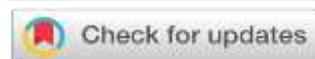


**CASE STUDY ON THE TREATMENT OF AMAVATA W.S.R TO RHEUMATOID ARTHRITIS DEVELOPED AFTER COVID-19 INFECTION****Reetika Rana¹, Gayathri Prakash², Chandershekhar sharma³, Parveen Kumar⁴, Smita Kumari⁵**¹MD scholar, Dept. of *Panchkarma*, Dayanand ayurvedic college, Jalandhar, Punjab, India.² Consultant of the case and Assistant Prof. Dept of *Panchkarma*, Dayanand ayurvedic college, Jalandhar, Punjab, India³ Prof And H.O.D of Dept of *Kayachikitsa*, Dayanand Ayurvedic college Jalandhar, Punjab, India⁴ Associate Prof Dept of *Panchkarma*, Dayanand Ayurvedic college, Jalandhar, Punjab, India⁵ Assistant Prof Dept of *Rachna sharir*, Dayanand Ayurvedic college, Jalandhar, Punjab, India**Corresponding Author:** reetikarana40987@gmail.com<https://doi.org/10.46607/iamj4510082022>**(Published Online: August 2022)****Open Access**

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Article Received: 05/07/2022 - **Peer Reviewed:** 25/07/2022 - **Accepted for Publication:** 29/07/2022**ABSTRACT**

Amavata is one of the most frequently occurring health problem caused by the debilitation of *Agni* (Digestion), development of *Ama* (bio-poison) and vitiation of *Vata Dosh*. The symptoms of *Amavata* are produced due to vitiation of *Vata Dosh* and the development of *Ama*. The *Ama* and *Vata Dosh* together occupy *Shleshmasthan* (*Asthisandhi*) which brings about "*Amavata*". *Amavata* can be correlated with Rheumatoid Arthritis because of similarities in clinical presentation. Rheumatoid Arthritis is an autoimmune disorder causing a chronic symmetrical polyarthritis with systemic involvement. The treatment in Modern science incorporates the utilization of NSAID's, Glucocorticoids, DMARD's and immunosuppression treatments which may prompt many harmful side effects. *Acharya Chakradatta* mentioned *Chikitsa Siddhanta* for the treatment of *Amavata*, which comprises *Langhana*, *Swedana*, medications having *Tikta*, *Katu Rasa* and *Deepana* property, *Virechana*, *Snehapana* and *basti*.

Many articles have been published in which it is written that frequency of incidences of autoimmune diseases increases many folds in post covid patients as compared to the normal individual having no history of covid infec-

tion but still it is a matter which is under research but the growing incidences of autoimmune diseases in Post covid Patients can't be neglected at once.

Rheumatoid arthritis is one of the autoimmune disorders that is seen in the post covid patients. Here is a case of *Amavata* that was developed after covid 19 infection who got marked relief after 1 month of the treatment.

Patient was treated according to the line of treatment mentioned in *chakradatta*. These modalities help in *Amapachana*, *Vatashamana*, *Strotoshodhana* and *javarahara*.

Keywords: *Panchkarma, Amavata, Rheumatoid arthritis, Langhana and Basti*

INTRODUCTION

Amavata is one of the challenging health problems that cause extreme loss to mankind. The two main factors¹ involved in it are 'Ama' and 'Vata' dosha. *Ama*² implies incomplete digestion of food which results in the development of impure *Annarasa* which circulates in the body and reaches the target cell where it produces pathology. Here *Vata* means vitiated *Vata dosha*³ which is a result of consumption of *Vata Vardhak ahara-vihar*, *Ratrijagrana*, excessive physical work, extreme stress exposure, sadness, and fear.

