

## Scope of Lifestyle in Care of Patients of *Amavata* (Rheumatoid Arthritis)

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**Abstract:** In Rheumatoid arthritis (RA) there is chronic inflammation of multiple peripheral joints symmetrically along with systemic and multi-system features and its etiology is not known. The synovial inflammation causes cartilage destruction and bone erosions subsequently leading to changes in joint integrity. RA is prevalent in 0.8 percent of population affecting women three times more often than men. The prevalence of RA increases with age and sex differences diminish in older age group. RA generally occurs in fourth and fifth decades of life and 80 percent of all patients developing the disease are between the ages of 35 and 50. Many risk factors like lifestyle-related factors, such as diet, smoking and obesity have been associated with an increased risk of RA. RA resembles with *Amavata*. Although the concept of *Ama* had been elaborated well in previous Ayurvedic texts like *Charaka Samhita*, *Amavata* has been described in detail for the first time in *Madhava Nidana*. *Amavata* is characterized by simultaneous vitiation of *Ama* and *Vata* which in turn enter into different joints causing inflammation, pain and stiffness leading to decreased mobility of joints. Lifestyle factors like *Viruddha Ahar –Vihar*, lack of exercise and doing exercise after taking fatty meals and so on have been described as etiological factors leading to production of *Ama* along with vitiation of *Vata* and subsequent development of *Amavata*. Ayurveda advises use of proper *Ahar-Vihar* in the form of *Ashtaharvidhi Visheshayatanani*, *Dwadasha Ashanapravicharana*, *Dinacharya*, *Ratricharya*, *Ritucharya* and *Sadvritta*. These measures prevent from formation of *Ama* and help to maintain equilibrium of *Doshas*. Yoga having a holistic approach is effective not only in promotion of health but it also has preventive and curative potential. The practice of yoga involves specific physical postures (*asanas*), breath regulation (*pranayamas*), concentration (*dharana*), and meditation (*dhyana*). Yogic practices like *Shavasana*, *Yoga Nidra*, *Dhyana* and *Pranayama* have anti-stress role and also help to manage pain. The present article is an attempt to explore the role of modification in lifestyle in care of patients of *Amavata* (rheumatoid arthritis).

**Keywords:** Prevention, *Ahar*, *Vihar*, Rheumatoid arthritis, *Amavata*, Yoga

### 1. INTRODUCTION

Rheumatoid arthritis (RA), having etiology unknown presents with chronic inflammatory synovitis most commonly involving peripheral joints in a symmetric distribution along with a variety of systemic manifestation. Due to synovial inflammation there is destruction of cartilage and erosions of bone which subsequently lead to changes in joint integrity. RA is prevalent in 0.8 percent of population and women have been found to be affected three times more often than men. There is increase in prevalence of RA with age and sex differences diminish in older age group. RA is generally the disease of fourth and fifth decades of life and 80 percent of all patients developing the disease are between the ages of 35 and 50. Many risk factors like lifestyle-related factors, such as diet, smoking and obesity have been associated with an increased risk of RA.<sup>1</sup>

RA resembles with *Amavata* described in Ayurvedic texts. *Amavata* as a disease entity has been described in detail for the first time in *Madhava Nidana*. It is characterized by simultaneous vitiation of *Ama* and *Vata* which in turn enter into different joints causing inflammation, pain and stiffness leading to decreased mobility of joints. Lifestyle factors like *Viruddha Ahar –Vihar*, lack of exercise and doing exercise after taking fatty meals and so on have been described as etiological factors

leading to production of *Ama* along with vitiation of *Vata* and subsequent development of Amavata.<sup>2</sup> The main lifestyle interventions found effective for RA are physical exercise, appropriate diet,

*Ayurveda* advocates appropriate *Ahar* (diet)-*Vihar* (lifestyle) and *Aushadhi* (medicine) for management of disease and there is a detailed description of *Ahar-Vihar* in the form of *Ashtaharvidhi Visheshayatanani*<sup>4</sup> (eight principles of taking diet), *Dwadasha Ashanapravicharana*<sup>5</sup> (twelve principles of taking diet), *Dinacharya* (daily regimen), *Ratricharya*<sup>6</sup> (night regimen), *Ritucharya*<sup>7</sup> (seasonal regimen) and *Sadvritta*<sup>8</sup> (good conduct). These measures prevent from formation of *Ama* and help to maintain equilibrium of *Doshas*.

