



AYURVEDIC MANAGEMENT OF RHEUMATOID ARTHRITIS (AMAVATA): A REVIEW OF EKAMOOOLIKA PRAYOGA FROM BHAVAPRAKASHA NIGHANTU

Dr Rajatha R. Rao¹, Dr Mamatha V. Rao²

Post Graduate Scholar¹, Professor and HOD²

Department of Dravya Guna, Government Ayurveda Medical College, Bengaluru, Karnataka.

ABSTRACT:

Background:

Rheumatoid arthritis (RA) is a chronic autoimmune disease characterized by joint inflammation and systemic features. In Ayurveda, it is comparable to *Amavata*, caused by the interaction of *Ama* and aggravated *Vata*. Bhavaprakasha Nighantu describes several *Ekamoolika Prayogas* (single-drug therapies) for its management.

Objective:

To review classical references and modern evidence on single drugs mentioned in Bhavaprakasha Nighantu for *Amavata*, and to assess their relevance in rheumatoid arthritis.

Methods:

A textual review of Bhavaprakasha Nighantu was carried out, focusing on drugs directly indicated in *Amavata*. Their Ayurvedic properties and therapeutic indications were correlated with the clinical features of RA. Supporting pharmacological and clinical research was also analyzed.

Results:

Seven *Ekamoolika Dravyas*—*Shunthi* (*Zingiber officinale*), *Pippali* (*Piper longum*), *Chukra* (*Rumex vesicarius*), *Guggulu* (*Commiphora mukul*), *Sinduvāra* (*Vitex negundo*), *Eranda* (*Ricinus communis*), and *Nili* (*Indigofera tinctoria*)—were identified. Each drug has specific indications: *Shunthi* and *Pippali* in painful conditions; *Chukra*, *Eranda*, and *Nili* in *Jwara*-associated cases; *Shunthi*, *Guggulu*, and *Eranda* in *Shotha*; *Sinduvāra* and *Nili* in *Viruddhahara*-induced disease; and *Guggulu* and *Eranda* in *Sthoulya*. Modern research highlights their anti-inflammatory, analgesic, antioxidant, and immunomodulatory effects, correlating with RA pathology. The link between gut dysbiosis, *Ama* formation, and autoimmunity further supports their therapeutic rationale.

Conclusion:

Bhavaprakasha Nighantu emphasizes the individualized use of *Ekamoolika Prayogas* in *Amavata*. Selecting appropriate drugs based on *Nidana*, *Samprapti*, and *Lakshana* provides a patient-specific approach that aligns with both Ayurvedic principles and modern understanding of RA. This integrative perspective highlights the contemporary relevance of classical Ayurvedic knowledge in autoimmune disease management.

Key words: Amavata, Rheumatoid Arthritis, Bhavaprakasha Nighantu, Ekamoolika prayoga

INTRODUCTION

Rheumatoid arthritis (RA) is a chronic, systemic autoimmune disease primarily affecting synovial joints, resulting in progressive destruction of articular cartilage and bone, ultimately leading to deformity and disability. The prevalence of RA is estimated to be between 0.5% and 1% globally, with a higher incidence in females, typically presenting between the ages of 30 and 50 years. The disease is characterized by symmetrical polyarthritis, morning stiffness, fatigue, and systemic involvement of organs such as the lungs, heart, eyes, and blood vessels¹. It is comparable to *Amavata* in *Ayurveda*. *Amavata* manifests when *Ama* & *Vata* are vitiated simultaneously, presenting mainly in *Sandhi* of *Hasta*, *Pada*, *Sira*, *Trika*, *Gulpha*, *Janu* & *Uru*. The main symptoms produced are *Angamarda*, *Aruchi*, *Trishna*, *Alasya*, *Gouravam*, *Apaka* & *Shotha*. Many single drugs are described for the treatment of *Amavata*. This paper aims at understanding use of different *Ekala Dravya* mentioned by *Bhavaprakasha* in different clinical presentations of *Amavata*.