The *Nidana*⁴ of *Amavata* includes *Virudhha-ahara*, *Viruddh -vihara*, *Mandagni*, *Nischalata*, and *Vyayam* after taking *Snigdha Ahara* which results in the formation of *Ama* which is further taken by vitiated *Vata dosha* to *Kapha* dominating *Sthana* i.e., *Amashya*, *Sandhi*, *Uraha*, *Shir Pradesha* and *Kantha* which significantly causes stiffness in the whole body.

Unhealthy dietary habits and poor lifestyle results in an impaired state of *Agni* which further leads to many health problems. *Amavata* is one of the health problems which occur due to compromised digestion processes i.e., '*Jadharagni*'⁵(Digestion power) as well as '*Dhatwagni*'⁶(Tissue metabolism). Impaired status of *Jathharagni* leads to 'Ama' formation and Diminished '*Dhatwagni*' leads to the formation of low-quality *Dhatu* formation starting from *Rasa Dhatu* to *Oja*(Immunity) formation⁷. On every level of *Dhatu* formation, a compromised status of *Agni* forming a poor-quality *Dhatu* work as an etiological factor for the diseases like *Amavata* where other etiological factors like vitiation of *Vata dosha* form significant pathophysiology for the manifestation of the diseases "*Amavata*".

Amavata can be correlated with Rheumatoid Arthritis because of the similar presentation of both diseases. *Amavata* is a disease of *Madhyam Rogamarg*. *Ashti*(Bones) and *Sandhi*(joints) are the main site for the invasion of these diseases causing *Sandhishool* (Pain in joints), *Sandhishotha*(Inflammation in joints) and *Sandhigraha* (Restricted movement of joints), and so on. All three *Doshas* participate in the pathogenesis of this disease yet *Ama* and vitiated *Vata* assume to be the prevailing factors.

The prevalence of Rheumatoid arthritis affects around 0.5-1% of the total population⁸. Females are three times more affected by Rheumatoid arthritis⁹. The Prevalence of Rheumatoid arthritis in India is 0.28-0.75%¹⁰. The beginning of Rheumatoid arthritis generally appears during the 4th & fifth ten years of life, but individuals of all ages can be a sufferer of Rheumatoid arthritis depending upon environmental factors, dietary habits, and quality of lifestyle¹¹.

The Factor causing Rheumatoid arthritis by causing joint inflammation incorporates infectious triggers, hereditary inclination, and immune system reaction¹². Insidious beginning of the disease having symptoms like tiredness, anorexia, weakness, and acute onset with the fast advancement of poly arthritis along with secondary symptoms like fever, lymphadenopathy, and splenomegaly¹³. It is presented with complaints of Pain, swelling, and tenderness in joints. During a later stage, it may result in deformity in joints¹⁴. The metacarpophalangeal and proximal interphalangeal joints of the hands, wrists, knees and metatarsophalangeal and proximal interphalangeal joints of the feet are most commonly involved¹⁵, even in present-day clinical science with outrageous headway in

demonstrative methodology, just indicative alleviation and no long-lasting cure is given. It is a difficult health problem for the doctors and clinical field. Till today in current medical science, there is no successful medication for this disease. All that advanced medication utilized DMARD, steroids, and NSAID¹⁶ which adversely affect invulnerable framework and gives just impermanent alleviation. To date, no effective drug therapy without any adverse effect on health has been discovered for this disease. The challenging treatment of this disease force the patients to look with an expectation towards *Ayurveda* to get some effective treatment without experiencing any side effect Thus this is very important for *Ayurvedic* researcher to find some fruitful treatment for *Amavata* by following the line of treatment mentioned in *Ayurveda* texts.

The line of treatment for *Amavata* is *Shodhana* and *Shamana Chikitsa*. *Shodhana Chikitsa* includes *Langhana*, *Snehana*, *Swedana*, *Virechan*, and *Basti* whereas, *Shamana Chikitsa* includes the use of *Katu-tikta Pardhana dravyas*¹⁷.

