipation), agni saada (loss of digestive capacity), aantra kujana (borborygmi) and vedana (pain). Based on these symptoms, initially drugs like agni tundi vati for ama pachana, samshamani vati for jwara, trivrit avaleha for vibandha and jatyadi malham for external application to treat onycholysis of left index finger nail were prescribed (Table 2). Procedures like, patra pottali pinda sweda and dhanyamla dhara were also initiated to treat pain, spasticity and to improve movements at various joints. After twenty days of treatment, patient's fever got subsided; pain relieved and patient started to feel better. After pacifying saama vata lakshana's (18.12.2014), karma vasti schedule (protocol of giving decoction and oil enema alternatively for the period of 30 days) has been given (Table 3).

Patient has received 4 karma vasti schedules during her IPD stay of 7 months. Along with Sarvanga abhyanga (full body oil massage) and bashpa sweda (sudation in steam chamber), total 4 karma vasti schedules were prescribed with 10 – 15 days 'gap' between successive karma vasti schedules. During these 'gap period', other procedures like, patra pottali pinda sweda, sarvanga abhyanga and bashpa sweda, dhanyamla dhara (pouring hot, sour liquids as a stream on body) and shastika shali pinda sweda (sudation with rice bolus) were given. Each karma vasti schedule contains 30 vasti's, which includes 18 anuvasana vasti's (oil enema) & 12 niruha vasti's (decoction enema). Karma vasti schedule starts with anuvasana vasti followed by 24 vasti's (12 niruha vasti's and 12 anuvasana vasti's alternatively) and ends with 5 anuvasana vasti's. In karma vasti schedules, satahwadi anuvasana tailam was used in anuvasana vasti and ksheera vasti was given instead of niruha vasti. The ksheera vasti consists, Bala (Sida cordifolia) ksheera paka or Erandamoola (Ricinus communis) ksheerapaka or Guduchi (Tinospora cordifolia) ksheerapaka mixed with madhu (honey), dhanwantaram tailam and pachatikta ghritam (Table 3).

After completion of first schedule of karma vasti (17.01.2015), patient got complete relief of pain and fever. She felt energetic and better. Movements were observed at both ankles, metatarso phalangeal joints and at wrist joints. ESR and CRP levels came down to normal. Appetite and sleep got improved. After second karma vasti schedule (23.02.2015), movements were initiated at various joints like knee, elbow, shoulder and neck. Patient was able to move her fingers separately and able to comb her hair, able to write and grasp light weight objects without support. Spasticity got reduced and range of movements at various joints was improved. After third karma vasti schedule (27.04.2015), patient was able to sit and started to come by wheel chair for treatment purpose. Patient was able to turn on both sides on the bed without support and range of movements at various small and large joints further improved. After completion of fourth karma vasti schedule (26.06.2015), movements were started at hip joints and patient can lift both her legs separately with extended knee. General condition of the patient got improved further and patient was able to write with pen. Onycholysis of left index finger nail got better and spasticity further reduced.

Assessment of treatment efficacy on AIMS2 revealed that, there was total relief in 'pain subscale' (100 % relief), and good improvement in 'physical functioning' (score reduced from 9 to 8.3) with 7.45 % of relief. There was no change in subscales like 'social interaction' and 'role'. As the patient got admitted and undergone indoor treatment there was no scope for social interaction with friends and relatives by that there was no change observed in the subscale 'social interaction'. As the patient was bedridden and unable to do any activity, the subscale 'role' was not applicable in present case. There was worsening in 'mood subscale', which may be due to long term (7 months) indoor treatment and high expectations of relief from the patient. Overall there was good improvement in mobility, pain and functioning (Table 4). At the time of discharge patient was very happy as she was able to sit, comb her hair and able to do some of the daily activities without pain and support. At the time of discharge (05.07.2015), pancha tikta ghritam, brihat vata chintamani and abhayarishta were prescribed as shamana therapy (pacifying treatment) along with sarvanga abhyanga (Table 3).

