



## Case Study

### AYURVEDIC MANAGEMENT OF SYSTEMIC SCLEROSIS - A SINGLE CASE STUDY

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#### ABSTRACT

Systemic sclerosis (SSc) is a multisystem autoimmune disorder caused by unknown factors. This results in fibrosis of the skin, blood vessels, and visceral organs, including the gastrointestinal tract, lungs, heart, and kidneys. One among subset is referred to as diffuse cutaneous scleroderma and characterized by the rapid development of symmetric skin thickening of proximal and distal extremity, face, and trunk. When it affects on musculoskeletal system, the synovium in patients with arthritis is similar to that seen in early rheumatoid arthritis and shows edema with infiltration of lymphocytes and plasma cells. A 35-year-old house wife with this diagnosis came to OPD, which is managed by the principle of *Amavata* (diseases of connective tissue in Ayurveda) line of treatment. *Vaitarana basti* and *Valuka sweda* has done for 7 days with oral medication *Vaishwanara churna* ½ teaspoon with first morsal of food for 3 times. The QOL (quality of life) has been improved with in 7 days of treatment.

**KEYWORDS:** *Amavata*, Systemic sclerosis, QOL, *Valuka sweda*, *Vaitarana basti*.

#### INTRODUCTION

Systemic sclerosis (SSc) is a multisystem autoimmune disorder caused by unknown factors. Which results in fibrosis of the skin, blood vessels, and visceral organs, including the gastrointestinal tract, lungs, heart, and kidneys. One among subset is referred to as diffuse cutaneous scleroderma and characterized by the rapid development of symmetric skin thickening of proximal and distal extremity, face, and trunk. This subset frequently has features of CREST syndrome (calcinosis, raynauds phenomenon, esophageal dysmotility, sclerodactyly, telangiectasia). While considering the pathology on musculoskeletal system, the synovium in patients with arthritis is similar to that seen in early rheumatoid arthritis and shows edema with infiltration of lymphocytes and plasma cells<sup>1</sup>.

Pain all over the body (*Angamarda*), loss of taste (*Aruchi*), thirst (*Trushna*), tiredness (*Alasya*), heaviness (*Gourava*), fever or raise in temperature (*Jwara*), indigestion (*Apaka*), swelling over the body especially over the joints (*Shotha*) are the clinical features of *Amavata*<sup>2</sup>.

If *pitta* becomes the predominant, there will be burning sensation (*Daha*), redness (*Raga*) of affected part, if *vata* is predominant, pain will be very severe (*Shoola*), in *Kapha* predominance, heaviness (*Guru*), itching (*Kandu*) will be present<sup>3</sup>.

As the signs and symptoms of *Amavata* are almost similar to that of SSc in this present condition, it is managed with the line of treatment of *Amavata*.

#### CASE STUDY

A 35-year-old, house wife, of lower economical class, visited OPD on 13<sup>th</sup> May 2019, with complaints of multiple joint pain and stiffness for 2 years, associated with fatigue, tightening of skin, weight loss of about 5-10 kg and whitish patches over lips. Complaints of burning sensation over epigastric region, whitish patches over bilateral ears, lateral aspect of wrist joint, since a year. Patient also complains of itching all over the body, for two months. Flare and remission of symptoms were observed during this period. For the above complaints the patient had undergone treatment from a hospital, which was withdrawn after 3 months. Added to these, she complained of amenorrhea in the last 7 months. Because of this condition there was absenteeism from her professional work, as well as house hold chores. She was not under any treatments for last 7-8 months, and came to OPD for this condition.

#### Treatment history

1. Tab. SAZO 500
2. Tab. Folvite 5mg
3. Tab. Folitrate 10mg
4. Tab. Rabium 20

## 5. Tab. Naproxem 300

The involved joints were bilateral proximal & distal inter phalangeal joints, meta carpo-phalangeal joints, wrist, elbow, shoulder, hip, knee, ankle and metatarsal joints. Severe stiffness was noticed in proximal and distal phalangeal joints and meta carpo-phalangeal joints. Cold climate, physical exertion, morning hours, fever, bathing would aggravate the condition, whereas the hot climate, rest, as day progresses, oil application (get relieve from dryness and tightening of the skin) were relieving factors.