Case Report:

A 26-year-old female patient came to us with the following chief complaints:

- Pain in multiple joints for 6 months
- Morning stiffness in both hands for more than 1 hour for 6 months
- Mild swelling over the face
- Loss of appetite for 6 months
- Constipation on and off for 6 months
- Fever on and off for 6 months
- Likes to sleep day and night for 6 months
- Generalized body weakness for 6 months

History of Present Illness:

A 26-year-old female patient came to us with complaints of pain and swelling in multiple joints with symmetrical involvement, mild swelling over the face, and morning stiffness in both hands for more than 1 hour which gradually reduced with movement, she also developed the complaint of constipation on

and off with the significant loss of appetite. She likes to sleep day and night as she experienced generalized body weakness and fever on and off. on further questioning patient revealed that she developed these complaints for 6 months as six months back she was diagnosed with a covid-19 infection for which she was treated for 15 days. According to the Patient, Steroids were also included in treatment given to her during her covid-19 treatment. On further questioning, she revealed that she never had such complaints before the covid-19 infection. Patient also said that her complaints become aggravated for 20 days due to cold exposure as the patient came to us in the month of November. According to the patient she took pain-killers once a week when she experienced extreme pain, she did not want to take allopathy treatment as the patient was young, so her family was seeking an effective *Ayurvedic* treatment to get a permanent cure

Past illness

H/O covid-19 infection 6 months back

No significant family history

VITALS:

B.P. - 116/74 mm of Hg

P.R. - 76/min

R.R - 18/min

Ashtavidha Pariksha

Nadi (Pulse) - 80/min

Mala (stool) - *Vadha-mala*

Mutra(urine) - 5-6 times/day

Jeeva (Tongue) - whitish coated

Agni(Digestion) - *Mandha*(Diminished)

Shabda(Speech) - Normal

Akruti(Appearance) - *Madhyam* (Moderate)

Diagnosis:

Diagnosis on the basis of fulfillment of criteria of the American College of Rheumatology 2010 for RA.

Before treatment Patient scored - 6

(i)4-10 joints were involved – 3

(ii)Low positive RA factor 2

(iii)Duration > 6 weeks -1

Table 1: ¹⁸Diagnosis on the basis of signs and symptoms mentioned in the *Ayurvedic* literature was scored between 0-4

Symptoms	+ve or -ve	Score
Vedana (Pain)	No Pain	0
	Mild Pain	1
	Moderate Pain	2
	Severe Pain	3
Karma Kshaya (Loss of Function)	No <i>karma kshaya</i>	0
	The patient can perform work with mild difficult	1
	The patient can perform daily routine work with moderate difficulty	2
	Patient totally unable to perform daily routine	3
Jadya (Stiffness)	No Morning stiffness	0
	Morning stiffness upto 25-50%	1
	Morning Stiffness upto 50-75%	2
	Morning stiffness 75-100%	3
Shunta (swelling)	No swelling	0
	Mild swelling	1
	Moderate swelling	2
	Severe swelling	3
Aruchi (Tastelessness)	No tastelessness	0
	Mild tastelessness	1
	Moderate tastelessness	2
	Severe tastelessness	3
Vibandh (Constipation)	No Constipation	0
	Mild, daily with straining	1
	Once in 2 days with mild straining	2
	Once in 2 days with severe straining	3
Sparshashatva (Tenderness of joint))	No Tenderness	0
	The subjective experience of Tenderness	1
	Winching of the face on pressure	2
	Resist to touch	3
Bahumutrata (Frequency of urination per 24 hours)	<5 times/24 hr.	0
	5-7 times/24 hr.	1
	8-10 times/24 hr.	2
	>10 times/2 hr.	3
Jwara (Fever)	No fever	0
	Fever 3-4 times per week subsides by itself	1
	Fever 3-4 times per week subsides by drugs	2
	Continuous Fever	3
Trishna (Excessive Thirst)	The feeling of thirst (7-9times/24 hr.)	0
	The feeling of moderate thirst(>9-	1