Table 1: Investigation reports

Date	Name of investigation	Report
10.10.2003	1. ANA (Anti Nuclear Antibody) test	Negative
	2. CRP (C – Reactive Protein)	Reactive (68 mg / liter)
	3. Hemoglobin	7.8 gm % (dimorphic, predominantly iron deficiency anemia observed)
	4. Total RBC (Red Blood Cell) count	3.69 mi / cu mm
	5. Malaria parasite	Not detected
	6. ESR (Erythrocyte Sedimentation Rate)	129 mm / hr
06.05.2004	X-Ray of both knee joints (AP & Lateral view)	Severe changes of bilateral knee osteo arthritis with varus deformity
21.12.2004	Thyroid profile	
	T_3	1.02 ng / ml
	T_4	7.3 mcg / dl
	TSH (Thyroid Stimulating Hormone)	3.09 micro U / ml
20.02.2010	Chest X-Ray PA (Postero Anterior) view	Infiltrations seen in both lung fields suggest possibility of Koch's lesion. Left CP angle appear blunt and signs of minimal left pleural effusion; bilateral Koch's.
23.04.2010	MRI (Magnetic Resonance Imaging) Brain	Revealed signs of tuberculoma
	MRI of dorso lumbar spine	Signs of pre vertebral and para vertebral 'Mott like lesions' suggestive of Tuberculosis; Pulmonary Koch's with Pott's spine
10.06.2010	X-Ray of dorso lumbar spine (AP & Lateral view)	Consolidation of dorsal vertebrae & Pott's spine
22.02.2011	Vitamin B_{12}	447 pg / ml
26.11.2014	Hemoglobin	9.7 gm / dl
	CRP	Reactive (53.3 mg / liter)
	ESR	72 mm / hr
	RA (Rheumatoid Arthritis) factor	Negative (6.1 IU / ml)
25.02.2015	Hemoglobin	9.9 gm / dl
	CRP	Non reactive (8.1 mg / liter)
	ESR	12 mm / hr
	Serum calcium level	9.2 mg / dl

Table 2: Medication

Duration	Medicine	Dose	Frequency & Time of administration	Anupaana
27.11.2014 to 02.12.2014	1. Agnitundi vati	125 mg	Thrice a day, after food	Water
	2. Simhanada guggulu	1 gm	Twice a day, after food	Water
	3. Samshamani vati	1 gm	Thrice a day, after food	Water
	4. Trivrit avalehyam	10 gm	At bed time	Water
	5. Jatyadi malham	Quantity sufficient	Once daily, local application	---
03.12.2014 to 08.12.2014	1. Abhayarishta	20 ml	Twice a day, after food	With 20 ml water
	2. Agnitundi vati	125 mg	Thrice a day, after food	Water
	3. Jatyadi malham	Quantity sufficient	Once daily, for local application	---
09.12.2014 to 18.12.2014	1. Abhayarishta	20 ml	Twice a day, after food	with 20 ml water
	2. Guggulu tiktaka ghritam	10 ml	Twice a day, before food	with hot water
	3. Jatyadi malham for local application	Quantity sufficient	Once daily, for local application	---
19.12.2014 to 17.01.2015	1. Jatyadi malham for local application	Quantity sufficient	Once daily, for local application	---
18.01.2015 to 24.01.2015	1. Guggulu tiktaka ghritam	10 ml	Twice a day, before food	with hot water
	2. Jatyadi malham for local application	Quantity sufficient	Once daily, for local application	---
	3. Samshamani vati	1 gm	Thrice a day, after food	Water
	4. Trivrit avalehyam	10 gm	At bed time	Water
25.01.2015 to 23.02.2015	1. Abhayarishta	20 ml	Twice a day, after food	with 20 ml water
	2. Agnitundi vati	125 mg	Thrice a day, after food	Water
	3. Jatyadi malham	Quantity sufficient	Once daily, for local application	---
24.02.2015 to 28.03.2015	1. Abhayarishta	20 ml	Twice a day, after food	with 20 ml water
	2. Rasona rasam	15 ml	Twice a day, after food	with 45 ml of water
	3. Jatyadi malham	Quantity sufficient	Once daily, for local application	---
29.03.2015 to 27.04.2015	1. Abhayarishta	20 ml	Twice a day, after food	with 20 ml water
	2. Jatyadi malham	Quantity sufficient	Once daily, for local application	---
28.04.2015 to 12.05.2015	1. Pancha tikta ghritam	10 ml	Twice a day, before food	with hot water
	2. Chandra prabha vati	1 gm	Twice a day, after food	Water
	3. Ashtavargam kashayam	15 ml	Twice a day, before food	with 45 ml of water
13.05.2015 to 27.05.2015	1. Abhayarishta	20 ml	Twice a day, after food	with 20 ml water
	2. Jatyadi malham	Quantity sufficient	Once daily, for local application	---
	3. Ashtavargam kashayam	15 ml	Twice a day, before food	with 45 ml of water
28.05.2015 to 26.06.2015	1. Abhayarishta	20 ml	Twice a day, after food	with 20 ml water
	2. Jatyadi malham	Quantity sufficient	Once daily, for local application	---
27.06.2015 to 04.07.2015	1. Abhayarishta	20 ml	Twice a day, after food	with 20 ml water
	2. Jatyadi malham	Quantity sufficient	Once daily, for local application	---

	3. Rasona rasam	15 ml	Twice a day, after food	with 45 ml of water
05.07.2015 to 20.07.2015 (Follow up medicines)	1. Abhayarishta	20 ml	Twice a day, after food	with 20 ml water
	2. Pancha tikta ghritam	10 ml	Twice a day, before food	with hot water
	3. Brihat vata chintamani	125 mg	Twice a day, after food	Water