From the general examination it was found that the patient was pale, malnourished and BMI is 17.98kg/m<sup>2</sup>. From *Dashavidha pariksha* (examination as per *Ayurveda*) it was found that *Jarana shakti* (digestive rate), *Abhyavarana shakti* (metabolic rate), and *Vyayama shakti* (exercising capacity) are *avara* (diminished). On further systemic examination grade 3 tenderness, digital calcinosis, Raynaud's phenomenon was present.

The clinical investigation which was done on 16/7/2018 showed positive Rheumatoid factor (44.52), where on 22/4/19 it shows that Rheumatoid factor is negative and ANA (antinuclear antibody) factor is positive. On 14/5/2019 uric acid levels were found to be 34 mg/dl. The ENA (extractable nuclear antigen) test revealed that Ro-52 recombinant and SSA were strongly positive also SS-B, Sil-70,

Centromere is positive. Normal study is shown in chest X-Ray and ECG. All the positive investigatory findings were confirmative of the diagnosis SSs.

Since the patient was showing the presence of *Sarvadaihika ama* (autoimmunity/ antigens), *Dipana* and *Pachana* (carminative & digestive treatment) was necessary. So *Vaishwanara churna* was administered as the *Dipana* medicine, with first morsal of food for 7 days. Patient got admitted on the 7<sup>th</sup> day for the *Panchakarma* therapies. The treatments given were *Vaitarana basti* (medicated enema) which is known for its property of *Ama pachana*, along with *Valuka sweda* (sudation therapy) according to the treatment principle of *Amavata*, combined with the oral medications which were advised earlier. On these days' patient was under diet food like *Ganji, Kichadi*.

After 8 days of treatment the patient got discharged. Oral medications including *Vaishwanara churna, Rasna erandadi kashaya, Yogaraja guggulu, Simhanada guggulu* were advised as discharge medicines, along with *Pathya-apathya* (do's and don'ts) were explained. Patient was also advised to continue the *Valuka sweda* by herself, after the application of *Brihat saindava taila*.

After the treatment and oral medication patient felt relief from her symptoms by 80% and QOL was improved. Her menstrual cycle regularized since the month of June 2019. (Table No-1)

Table 1: Treatment time line

Date	Day	Treatment given	Results
13.05.2019 to 20.05.2019	1 to 7	- <i>Vaishwanara churna</i> ½ tsp with first morsal of food 3 times	Digestion improved
21.05.2019 to 28.05.2019	8 to 15	- <i>Vaitarana basti</i> - <i>Valuka sweda</i> - <i>Vaishwanara churna</i> ½ tsp with first morsal of food 3 times	-Stiffness and joint pain reduced -Patient start doing day to day activities like combing hair, taking bath, smiling -Appetite and digestive capacity improved -QOL improved
28.05.2019 to 4.06.2019	15 to 22	- <i>Vaishwanara churna</i> (½ tsp-0-½ tsp) with first morsal of food - <i>Rasna erandadi kashaya</i> (10ml-10-10ml) with 40ml warm water, Before food - <i>Yogaraja guggulu</i> (1-1-1) After food - <i>Simhanada guggulu</i> (1-0-1) After food - <i>Brihat saindavadya taila</i> (external application) followed by <i>Valuka sweda</i> - <i>Pathya-Apthya</i> advised	-Joint pain reduced -ROM increased -Started doing household work -Burning sensation over chest reduced -Tightness over skin (over palms and face) reduced
4.06.2019 to 18.06.2019	22 to 36	- <i>Guduchi satwa</i> (3 pinches at 7am, 12pm, 7pm) - <i>Vaishwanara churna</i> ½ tsp with first morsal of food in the morning - <i>Rasna erandadi kashaya</i> (10ml-10-	- Stiffness and pain reduced -Edema was absent -Burning sensation over chest reduced