PATHOLOGY OF RHEUMATOID ARTHRITIS¹

The immunopathology of RA involves an aberrant immune response where antigen-presenting cells activate CD4+ T lymphocytes, leading to the production of pro-inflammatory cytokines including tumour necrosis factor-alpha (TNF- α), interleukin-1 (IL-1), and interleukin-6 (IL-6). These mediators play a pivotal role in the formation

- 1) Synovitis (Synovial cell hyperplasia, Hypertrophy with CD4 lymphocytic infiltration and synovial effusion)
- 2) Pannus formation
- 3) Cartilage loss
- 4) Fibrosis
- 5) Bony erosion, deformity, fibrous and bony ankylosis
- 6) Muscle wasting
- 7) Periarticular osteoporosis.

AMAVATA²

In Ayurvedic parlance, RA closely aligns with the disease entity known as *Amavata*, which is caused by the accumulation of *Ama* (undigested toxic metabolic waste) and the aggravation of *Vata dosha*. According to *Madhava Nidana*, *Amavata* typically begins with systemic symptoms such as *Angamarda* (body ache), *Aruchi* (anorexia), *Trishna* (thirst), *Gourava* (heaviness), and *Jwara* (fever), later progressing to joint pain and stiffness predominantly in the *Sandhis* (joints).

NIDANA OF AMAVATA

- *Viruddhahara* (unwholesome diet)
- *Viruddhacheshhta* (Erroneous habits)
- *Mandagni* (diminished *Agni*)
- *Nishchalata* (sedentary life)
- Exertion immediately after taking *Snigdha Ahara* are the causative factors for disease *Amavata*

SAMPRAPTI OF AMAVATA

Whenever the function of *Agni* is disturbed in the body, *Ama* is produced. This *Ama* gets together with *Dushita Vata* aggravated due to the above *Nidana* and circulates all over the body through *Sira* and *Dhamani* and gets lodged in *Kaphasthana* i.e. *Sandhi* because *Shleshak Kapha* is located in *Sandhi* and *Amavata* is developed.

SYMPTOMS OF RHEUMATOID ARTHRITIS³

The typical presentation is pain, joint swelling and stiffness affecting small joints of the hands, feet and wrists along with symmetrical large joint involvement and other extraarticular symptoms.

Systemic symptoms	Fever, Weight Loss, Fatigue
Musculoskeletal symptoms	Bursitis, Osteoporosis
Haematological symptoms	Anaemia, Eosinophilia
Lymphatic	Felty's Syndrome, Splenomegaly

Cardiovascular	Pericarditis, Endocarditis, Myocarditis, Coronary Vasculitis
Pulmonary	Nodules, Pleural effusions, Bronchiolitis.
Neurological	Compression Neuropathy, Peripheral Neuropathy

AMAVATA LAKSHANA

Samanya Lakshana of Amavata

Angamarda	Body ache
Aruchi	Anorexia
Trushna	Thirst
Gourava	Heaviness
Alasya	Lethargy
Angashunata	Swelling
Jwara	Pyrexia
Apakti	Indigestion

PRAVRUDHA AMAVATA

- Painful inflammation in the joints of hands, feet, head, ankles etc.
- Heaviness, decreased appetite and enthusiasm, burning sensation and frequent urination.

It can be considered as a syndrome or symptom complex as *Amavata* and rheumatoid arthritis both have extraarticular symptoms.

CHIKITSA OF AMAVATA

Basic principles of treatment of Amavata

- Langhana - fasting
- Swedana - fomentation, sweating treatment, steaming, sudation
- Tikta, katu deepana - digestion promoting medicines having bitter and pungent tastes
- Virechana - purgation
- Vasti – enemas

7 *Kastoushadi* have direct indication of *Amavata* in *Bhavapraksha*,

Each *Dravya* has a different indication along with *Amavata* which helps us to understand the utility of these *Dravyas* in various presentations of *Amavata* with extra articular symptoms.

1)SHUNTI⁴

Botanical Name: *Zingiber officinale* Rosc.