	11times/24hr)	
	Feeling of excessive thirst(11-13times/24hr.) not relieved	2
	Feeling of severe thirst (>13 times/24 hr.) not relieved by drinking water	3
Angamardha (Generalized body aches)	No body ache	0
	Generalized body aches on and off during the day	1
	Generalized body aches throughout the day but the person is able to do routine work	2
	Generalized body ache enough to affect the routine work for the whole day	3
Ruchirahara kale (Taste and appetite)	Equal willing towards all <i>Bhojya Padarth</i>	0
	Willing towards some specific <i>Ahara</i> or <i>Ras vishesha</i>	
	Unwilling for food but takes meal	2
	Total unwilling for meal	3
Alasya (Laziness)	No Laziness (Doing satisfactory work with proper speed on time)	0
	Doing satisfactory work but late initiation likes to stand Instead of walking	1
	Doing little work at a very slow speed likes to lie down instead of sitting	2
	Don't want to do work/no initiation, likes to sleep instead of lying down	3

Score Given to the Patient before Treatment:

Table 2: Diagnosis on the basis of signs and symptoms mentioned in the ayurvedic literature was scored between 0-4

Symptoms	+ve or -ve	Score
<i>Vedana</i> (Pain)	+ve (Moderate)	2
<i>Karma Kashya</i> (Loss of function)	-ve	0
<i>Jadya</i> (stiffness)	+ve (Moderate)	2
<i>Shunta</i> (Swelling)	+ve (Mild)	1
<i>Aruchi</i> (Tastelessness)	+ve(severe)	4
<i>Vibandh</i> (Constipation)	+ve (Once in two days with mild straining)	2
<i>Sparshashatva</i> (Tenderness)	+ve (Mild wincing of the face on applying pressure)	2
<i>Bahumutrata</i> (Frequency of urination per 24 hours)	+ve (5-7 times per 24 hours)	1
<i>Jwara</i> (Fever)	2-3 times every 10 days which subsides on taking medicine	2
<i>Trishna</i> (Excessive thirst)	-ve	0
<i>Angamardha</i> (generalized body aches)	+ve	2

Investigations:

Laboratory findings before treatment:

RA factor(quantitative)- 46 IU/ML

ESR - 28 mm/hr

Material:

Medicines used in the patient-

1. *Maharasanadi kwath* 15 ml thrice daily
2. *Sihmnad guggal* 1 tab thrice daily
3. *Sudarshan ghan vati* 1 tab thrice daily
4. *Rheumalya Liniment* for l/a twice daily
5. *Baluka swedan* for 7 days
6. *Brihatsaindhavadi tailum anuvasana basti*

Table 3: Mode of action of medicines-

Medicine	Mode of action
¹⁹ <i>Maharasnadi kwath</i>	<i>Vatashak</i>
²⁰ <i>Simhanad guggal</i>	<i>Vata-pita, kaphashamak, rasayana, Agnivardhak</i>
²¹ <i>Sudarshan ghan vati</i>	<i>Tridosha shamak, Jwarahara</i>
<i>Rheumalya liniment</i>	<i>Shotha and shool nashak</i>
²² <i>Baluka swedan</i>	<i>Ruksha swedan</i> probable mode of action is due to its <i>Ruksha guna</i> it works as a <i>Kapha shamak</i> and as it has hot potency it also helps in <i>Vata-kapha shaman</i>
²³ <i>Brihatsaindhavadi tailum Anuvasana basti</i>	<i>Vata shamak, Agnivardhak, Kati-Janu-Jangha-Sandhi-Parshva-Haridya-Ashrit Vata-Shamak</i>

Pathya-Apathya advised the Patient:

The *Pathya-apathya* advised the patient to avoid extreme cold exposure specially morning and night, avoid day sleep, avoid baths with cold water, avoid baked and heavy food like potatoes, Kidney seeds, Black gram, Cabbage, and cold drinks

The patient was also advised to drink warm water, light food, complete night sleep, 1-time food in a day at least once a week, *Atap sewan* was indicated as the patient came to us in the winter season

RESULT:

After treatment:

Laboratorial Findings after Treatment:

Ra factor reduced to <10 IU/ml and ESR reduced to 14mm/Hr

The score is given after treatment on the basis of the American College of Rheumatology Criteria 2010:

After the treatment, none of the criteria of the American college of Rheumatology criteria 2010 was fulfilled by the Patient therefore score of 0 was given.