		10ml) with 40ml warm water, Before food - <i>Yogaraja guggulu</i> (1-1-1) After food - <i>Kusumolin</i> cream (external application) - <i>Eladi</i> soap (external application) - <i>Brihat saindavadya taila</i> (external application) followed by <i>Valuka sweda</i>	
24.06.2019	42 day		Menstrual cycle re occurred

**Table 2: investigation reports**

Date	Hb%	ESR
14/5/2019	11.8gm%	20mm/hr
28/5/2019	11.1gm%	29mm/hr
04/6/2019	10.9gm%	39mm/hr
18/6/2019	11.2gm%	12mm/hr
26/6/2019	11.5gm%	30mm/hr
11/7/2019	11.9gm%	22mm/hr

**Table 3: Assessment Criteria**

**1. VAS (score in percentage)**

VAS	BT	AT
Physicians global assessment of disease activity	80%	35%
Patients global assessment of pain	90%	30%
Patients global assessment of disease activity	85%	30%

**2. Health assessment questionnaire- functional ability**

"At this point of time are you able to:	BT				AT 07				AT 15			
	0	1	2	3	0	1	2	3	0	1	2	3
<b>Dressing &amp; Grooming</b>												
Dress yourself, including tying shoelaces and doing buttons?	0				0					3		
Shampoo your hair?	0				0					3		
Stand up from an armless straight chair?	0				1					3		
Get in and out of bed?	0				1					3		
Cut your meat?	0				0					2		
Lift a full cup or glass to your mouth?	1				2					3		
Open a new carton of milk?	1				2					3		
Walk outdoors on flat ground?	2				2					3		
Climb up 5 steps?	0				1					3		
<b>Hygiene</b>												
Wash and dry your entire body?	0				0					3		
Take a tub bath?												
Get on and off the toilet?	0				1					3		
Reach and get down a 5 pound object (such as a bag of sugar) from just above your head?	0				0					2		
Bend down and pick up clothing from the floor?	0				1					2		

<b>Grip</b>			
Open car doors?			
Open jars that have been previously opened?	0	1	2
Turn regular faucets on and off?	1	2	3
Run errands and shop?	0	1	2
Get in and out of the car?			
Do chores such as vacuuming or yardwork?	0	1	1
<b>Total score</b>	<b>BT</b>	<b>A.T 07</b>	<b>A.T 15</b>
Activities	<b>4/27</b>	<b>9/27</b>	<b>26/27</b>
Hygiene	<b>0/12</b>	<b>2/12</b>	<b>10/12</b>
Reach			
Grip	<b>1/12</b>	<b>5/12</b>	<b>8/12</b>

Table 4: Subjective parameters

**Presenting Complaints**

<b>1. Sandhi Shoola</b>	<b>Score</b>	<b>BT</b>	<b>AT</b>
No pain	0		
Mild (Does not interfere with most activities. Able to adopt to pain psychologically with medication or devices such as cushions)	1		1
Moderate (Interferes with many activities. Requires lifestyle changes but Patient Remains independent. Unable to adopt to pain)	2	2	
Severe (Unable to engage in normal activities. Patient is disabled and unable to function independently)	3		

<b>2. Sandhi Shotha</b>	<b>Score</b>	<b>BT</b>	<b>AT</b>
No Swelling	0		
Slight Swelling; moves the joint without pain	1		1
Moderate Swelling; moves the joint with pain to full extent	2	2	
Severe Swelling: Restricted/ No movements	3		

<b>3. Sandhi Stabdata (Morning Stiffness)</b>	<b>Score</b>	<b>BT</b>	<b>AT</b>
None	0		
Less than 15 mins	1		
15 to 30 mins	2		2
More than 30 mins	3	3	