Table 3: Panchakarma intervention

Duration	Panchakarma procedure
27.11.2014 to 02.12.2014	Patra pottali pinda sweda with Sahacharadi kuzhambu
03.12.2014 to 08.12.2014	Dhanyamla dhara
09.12.2014 to 18.12.2014	Patra pottali pinda sweda with Sahacharadi kuzhambu
19.12.2014 to 17.01.2015 (Karma vasti schedule 1)	Sarvanga abhyanga with Sahacharadi kuzhambu and Bashpa sweda & Ksheera vasti (A. Bala ksheera paka - 200 ml B. Madhu - 100 ml C. Dhanwantaram tailam - 100 ml D. Panchatikta ghritam - 100 ml) (or) Anuvasana vasti with Shatahwadi anuvasana tailam – 100 ml
18.01.2015 to 24.01.2015	Patra pottali pinda sweda with Sahacharadi kuzhambu
25.01.2015 to 23.02.2015 (Karma vasti schedule 2)	Sarvanga abhyanga with Dhanwantaram kuzhambu and Bashpa sweda & Ksheera vasti (A. Bala ksheera paka - 200 ml B. Madhu - 100 ml C. Dhanwantaram tailam - 100 ml D. Panchatikta ghritam - 100 ml) (or) Anuvasana vasti with Shatahwadi anuvasana tailam – 100 ml
24.02.2015 to 28.03.2015	Shashtika shali pinda sweda with Sahacharadi kuzhambu
	Anuvasana vasti with Shatahwadi anuvasana tailam – 100 ml
	Physiotherapy
29.03.2015 to 27.04.2015 (Karma vasti schedule 3)	Sarvanga abhyanga with Dhanwantaram kuzhambu and Bashpa sweda & Ksheera vasti (A. Guduchi ksheera paka - 200 ml B. Madhu - 100 ml C. Dhanwantaram tailam - 100 ml D. Panchatikta ghritam - 100 ml) (or) Anuvasana vasti with Shatahwadi anuvasana tailam – 100 ml
28.04.2015 to 12.05.2015	Sarvanga abhyanga with Dhanwantaram kuzhambu and Bashpa sweda
	Physiotherapy
13.05.2015 to 27.05.2015	Shashtika shali pinda sweda with Sahacharadi tailam
	Anuvasana vasti with Shatahwadi anuvasana tailam – 100 ml
	Physiotherapy
28.05.2015 to 26.06.2015 (Karma vasti schedule 4)	Sarvanga abhyanga with Sahacharadi tailam and Bashpa sweda followed by, Ksheera vasti (A. Erandamoola ksheera paka - 200 ml B. Madhu - 100 ml C. Sahacharadi tailam - 100 ml D. Panchatikta ghritam - 100 ml) (or) Anuvasana vasti with Shatahwadi anuvasana tailam – 100 ml
27.06.2015 to 04.07.2015	Patra pottali pinda sweda with Sahacharadi kuzhambu
	Physiotherapy
05.07.2015 to 20.07.2015 (Follow up treatment)	Sarvanga abhyanga with Sahacharadi tailam (at home)

Table 4: Effect of therapy on Arthritis Impact Measurement Scale 2 (AIMS2)

Subscales of AIMS2	Components	BT* score (normalized)	AT** score (normalized)	BT - AT	Percentage of relief
Mobility level (1-5)	Physical	9	8.33	0.67	7.45 ↓
Walking & Bending (6-10)					
Hand & Finger function (11-15)					
Arm function (16-20)					
Self care tasks (21-24)					
Household tasks (25-28)					
Social activity (29-33)	Social interaction	4.25	4.25	0	0
Support from family & friends (34-37)					
Arthritis pain (38-42)	Pain	5.5	0	5.5	100 ↓
Work (43-47)	Work	NA***	NA	NA	NA
Level of tension (48-52)	Affect	3.25	4	- 0.75	23 ↑
Mood (53-57)					

*Before treatment; **After treatment; ***Not applicable; ↓ indicates relief; ↑ indicates worsening

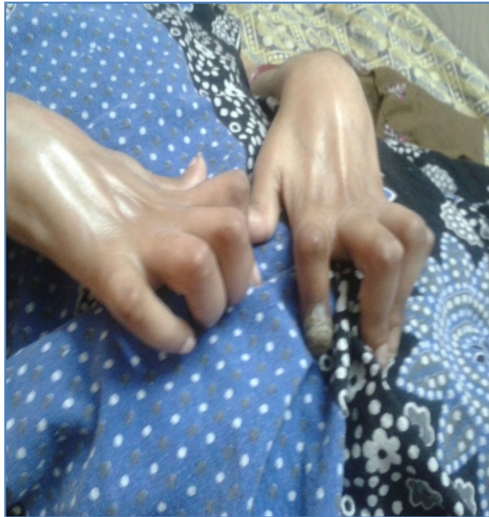

Figure 1: 'Boutonniere deformity' of all fingers and 'z deformity' of both thumbs