The score given after treatment on the basis of signs and symptoms mentioned in the Ayurveda Literature:

After one month of treatment, all the signs and symptoms of *Amavata* subsided therefore score of 0 is given.

CONCLUSION

The Development of Rheumatoid arthritis in relation to corona virus has been studied. The signs and symptoms that appeared in post-Covid patients were very similar to the signs and symptoms of *Amavata* mentioned in *Ayurveda* literature. Various components are estimated to make sense of how infections could incite immune system responses. The formation of antibodies following a viral disease that possibly prompts tissue injury (cross-area) is the recommended instrument for viral-incited autoimmunity in view of the idea of type-2 Hypersensitiveness. With respect to type- 4 Hypersensitiveness, it is proposed that activated T cells against the infection could harm oneself tissues by creating an inflammatory environment or straight forwardly attacking the cells²⁴. Moreover, many theories are available, explaining how SARS-CoV-2 results in a hyper inflammatory state that further results in autoimmune reactions²⁵; For instance, vascular injury due to immune-complex depositions and antibody-dependent enhancement (ADE) with immune complexes formed

by IgG that potentially boosts viral replication in Fc-receptor expressing cells. The observation of ADE by anti-spike protein antibody of severe acute respiratory syndrome corona virus (SARS-CoV) further supports the possible role of ADE in autoimmunity mediated by COVID-19. Many Hypotheses have been made on the basis of the appearance of musculoskeletal symptoms appearing in the patients after covid -19 infection²⁶ but there is no sufficient data available globally to prove that people develop autoimmune inflammatory arthritis after covid-19 infection, so our case study adds a substantial amount of evidence to this hypothesis. The Patho-physiology of Rheumatoid arthritis developed in post covid patients ultimately disturbing the normal physiology of the body in the same way as *Amavata* does to the body mentioned in the Ayurveda literature because of the similarities in the appearance of symptoms. The main reason may be hyper activation of the immune system due to extreme stress exposure to the immune system which may result in such diseases. Its long-time effect can be a dysregulation of the immune system ranging from the production of auto antibodies to the onset of rheumatic autoimmune diseases. The patient was treated symptomatically keeping in mind the ama and vitiated *Vata dosha* also. As the Patient was young and the disease was not chronic that's why it took only 1 month for complete healing but depending on the *Bala*, *Vaya*, and condition of the patient the duration of the treatment can be extended. The medicines given to the patients work as *Vata-Kapha shamana*, *Tridosha shamaka*, *Jwarahara*, *Rasayana*, *Ag-nivardhaka*, *Amapachana*, *Shotha*, and *Shool shama-na*. The treatment given to the patient cannot be the only line of treatment that works because many other medicines and *Panchkarma* procedures are mentioned in the Ayurveda text that can also be highly beneficial not only in post-covid R.A. patients but also in other autoimmune diseases that developed after Covid-19 infection depending on the signs and symptoms appeared in the patient.