**Associated Complaints**

<b>1. Angamarda</b>	<b>Score</b>	<b>BT</b>	<b>AT</b>
No Body ache	0		
Body ache getting better after a few mins of activity	1		1
15 to 30 mins Body ache getting better after activity towards mid-day	2	2	
Body ache persisting at all times	3		

<b>2. Aruchi</b>	<b>Score</b>	<b>BT</b>	<b>AT</b>
Appreciates all Rasas	0		0
Appreciates any 4 Rasas	1		
Appreciates any 2 Rasas	2		
Doesn't appreciate taste of food	3	3	

<b>3. Trushna</b>	<b>Score</b>	<b>BT</b>	<b>AT</b>
Quantity of water intake 0-2 litres per day	0		
Quantity of water intake > 2-3 litres per day	1		1
Quantity of water intake > 3-4 litres per day	2	2	
Quantity of water intake > 4 litres per day	3		

<b>4. Alasya</b>	<b>Score</b>	<b>BT</b>	<b>AT</b>
Interested to do all the activities	0		
Can perform personal & other daily activities with little interest	1		1
Can perform only personal activities without interest	2		
No interest in any activity	3	3	

<b>5. Apaka</b>	<b>Score</b>	<b>BT</b>	<b>AT</b>
No indigestion	0		
Heavy foods not digested properly	1		
Delayed digestion of lighter foods	2		2
Impaired digestion of even lighter foods	3	3	

<b>6. Tenderness/ Pain on motion</b>	<b>Score</b>	<b>BT</b>	<b>AT</b>
No tenderness/pain	0		
Minimal (positive response to questioning)	1		1
Moderate (spontaneous response elicited)	2		
Severe (withdrawal by patient on examination)	3	3	

<b>7. Swelling</b>	<b>Score</b>	<b>BT</b>	<b>AT</b>
No swelling	0		0
Mild (detectable synovial thickening without loss of bony contours)	1	1	
Moderate (loss of distinctness of bony contours)	2		
Severe (bulging synovial proliferation with cystic characteristics)	3		

**Table 5: Special Examination**

<b>1. Grip Strength</b>			
The patient's ability to compress the inflated ordinary sphygmomanometer cuff under standard conditions to assess the functional capacity of effected upper limb, both before and after treatment.			
	Score	BT	AT
200 mm/Hg or more	0		
200 to 120 mm/Hg	1		1
120 to 70 mm/Hg	2	2	
Under 70 mm/Hg	3		

<b>2. Foot pressure</b>			
Foot pressure was recorded both before and after treatment by the ability of the patient to press a weighing machine, to an objective view of functional capacity of lower limb.			
	Score	BT	AT
25 to 21 kg	0		0
20 to 16 kg	1	1	
15 to 10 kg	2		
Less than 10 kg	3		

<b>3. Range of movement</b>			
Measurement of Range of joint movement using Goniometer before and after treatment			
	Score	BT	AT
100° to 130°	0		
70° to 99°	1		1
30° to 69°	2	2	
0° to 29°	3		

**Grading of Remarks**

- Good response - If the overall improvement is >75%
- Fair response - If the overall improvement is greater than or equal to 50% but <75%
- Poor response - If the overall improvement is greater than or equal to 25% but <50%
- No response - If the overall improvement is less than 25%

**Presenting Complaints****Pathya- Apathya (Do's and Don'ts)**

The *Pathya - apathya* were explained to the patient based on classical references.

**Pathya**<sup>[4]</sup>: *Yava* (barley), *Kulatha* (horse gram), *Raktashali* (red rice), *Shigru* (moringa), *Karavellaka* (bitter gourd), *Patolaka* (bottle gourd), *Ardraka* (ginger), *Lashuna* (garlic), *Takra* (buttermilk), *Jangala mamsa* (meat of goat).

**Apathya**<sup>[5]</sup>: *Dadhi* (curd), *Matsya* (fish), *Guda* (jaggery), *Ksheera* (milk), *Masha* (black gram), *Guru* (heavy) and *Abhishyandi kara ahara* (any food which does the channel obstruction).