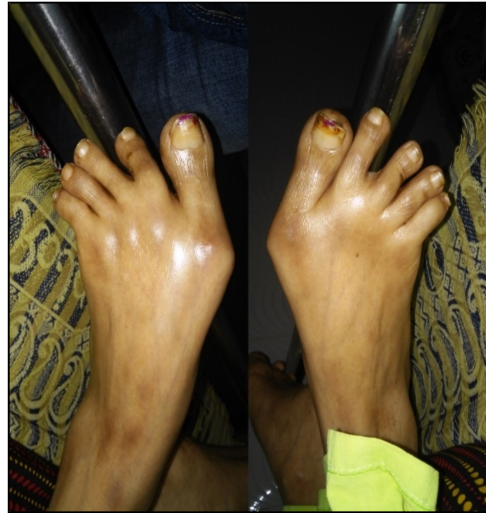

Figure 2: 'Hallux valgus' deformity in both feet

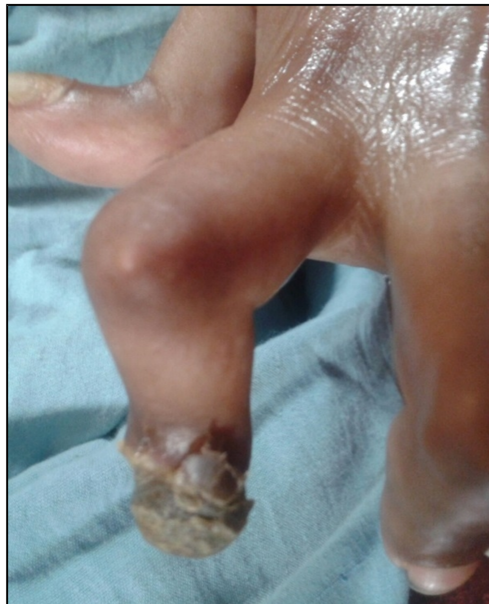

Figure 3: Onycholysis of left index finger nail

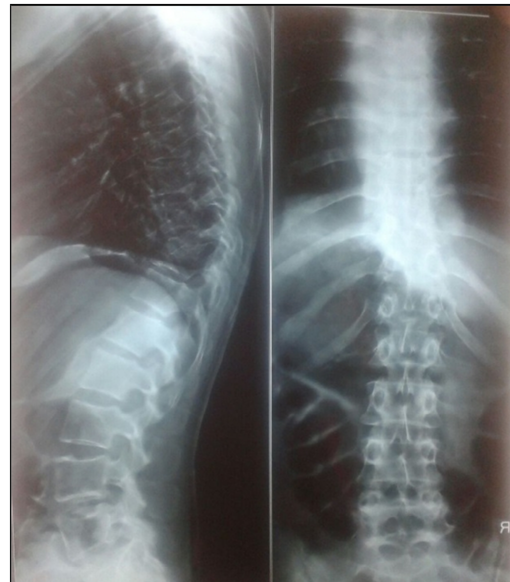

Figure 4: X-Ray of dorso lumbar spine Lateral & AP view

CONCLUSION

In present study it was observed that, a chronic case of rheumatoid arthritis (with 11 years history) with multiple deformities (boutonniere's deformity, z deformity, hallux valgus deformity, secondary osteoarthritis with fusion of all large and small joints, pott's spine), bed ridden, with no movement at any joint (unable to walk, sit, rotate and stand) and with no hope in conventional management, came for Ayurvedic treatment as last option. Even though the present case is so complex and very difficult to treat, with continuous seven months of indoor panchakarma treatment along with internal medicines patient was able to sit, relieved from pain, fever, improvement in general condition, reduction in stiffness, started movements at various joints (peripheral & central) and able to do her routine activities with minimum support along with improved quality of life. Even though deformities were not cured, there was marked improvement in the mobility of the joints, in stiffness and in general condition. The patient was very satisfied with her improvement. Ayurvedic panchakarma procedures along with internal medicines, seems to provide tremendous relief even in chronic RA patients with deformities. Further studies are required to substantiate the present study findings.

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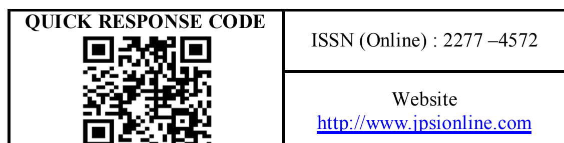	Website http://www.jpsionline.com

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