Due to its holistic approach, *Yoga* has health promotive as well as preventive and curative potential. The various practices of *Yoga* consist of specific physical postures (*asanas*), breath regulation (*pranayamas*), concentration (*dharana*), and meditation (*dhyana*). *Yogic* practices like *Shavasana*, *Yoga Nidra*, *Dhyana* and *Pranayama* reduce stress and also help to manage pain.<sup>9</sup> Various researches have proved that appropriate diet, lifestyle and *Ayurvedic* daily and seasonal regimes as well as *Yogic* practices are useful as non pharmacological measure for rheumatoid arthritis (RA).

### Nidana (Etiology) of Amavata (Rheumatoid Arthritis)

**Nidana (etiological factors)** of Amavata available in *Ayurvedic* texts can be described as under:

#### 1. Aharatmaka – (Related to Diet)

Incompatible/Unwholesome dietary regimen is known as *Viruddhahara* one of the important etiological factors of *Amavata*. As per opinion of *Vagbhata* the term '*Viruddha*' denotes the factors which cause *Dosha Utklesha* (vitiating) in the body without eliminating them from the body.<sup>10</sup> Chakrapani has mentioned, although *Viruddha* drug and diet cause *Doshotkleshan* (vitiating of *Dosha*) but do not expel them out from the body.<sup>11</sup> Chakrapani further opines that factors which act against the *shareera dhatu* (or *Dosha*) or vitiate the *Shareera Dhatu* are known as *Viruddha*.<sup>12</sup>

#### 2. Viharatmaka – (Related to lifestyle):

These include various lifestyle factors which have unfavorable effect on *Dosha* and also cause *Utklesha* (vitiating). For example, *Viruddha Chesta* (incompatible movement) such as:

- (1) *Snigdha Bhojanottara vyayama*. (Exercise after consumption of fatty meals)
- (2) *Vega Dharana* (Suppression of natural urges)
- (3) *Sheetodaka Snana* (Cold water bath)
- (4) *Sheetoshna Vyatyasa* (Use of *Sheeta* & *Ushna* alternately)
- (5) *Vishama Shaiya Shayana* (Sleeping in uncomfortable bed)
- (6) *Nidra Viparyaya* (*Diva Swapna*, *Ratri Jagarana*)

*Vijaya Rakshita*, the commentator of *Madhava Nidana*, considers the combination of both the factors (*vyayama* & *Snigdha Bhojana*) to be responsible for formation of *Ama*. Intake of *Snigdha Ahara* produces large quantity of *Kapha* during the '*Prathama Avastha Paka*'. *Vyayama* drives *Dosha* from *Kostha* (digestive system) to *Shakha*, *Asthi* and *Marma* (peripheral parts, bones and vitals) thus helping in the circulation of *Ama Dosha* and generation of the disease.<sup>13</sup>

Intake of food causes extra load on gastro intestinal tract (G.I.T.) and there is increased supply of blood to G.I.T. to fulfill it. Exercising after taking food, increases the blood circulation toward skeletal muscles for fulfilling the oxygen demand of the muscles, thereby hampering the digestion and absorption which leads to production of *Ama*.

*Vega dharana* (suppression of natural urges) is responsible for "*Mala sanchaya*" in the body, which also produces *Ama* (*Mala sanchaya rupa Ama*) thus generating the disease.

*Diva Swapna* (day sleep), in case of *Nidra Viparyaya*, aggravates *Kapha* which causes *Srotarodha* and impaired digestion (*Mandagni*) leading to formation of *Ama* and later on the disease. *Ratri jagarana* (awakening in night) causes *Vata Prakopa*. Similarly an uncomfortable bed also causes vitiating

of Vata. *Seetoshna Vyatyasa* causes vitiation of *Swedavaha Strotas* which is controlled by *Samana Vayu*. *Swedavaha srotas* after getting affected leads to vitiation of *Samana vayu* which in turn produces *Jatharagnimandya* and in turn *Ama*.