**DISCUSSION****Discussion on the disease**

In systemic sclerosis the very first symptom are frequently Raynaud's phenomenon (episodic vasoconstriction of small arteries and arterioles of fingers, toes, and sometimes the tip of the nose and earlobes) and puffy fingers. Episodes are brought on by cold exposure, vibration, or emotional stress. Patients experience pallor and/or cyanosis followed by rubor on rewarming. In early disease, fingers and hands are swollen. Swelling also may involve forearms, feet, lower legs, and face. In musculoskeletal features more than half the patients

with SSc complain of pain, swelling, and stiffness, of the fingers and knee. A symmetric polyarthritis resembling rheumatoid arthritis may be seen. Gastrointestinal features attributable to esophageal involvement are present in more than 50 percent of patients and include epigastric fullness, burning pain in the epigastric or retrosternal regions, and regurgitation of gastric contents.<sup>[6]</sup>

While considering the features of *Amavata*, Poor digestion (*Agni dourbalya*), salivation (*Praseka*), anorexia (*Aruchi*), heaviness of the body (*Gouravam*), lack of enthusiasm (*Utsaha hani*), bad taste in the mouth (*Vairasya*), burning sensation (*Daha*), profuse urination (*Bahu mutrata*), hardness of the abdomen and pain (*Kuksha kathinata* and *Shoola*), loss of sleep (*Nidra viparyaya*), thirst (*Trut*), vomiting (*Chardi*), giddiness (*Bhrama*), fainting (*Moorcha*), pain in the heart (*Hrut graha*), constipation (*Vit vibandha*), incapacity of movement (*Jadyata*), intestinal gurgling (*Antra koojana*) and distention (*Anaha*) and many such difficult condition also develop<sup>[7]</sup>.

As the signs and symptoms are more related to that of *Amavata*, treatment protocol<sup>[8]</sup> is adopted accordingly. Importance is given for *Ama pachana* and *Agni dipana*. For which *Vaishwanara churna*<sup>[9]</sup> is selected.

#### Discussion on Treatment and its probable mode of action

The first line of treatment adopted was *Dipana-pachana* and for that *Vaishwanara churna* was selected. The ingredients of *Vaishwanara churna* are rock salt 2 parts, *Yavani* 2 parts, *Ajamoda* 3 parts, *Shunti* 5 parts and *Haritaki* 12 parts. It was given with warm water. It is attributed with properties of *Dipana*, and used in condition like hardness of bowel, constipation and disease of the abdomen and extremities.

After the *Dipana -pachana* the patient was taken for *Vaitarana basti* and *Valuka sweda*. *Saindhava lavana* in *Vaitarana basti*<sup>[10]</sup> due to its *Sukshma*, *Tikshna* properties, helps to take the drug molecule into systemic circulation through mucosa membranes. *Purana guda* (old jaggery) has the property like *Laghu*, *Pathya*, *Anabhishtyandi*, *Agnivardhaka*, *Vatapittagna*. *Tila taila* (sesame oil) has properties like *Vatagna* (eradicates *Vata*, can be taken as reducing pain, dryness), aggravates *Pitta*, does not aggravates *Kapha*, *Dipana*, *Pachana*, *Brihmana* (nourishment), *Balya* (strengthening), *Preenana* (proper supplements), *Lekhana* (scraping and removing the adhesive substance), promotes skin health, intellect, digestive power, strength and stability of *Mamsadhatu*. *Chincha* (tamarind) has the actions like *Vata kapha shamaka*, *Ruksha ushna* properties, which helps in counteracting the *Ama*

present in the body. *Gomutra* the chief ingredient in the *Vaitarana basti* has *Katu rasa*, *Katu vipaka*, *Ushna virya*, *Laghu ruksha Tikshna guna* which pacifies the *Kapha*, *Ruksha guna* helps in eradicating *Ama* in this condition, which also has *Vatanulomana* and *Srotovishodhana* property.