Family: Zingiberaceae

Charaka : Triptighna, Arsoghna, Dipaniya, sulaprasamana, Trisnā nigrahana

Susrutha : Pippalyādi, Trikatu

Vagbhata : Pippalyādi, Trikatu

Shunti is *Pachaka*, hence does *Ama Pachana* and is *Kapha Vata hara*, thereby halting the *Samprapthi* of *Amavata*

- ❖ It is *Shulagna*, hence can be helpful in painful conditions of *Amavata*⁴
- ❖ Useful in *Amavata* with involvement of heart as it is indicated in *Hrudayamaya* .⁴
- ❖ *Amavata* associated with *Swasa* .⁴
- ❖ *Amavata* with swelling as *Shunti* is *Shothagna* and mentioned in *Swayathu chikitsa* of *Charaka Samhitha*⁵

- ❖ It can also be used in cases associated with diarrhoea or malabsorption syndrome as it is indicated in *Atisara chikitsa* of *Astanga Hridaya* along with it being *Grahi* ⁶
- ❖ It is also a part of *Nagaradya Churna* which is indicated in *Grahani* by *Charakacharya*, hence it can be given in *Amavata* associated with *Grahani*.⁷

RESEARCH

- It is a proven antioxidant and anti-inflammatory drug.
- Anti-arthritis activity: Eugenol from Ginger suppressed joint and paw swelling in rats with mycobacterial arthritis. The anti-arthritis and anti-inflammatory effects could be due to inhibition of oxygen free radicals and prostaglandin release
- It acts as digestive stimulant and sialagogue. It is used in many ayurvedic formulations to cure digestive disorders. A study conducted in rats suggests reduction of food transit time in the gastro intestinal tract. It is evidenced that ginger alters fluidity and permeability of the intestinal brush border membrane with increased microvilli length and perimeter resulting in broader area for absorption⁸
- A clinical study on the effect of *Sunthi*, *Guggulu* and *Godanti* on in *Amavata* (rheumatoid arthritis) was done and significant improvement was seen by 45th day in various aspects like anorexia, restriction of movement, walking time, swelling etc⁹.

2)PIPPALI¹⁰

Botanical Name: *Piper longum* Linn.

Family: Piperaceae

Charaka: *Dipaniya Kanthya, Asthapanopaga, sirovirecanopaga, sitaprasamana, sūla prasamana, Kāsahara, Hikkanigrahana, Trptighna, Vamana.*

Susrutha: *Pippalyādi, urdhvabhagahana, Tryusana (Trikatu) Amalakāyādi, sirovirecana*

Vagbhata : *Pippalyādi*

It is *Dipaniya*, which increases the *Jataragni* thereby correcting *Agnimadhya*. Other indications of *Pippali* associated with *Amavata* where we can use *Pippali* are

- ❖ *Amavata* along with extreme pain¹⁰
- ❖ *Amavata* associated with *Jwara* or rheumatic fever.¹⁰
- ❖ *Amavata* associated with *Swasa*¹¹
- ❖ *Amavata* along with *Atisara*¹²

RESEARCH

Pippali contains Piperine (the primary alkaloid), piperlongumine, essential oils, flavonoids, and steroids. They contribute to its medicinal properties, such as anti-inflammatory, analgesic, antioxidant, anti-microbial ¹³

- Clinical evaluation of Vardhamana Pippali Rasayana in the management of Amavata (Rheumatoid Arthritis). All the patients experienced up to 50% relief from the signs and symptoms of Amavata after the therapy¹⁴

3)CHUKRA¹⁵

• **Botanical Name:** *Rumex vesicarius*. Linn.

• **Family:** Polygonaceae

It can be given in *Amavata* associated with *Shula* (pain), *Hrit Peeda* (chest pain)¹⁶

RESEARCH

Rumex vesicarius, also known as bladder dock, possesses anti-inflammatory properties primarily attributed to its high content of phenolic and flavonoid compounds. These compounds, including vitexin, isovitexin, orientin, and isorientin, are thought to contribute to the plant's antioxidant and anti-inflammatory effects.¹⁷

4)GUGGULU¹⁸

Botanical Name: *Commiphora mukul* (Hook.ex Stocks) Engl.

Family: Burseraceae

Charaka: Sanjnasthapana varga

Sushrutha: Eladi gana

Vagbhata: Eladi gana

- ❖ *Guggulu* can be given in *Amavata* associated with obesity¹⁹
- ❖ It can be used in case of *Sopha* associated with *Amavata*²⁰
- ❖ It can also be used in cases of *Swasa* associated with *Amavata*²¹

RESEARCH

- Guggulsterone (4,17(20)-pregnadiene-3, 16-dione), is a plant sterol derived from gum resin (guggulu) of *Commiphora mukul*.