### 3. Manasika (Related to mind)–

The various psychological factors such as *Kama* (desire), *Krodha* (anger), *Shoka* (grief), *Bhaya* (fear) and *Chinta* (anxiety) indirectly affect *Agni* and cause production of *Ama*.

### 4. Others

These include *Mandagni* (decreased digestive power), *Nischalatwa* (lack of exercise), *Nidanarthakara Vyadhi* (a disease causing the other), and all other *Vata* vitiating factors.<sup>14</sup>

## 2. RISK FACTORS FOR RHEUMATOID ARTHRITIS

Although the etiology of RA is unknown, it is hypothesized to be caused as a manifestation of the exposure to an infectious agent in a genetically susceptible host. The various risk factors of RA are mentioned in Table NO 1.<sup>15</sup>

**Table1.** Risk Factors of Rheumatoid arthritis

Risk factor	
Age	Between 35 and 50 yrs.
Gender	Women are affected about 3 times more than men
Family history	The risk increases in those with relatives having RA.
Heavy Smoking	A very strong risk factor for RA,
Urbanization	Increases the risk of RA

### Samprapti (Pathogenesis) of Amavata (Rheumatoid Arthritis)

*Mandagni* (diminished digestive power) caused by exposure to etiological factors (*Nidana*) leads to production of *Ama* (undigested matter) which enters into *Rasa Dhatu* and in turn gets mixed with *Doshas* (*Vata* Predominant) and further circulates in *Dhamani* and later on accumulates in the site of *Kha Vagunya* (defective channel) especially at sites of *Kapha Dosha* e.g. in *Sandhi* causing *Shotha* (inflammation) and pain.<sup>16</sup>

### Samprapti Chakra ( Cycle of Pathogenesis Amavata )

Nidana sevana (exposure to etiological factors)

↓

Mandagni, (Decreased digestive power)

↓

Formation of Ama (production of undigested matter)

↓

Doshotpatti in rasa

↓

Mixing of Ama with doshas

↓

Circulation of ama- dosha in dhamani

↓

Sthana samshraya at sandhi (localization in joints)

↓

*Dosha lakshana utpatti* (signs and symptoms)

↓

Amavata (with specific lakshana)

### Prevention of *Amavata* (Rheumatoid Arthritis)

Ayurveda aims at preserving health and managing the diseases.<sup>17</sup> While treating individual characteristics like *Prakriti*, *Satva Satmya*, *Sara*, *Samhanana* and so on are given much importance.<sup>18</sup>

Trayopstambha (three sub pillars of life) consists of three important factors for healthy life viz. i) Ahar, (food) ii) *Vihar* (lifestyle) and iii) *Brahmacharya* (controlled sexual desire).<sup>19</sup> The diet should be taken as per rules like *Ashtaharvidhi Visheshayatanani*<sup>20</sup> and *Dwadasha Ashanpravicharana*<sup>21</sup> and lifestyle should be regulated by appropriate specific regimens such as *Dinacharya*<sup>22</sup>, *Ratricharya*<sup>23</sup>, *Ritucharya*<sup>24</sup> and *Sadvritta*<sup>25</sup>.

Treatment measures available for RA include pharmacological, non pharmacological and surgical. Surgical interventions may help improve function of damaged joints and to relieve pain only in advance stage. Reduction of inflammation and pain, preservation of function, and prevention of deformity are the primary objectives in treating rheumatoid arthritis. Disease-modifying antirheumatic drugs (DMARDs) should be started at the earliest and their dose should be adjusted with the aim of suppressing disease activity.<sup>26</sup>

### 3. ROLE OF AHAR (DIET) AND VIHAR (LIFESTYLE)

In prevention and management of diseases, *Ahar* (diet) and *Vihar* (lifestyle) are highly important in Ayurveda. The diet has been called as *Mahabhaishajya* (the super medicine) in the *Kashyap Samhita* which shows its importance.<sup>27</sup>