REFERENCES

1. *Bramhanand Tripathi, Madhav nidan*, reprints 2008 Chaukamba Surbharati Prakashan Varanasi Vol:1, Pg.571
2. Dwarka C., Introduction to *Kayachikitsa, Chaukhamba Orientalis*, Varanasi, third edition, 1996;69
3. Vidyadhar Shukla, Ravidatta Tripathi-Charak Samhita, *Chaukhamba Sanskrit Pratishthan*, New Delhi: 2005.690
4. *Bramhanand Tripathi, Madhav nidan*, 25/1 *Chaukamba Surbharati Prakashan Varanasi* Vol:1, 2008.571
5. *Bramhanand Tripathi, Madhav nidan*, 25/2 *Chaukamba Surbharati Prakashan Varanasi* Vol:1, 2008.571
6. *Bramhanand Tripathi, Madhav nidan*, 25/3 *Chaukamba Surbharati Prakashan Varanasi* Vol:1, 2008.571
7. *Pt.kashinath, Charak Samhita Vidhyotini hindi Vyakhya Chikitsa sthan* 15/15 *Varanasi, Chaukambha Bharati Academy* 2013.456
8. John A.A Hunter, Davidson's principles and practice of medicine ch.20 Churchil living stone 19th edition 2002.1003
9. Linos A, Worthington JW, O' Fallon WM, Kurland LT. The epidemiology of Rheumatoid arthritis in Rochester, Minnesota: a study of incidence, prevalence, and mortality. *AmjEpidemiol.*1980;111:87-98 <https://pubmed.ncbi.nlm.nih.gov/7352462/>
10. An N Malviya, S K Kapoor, R R Singh, A Kumar, I Pande. Prevalence of rheumatoid arthritis in the adult Indian population <https://pubmed.ncbi.nlm.nih.gov/8310203/>
11. John A.A Hunter Davidson's principles and practice of medicine ch.20 Churchil living stone 19th edition 2002.1003
12. R Alagappan. Manual of Practical Medicine ch.11 Jaypee Brothers medical publishers New Delhi 5th edition 2014.850
13. John A.A Hunter, Davidson's principal and practice of Medicine ,ch.20 Churchil living stone 19th edition 2002.1006
14. Kumar and Clark. Clinical medicine Ch.10 Elsevier saunders Printed in Spain 6th edition 2005.557
15. Dan L. Longo et al.; Harrison principal of internal medicine vol -2 ed.14th 1998 pp 1880-1888.
16. John A.A Hunter, Davidson's principles and practice of medicine, ch.20 Churchil living stone 19th edition 2002.1005
17. *Sri jagadishvaraprasad Tripathi, Chakradatta of sri Chakrapanidatta with the Bhavarthasandipini* 25/1 The *Chowkhamba Series Office Varanasi* edition 5th 1983.225
18. *Brahmanand Tripathi, Madhav nidan*, 25/6-10 *Chaukamba Surbharati Prakashan Varanasi*, 2008.574
19. *Sahastrayogamm* (Sanskrit-Hindi translation), written by Dr. Ram Nivas sharma and Surender sharma; *Chau-*

- khamba Sanskrit Prishthan* Delhi 2004.33
20. Sri Jagdishwar parsad tripathi *Chakradatta* written by *Chakrapani Datta*.25/31-35 Varanasi Chaukamba Sanskrit Sansthan 2008.228
 21. Dr.D.B. Panditray, Sahastrayog Tritya khand.134 Kendriya vigyan Anusandhan Parishad 2011.210
 22. Dr. G. Srinivasa Acharya, Panchkarma illustrated, *Chaukambha Sanskrit Pratishthana*, Delhi,2009.215-219
 23. *Sri Jagdishwar Prasad Tripathi, Chakradatta*,25/46-48 Chaukambha Sanskrit Series, Varanasi, 2006.230
 24. Niloufar Yazdanpanah and Nima Rezaei, Autoimmune complications of COVID-19. Pubmed
 25. Archana Tripathy, Nitish Swain, and Bhawna Gupta, Future medicine. The COVID-19 pandemic: an increased risk of Rheumatoid arthritis.
 26. Lucio Cipollaro, Lorenzo Giordano, Johnny Padulo, Francesco Oliva and Nicola Maffulli, Journal of orthopedic Surgery and Research. Musculoskeletal symptoms in SARS-CoV-2(COVID-19) patients

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