The anti-inflammatory property of guggulsterone is attributed to the inhibition of NF-κB signaling by direct suppression of IKK²²

- A clinical study on the effect of *Sunthi*, *Guggulu* and *Godanti* on in *Amavata* (rheumatoid arthritis) was done and significant improvement was seen by 45th day in various aspects like anorexia, restriction of movement, walking time, swelling etc⁹

5)SINDUVARA²³

Botanical Name: *Vitex negundo* Linn.

Family: Verbenaceae

Charaka : Visaghna, Krmighna gana

Susrutha : Surasadi gana

Vagbhata : Surasadi gana

- ❖ It is also indicated in *Jwara* which means it can be used in *Amavata* associated with *Jwara*²³
- ❖ It is also indicated in *Visha*, which can be understood as to be given in *Amavata* induced from *Dushi Visha* (toxins) or *Virudha Ahara*²⁴(cs.su.3)

RESEARCH

- Tris(2,4-di-tert-butylphenyl) phosphate from the leaves and the leaf oil shows anti-inflammatory properties owing to the protective action.

Two chrome derivatives - methyl 3-(2-(5-hydroxy-6-methoxy-4-oxo-4H-chromen-2-yl)ethyl)benzoate and 3-(1-hydroxy-2-(5-hydroxy-6-methoxy-4-oxo-4H-chromen-2-yl)ethyl)benzoic acid were isolated and proved to have analgesic and anti-inflammatory properties

A phenolic compound Chrysosplenol-D was isolated from the aerial parts which showed antiseptic potential²⁵

- A clinical study was done to evaluate the effect of of Nirgundi Ghana Vati with Nirgundi Patra Panda Sweda in the management on Amavata. Results show that significant decrease in the symptoms of Amavata after treatment regimen.²⁶

6)ERANDA²⁷

Botanical Name : *Ricinus communis* Linn.

Family : Euphorbiaceae

Charaka : Bhedaniya, Angmardaprasamana, Svēdopaga gana

Susrutha : Vidarigandhadi, Adhobhagahara, Vatasarngamana gana

Vagbhata : Vidarigandhadi gana

Eranda is *Rechaka* and helps in evacuating the doshas out

- ❖ It can be used in *Amavata* associated with *Sthoulya*²⁷

- ❖ It is also useful in cases associated with *Jwara* and *Sopha*²⁷
- ❖ It is useful in cases associated with *Sopha*²⁸ (ss.chi.23)

Eranda Taila is said to be the best in *Amavata*

Eranda Taila is *Deepaka* and can be used in cases associated with *Hridroga*, *Vishamajwara*, stiffness in joints.

RESEARCH

- Eranda included four essential compounds: Apigenin, Ellagic acid and Quercetin.
- Apigenin decreased the collagenase activity linked to rheumatoid arthritis.
- Ellagic acid therapy reduced the oedematous swelling of the foot and paw, synovitis, pannus development, and bone resorption.
- Quercetin decreases levels of RA cytokines like interleukin-1 β , interleukin-6, and tumournecrosis factor- α , as well as rheumatoid factor, C-reactive protein, and anti-cyclic citrullinated peptide RA biomarker.²⁹
- - A Case Study was done to assess the Management of Amavata (Rheumatoid Arthritis) with Erandamool (*Ricinus communis* Linn.) Kwatha and Positive changes were observed in symptoms like pain, swelling, tenderness, heaviness in body³⁰

7)NILI³¹

Botanical Name: *Indigofera tinctoria* Linn

Family: Fabaceae

- ❖ It is also indicated in *visha* hence can be used in cases involving *Dushivisha* or *Virudha Ahara*.³¹
- ❖ It can also be used in *Jwara* associated with *Amavata*³¹.

RESEARCH

- Compounds like alkaloids, saponins, phenolic compounds, and flavonoids. These compounds exhibit antioxidant and anti-inflammatory properties.³²

DRAVYA	AMAVATA	JWARA	SHULA	SHOTHA	DIPAKA PACHAKA	HRIDROGA	SHWASA	ATISARA
SHUNTI	+		+	+	+	+	+	+
PIPPALI	+		+		+		+	+
CHUKRA	+	+			+			+
GUGGULU	+			+			+	
SINDUVARA	+						+	
ERANDA	+	+		+	+	+		
NILI	+	+						

DISCUSSION

Autoimmune disease is a condition which is triggered by the immune system initiating an attack on self-molecules due to the deterioration of immunologic tolerance to auto-reactive immune cells.