The rule for taking food is that one part of the stomach be kept for solid food, the second part for liquids and the third part is left empty for the *Doshas*.<sup>28</sup> Taking food simply on the basis of the quantity is not beneficial. The eight factors – *Prakriti*, *Karana*, *Samyoga*, *Rashi*, *Desh*, *Kala*, *Upayoga Samstha* and *Upayokta* are responsible for the complete benefits.<sup>29</sup>

Yogratnakara and Bhaishajya Ratnawali have mentioned Pathya (Beneficial dietary and lifestyle factors) in Amavata (RA) as Purana shali and sashtika shali (varieties of old paddy), Yava (barley), Pancha kola siddha annapana (food mixed with Pippali, Pippalamoola, Chavya Chitaka and Shunthi), Kodrava (Kodo millet), Kulatha (horse gram), Ushna jala (warm water), Purana madya (old alcoholic preparation), Gomutra (cow urine), Patola (snake gourd), Karavellaka (bitter gourd), Shigru (drum stick), Varuna, Gokshura, Nimba patra, Lahashuna, Ardraka (ginger), Takra and Mastu, Takrasiddha lavamamsa, and Jangala mamsa (types of meat) while Apathya (avoidable dietary and lifestyle factors) have been mentioned as Masha (black gram), Upodika (Indian spinach), Anoopamamsa (meat variety), Matsya (fish), Dahi (curd), Dushita jala (polluted water), Tila taila (sesame oil), Sheeta jala (cold water), Viruddha Ahara (incompatible food), Vegavidharana (suppression of urges) and Vishamashana (irregular food).<sup>30,31</sup>

In *Amavata langhan* (fasting) is an important treatment measure.<sup>32</sup> Evidences have shown that fasting followed by a vegetarian diet and a Cretan Mediterranean diet can alleviate pain, but it cannot improve stiffness and physical function, when compared to an ordinary diet.<sup>33</sup> Diet habits and obesity have been found to be linked to disease activity in RA, and 50% of the patients have been reported to be overweight or obese at disease onset.<sup>34</sup> Mediterranean diets consist of fish, monounsaturated fats from olive oil, fruits, vegetables, whole grains, legumes/nuts, and moderate alcohol consumption.<sup>35</sup>

In a study, Intake of Cretan med-diet for three months reduced pain of 1.4 points on a scale from 0 to 10. Semi-fasting followed by 13 months of vegetarian diet also helped to reduce the pain by 1.9 points. RA risk increased by 2-3 times in persons taking less amounts of fruits. A randomized trial demonstrated that pomegranate juice reduced principal inflammatory indexes in R.A. There is protection with modest consumption of alcohol. The risk of RA increases 20 times in smokers who have a genetic predisposition. Radiographic progression is also very greater in smokers.<sup>36</sup> There is

some evidence that if one takes certain food like fish, olive oil, cooked vegetables lifelong, the severity and incidence of RA may decrease. Skoldstam and colleagues in their clinical trial have observed that there is decrease in physiological markers of RA, improvement in physical functioning along with quality of life in patients of RA with suitable dietary modification. Some researches have shown that Mediterranean-type diet along with a 6 week cooking course intervention helped to decrease pain, stiffness, and increased quality of life at a 6 month follow-up in comparison to a control group<sup>37</sup>.