The *Valuka sweda* after application of *Brihat saindhava taila*, reduces the pain, swelling and stiffness.

#### DISCUSSION ON RESULTS

While assessing the VAS, both physician's and patient's global assessment of disease activity reduced from 80% to 35% and 85% to 30% respectively, and patient's global assessment of pain reduced from 90% to 30%.

The assessment of functional ability of the patient is done by health functional questionnaire. In which more than 65% improvement was seen in all aspects. (Table No- 3)

The subjective parameters like *Sandhi shoola*, *Sandhi shotha*, *Sandhi stabtda* (morning stiffness), *Anagamarda*, *Aruchi*, *Trushna*, *Aalasya*, *Apaka*, joint tenderness and joint swelling were given score before and after treatment and assessed, and shows 50% of changes in all the symptoms. (Detailed description given in table below). (Table No- 4)

Special examinations like grip strength, foot pressure, range of movement of joints were assessed by giving score, and more than 50% of response has been seen after the treatment. (Table No- 5)

By overall assessment the patient got improved by 50% to 75%.

#### CONCLUSION

It becomes incurable when it affects all the joints of the hand, feet, head, heels, waist, knee and thighs causing painful swelling, which shifts from place to place (joint to joint), severe pain resembling that of scorpion sting (*Vrishchika damshavat*).<sup>[11]</sup>

While considering the prognosis of this condition, disease is curable if one *Dosha* is involved, difficult to cure if two *Doshas* are involved, and incurable if all three *Doshas* are involved also if swelling is moving to all joints of the body. So present condition of the patient of SSc is incurable in nature. Even though it is incurable, the principle modalities of *Amavata* could improve the QOL of the patient. Objective parameters like CRP, ANA, Anti CCP is not done due to the low socio economical background of patient. Subjective parameters are shown significant changes.

## REFERENCES

1. R.Harrison, Harrison's principles of Internal Medicine, Volume 2, 13<sup>th</sup> edition, pg no: 1655.
2. Prof.K.R.Srikanta murthy, Madhavakara, Madhava nidanam roga vinischayam, Chaukamba orientalia, Varanasi, 7<sup>th</sup> edition, 2005, pg no:95.
3. Ibid; pg no: 96.
4. Bhisagratna brahmasankar sastri, Vaidya lakshmiapati shastri, Yogaratnakara, Chaukambha prakashan, Varanasi, 2009, pg no: 573.
5. P.V.Sharma, Chakradatta, Chaukambha orientalia, Varanasi, 2007, pg no: 236.
6. R.Harrison, Harrison's principles of internal medicine, volume 2, 13<sup>th</sup> edition, pg no: 1655.
7. Prof.K.R.Srikanta murthy, Madhavakara, Madhava nidanam roga vinischayam, Chaukamba orientalia, Varanasi, 7<sup>th</sup> edition, 2005, pg no:96.
8. Bhisagratna brahmasankar sastri, Vaidya Lakshmiapati shastri, Yogaratnakara, Chaukambha prakashan, Varanasi, 2009, pg no:566.
9. P.V.Sharma, Chakradatta, Chaukambha orientalia, Varanasi, pg no:229.
10. Chakrapanidatta, Chakradatta with Bhavartha Sandipani Hindi Vyakhya, Chaukambha Sanskrit samsthan, Varanasi, 1961 pg.no: 603.
11. Prof.K.R.Srikanta murthy, Madhavakara, Madhava nidanam roga vinischayam, Chaukamba orientalia, Varanasi, 7<sup>th</sup> edition, 2005, pg no:96.

### Cite this article as:

Sreenithya.M, Neelakanta. J. Sajjanar, Sowmyashree.U.P, Gopalakrishna.G. Ayurvedic Management of Systemic Sclerosis - A Single Case Study. International Journal of Ayurveda and Pharma Research. 2021;9(3):76-83.

**Source of support: Nil, Conflict of interest: None Declared**

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