According to Ayurveda cause of auto-immune disease through the mechanism of aberrant 'Agni' and 'Ama' production which occurs at macro and micro level. In auto-immune disease different *Dhatvagnis* are involved and *Dhatu*s and related *Srotas* suffer, resulting *Dhatukshaya*, *Ojakshaya* occurs and further multiple *Koshtanga* and there *Avayava* affected

The main causative factor is *Mandagni* which in turn causes ama. It is said that all *Rogas* are caused by *Mandagni* and *Amavata* is no exception. When we understand the *Samprapti* of *Amavata* it is clear that the *Agni*, mainly *Jataragni* and *Rasadhatvagni* are impaired leading to improper formation of *Poshaka Ahara Rasa* hence leading to improper formation of further *Dhatu*s based on *Dhatuposhana Nyaya* which also affects the *Asthi*, hence leading to diseases like *Amavata*

The gastrointestinal tract is colonized by trillions of microorganisms, consisting of bacteria, fungi, and viruses, known as the "second gene pool" of the human body. In recent years, the microbiota-gut-bone axis has attracted increasing attention in the field of skeletal health/disorders. The involvement of gut microbial dysbiosis in multiple bone disorders has been recognized. The gut microbiota regulates skeletal homeostasis through its effects on host metabolism, immune function, and hormonal secretion. Owing to the essential role of the gut microbiota in skeletal homeostasis, novel gut microbiota-targeting therapeutics, such as probiotics and prebiotics, have been proven effective in preventing bone loss.

Harboring the densest concentration of immune cells in the body, the GI tract is constantly communicating with trillions of microbes through direct physical contact and released compounds, which elicit a profound influence on the immune system. The critical roles of the immune system in regulating bone metabolism have been recognized for decades, and recent studies have revealed that gut microbiota is able to modulate bone mass via regulation of the immune system, stimulating the evolution of the field of osteoimmunology toward "osteomicrobiology".³³

From this it can be understood that there is correlation between the pathogenesis of *Amavata* and rheumatoid arthritis through interrelation between gut and bone through the formation of ama and involvement of gut microbiota.

These *Dravyas* have overlapping classes of phytochemicals that contribute to their therapeutic effects. These include: **Phenolic compounds**: Found in *zingiber officinale*, *Piper longum* and *Rumex vesicularis*, **Fatty oils/lipids**: Present in *zingiber officinale*, *Commiphora mukul*, *Piper longum*, and *Ricinus communis*, **Glycosides**: Found in *Rumex vesicularis*, *Vitex negundo*, and *Ricinus communis*, **Saponins**: Found in *Rumex vesicularis*, *Vitex negundo*, and *Indigofera tinctoria*, **Tannins**: Present in *Rumex vesicularis*, *Vitex negundo*, and *Ricinus communis*.

There are several *Dravyas* mentioned for *amavata* and hence for pinpoint treatment it is essential to take into account the associated symptoms and carefully select the appropriate *Dravya*.

Among the 7 drugs 2(*Shunti* and *Pippali*) can be used for *Amavata* with *Shula*, 3(*Chukra*, *Eranda*, *Nili*) for associated with *Jwara*, 3(*Shunti*, *Guggulu*, *Eranda*) if associated with *Sopha*, 2(*Sinduvara* and *Nili*) of them can be used if it is caused due to *Virudhahara*, 2 (*Shunti*, *Eranda*) if associated with *Hridroga*, 3(*shunti*, *pippali*, *chukra*) if associated with *Atisara* and 2(*Guggulu* and *Eranda*) if associated with *Sthoulya*.

Hence it is up to the *Yukti* of *Vaidya* to select the appropriate drug or prepare *Yoga* using these drugs based on the *Nidana*, *Samprapthi* or *Lakshana* of the disease.

Conclusion:

From the above review we can understand the interrelation between *Amavata* and rheumatoid arthritis along with the multifaceted utility of the *Dravyas* told in *Bhavaprakasha Nighantu*. It highlights the importance of careful

selection of *Dravyas* for successful treatment of the disease by giving individualistic importance to patients rather than a generalised treatment.

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