#### 4. ROLE OF *VYAYAMA* (EXERCISE) IN PREVENTION AND MANAGEMENT OF *AMAVATA* (RHEUMATOID ARTHRITIS)

*Vyayama*, a body activity in appropriate amount provides strength and stability to the body.<sup>38</sup> It produces lightness, stability, efficiency and tolerance in the body and helps to improve *Agni* and causes *Kshya* of vitiated *Dosha*.<sup>39</sup>

*Vyayama* is not advisable to emaciated persons with excessive sexual activity, weight lifting and traveling on foot and suffering from any grief, fear, exhaustion. It is also not indicated for children, old persons and *Vata Prakriti*. Exercise is not suitable if a person is hungry and thirsty also.<sup>40</sup> Exercise conditions the skeletal muscles and also decreases oxygen consumption for the same workload. It also reduces heart rate for any level of exertion.<sup>41</sup> In a randomized controlled trial it has been found that long term high intensity weight bearing exercises help in preventing the progression of radiological joint damage of the hands and feet in patients with RA, in comparison to the effects of usual care physical therapy. These exercises may protect the joints of the feet.<sup>42</sup>

Patients of RA doing long-term regular exercise (e.g.,  $\geq 20$  minutes,  $\geq 3$  times a week) reported less fatigue and disability than those doing no exercise. In RA patients performing aerobic exercise there is less pain, fatigue, and depression and improved grip strength and walk time than control group.<sup>43</sup>

#### 5. ROLE OF YOGIC PRACTICES IN PREVENTION AND MANAGEMENT OF *AMAVATA* (RHEUMATOID ARTHRITIS)

Yoga, the Indian practice of physical postures and breathing techniques has holistic effect on body and mind. Long term practice of Yoga decreases joint pain and increases joint flexibility and decreases stress and tension and leads to sound sleep. Yogic practices include *Asanas* (body poses) and *Pranayama* (breathing practices) *Dhyana* (meditation). Regular practice *bhastrika*, *Kapalbhati*, *Bhramari*, *Nadishodhana Pranayama* and *Asanas* like *Dhanurasana*, *Ushtrasana*, *Konasana*, *Uttanapadasana* and so on are effective in prevention and management of arthritis. These help to increase flexibility, reduce pain, improve function and decrease stress.<sup>44</sup>

Bukowski *et al.*, found that on using Yogic practices there is improvement in joint flexibility and strength of knee joint as well as in quality of life in patients of osteoarthritis. *Hatha* Yoga help to reduce pain and increase routine and spare time activities in cases of OA.<sup>45</sup> Researches have proved that Yoga is a safe and highly effective in increasing physical efficiency and mental health. Yoga besides having its own effects also has benefits of other forms of exercises. It increases muscle strength and flexibility, leads to respiratory tolerance and promotes balance<sup>46, 47</sup>. Overall body energy is increased by Yogic practices, mental energy is increased and positive feelings like alertness and enthusiasm are induced and there is reduction in negative feelings like anxiety and aggressiveness<sup>48, 49</sup>.

#### 6. DISCUSSION AND CONCLUSION

Health has many dimensions like physical, mental social and so on.<sup>50</sup> Modern medical science is concerned more with pharmacological interventions while *Ayurveda* has holistic approach with equal focus on all the aspects of an individual while managing a disease. With the modern medicine, managing infectious diseases have become easier to a large extent; although emerging resistance to antibiotics is posing a new threat to the humanity but prevention and management of chronic and non communicable diseases is a big challenge to the medical science.

In such scenario non pharmacological measures and lifestyle modification have become important. Role of *Ayurveda* is highly significant in this area. Effect of diet and lifestyle factors have been well advocated not only in etiopathogenesis of diseases in *Ayurveda* but also in their management. Rules

for taking diet and managing a lifestyle for healthy body and mind are described in detail in ancient Ayurvedic texts.<sup>51</sup>

Yoga has also been found useful in enhancing physical efficiency and mental health .It also helps to decrease joint pain besides increasing their flexibility and preventing from harmful effects of stress.<sup>52</sup>

Rheumatoid arthritis (RA) is an autoimmune disease which is characterized by chronic inflammation in large and small joints symmetrically along with systemic features. Non-pharmacological modalities (including lifestyle interventions) are appreciated well in chronic diseases like R.A.Diet and lifestyle regulations are important aspects of *Ayurvedic* management of diseases which if follows early in life can help to prevent progression of diseases like *Amavata* (R.A.) to advance stages and also help to improve the quality of life by reducing pain and increasing mobility. Yoga is also having important role in increasing physical activity and reducing stress.

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