



Review Article

DIFFERENTIATION OF AMAVATA TYPES AS PER MADHAVA NIDANA AND MADHUKOSHA WITH CORRELATION TO RADIOLOGICAL FINDINGS IN RHEUMATOID ARTHRITIS

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ABSTRACT

Amavata a disease described in Ayurveda since the period of *Madhavakara*, is classified under *Vata-Kaphaja* disorders and bears close resemblance to rheumatoid arthritis (RA) in modern medicine. RA is a chronic, systemic inflammatory polyarthritis that primarily affects small diarthrodial joints of the hands and feet in a symmetrical pattern. *Madhavakara* described the *Lakshana* of *Amavata* based on *Dosha* dominance. Modern imaging tools play an important role in the diagnosis as well as in assessment of disease progression. The joints in the hands, wrists and feet have smaller bones and thinner cartilage than the larger joints; therefore, early radiographic changes are better visualized in these joints. Baseline radiographs and periodic follow-up imaging are recommended for assessment of joint disease progression. These findings can be mapped to the *Lakshanas* of different types of *Amavata* and correlated with radiological findings of RA for better diagnosis, prognosis and treatment planning.

INTRODUCTION

Amavata is a disease exclusively described in Ayurveda, *Madhavakara* was the first author to describe *Amavata* as a separate disease entity in his text *Roga vinischaya*, later known as *Madhava nidana*.^[1] It is compared to rheumatoid arthritis in modern medicine, which is a chronic, systemic inflammatory polyarthritis that primarily affects small diarthrodial joints of the hands and feet in a symmetrical pattern. The worldwide prevalence of RA is approximately 0.85% (0.3-2.1%). In India the prevalence ranges from 0.5% to 0.75%. The peak onset occurs in the fourth and fifth decades of life, with more than 75% of the patients developing the disease between 30 to 50 years of age.^[2]

OBJECTIVES

1. To differentiate the types of *Amavata* based on dosha as described in *Madhava Nidana*.

2. To correlate these types with radiological features of rheumatoid arthritis.
3. To identify the most appropriate imaging modality for each type.

MATERIALS AND METHOD

This study is a narrative review of classical Ayurvedic texts, primarily *Madhava Nidana* and the *Madhukosha* commentary, along with modern medical textbooks, peer-reviewed articles, and journals. Radiological staging of RA based on Steinbrocker's classification was reviewed and correlated with *Dosha-pradhana lakshanas* of *Amavata*.

Definition

Ama is produced due to *Agnimandya* of both *Jatharagni* and *Dhatvagni*. *Ama* is considered the main causative factor for many diseases, and *Amavata* is one among them. When *Ama* and *Vata* are simultaneously vitiated, the disease manifests predominantly in the joints of the *Hasta*, *Pada*, *Sira*, *Trika*, *Gulpha*, *Janu*, and *Uru*. *Amavata* is primarily a disease of the *Rasavaha srotas*, and depending on the stage and chronicity of the disease, involvement of *Annavaha*, *Rasavaha*, *Asthivaha*, and *Majjavaha srotas* can be observed.

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Nidhana

Viruddahara - Indulgence in unwholesome diet.

Viruddha Cheshta - Indulgence in unwholesome habits.

Nischala - Lack of physical activity

Mandagni- Reduced digestive fire

Snigdham bhuktavato vyayamam kurvatah - Performing the physical activity on consumption of unctuous substances.^[3]

Samanya Lakshana of Amavata

Angamarda - Body ache

Aruchi - Tastelessness

Trishna - Thirst

Alasya - Laziness

Gourava - Heaviness

Jwara - Fever

Apaka - Impaired digestion

Anganam shunata - Swelling of the body parts.^[4]

Radiographic Features of Rheumatoid Arthritis

The radiographic features of RA are broadly divided into early and late changes.^[5]

Early changes include -

- Joint space widening due to oedema, swelling of synovium and joint effusion.
- Soft tissue swelling represents joint effusion, synovial oedema, tenosynovitis.
- Joint space narrowing due to destruction of articular cartilage.
- Erosions more common in small joints.
- Large intraosseous defects or pseudocyst.

Late changes include-

- Alignment deformities at joints causing subluxation and dislocation.
- Marked destruction and narrowing of joint spaces with extreme irregularity.
- Gross loss of bone
- Stress fractures
- Pulmonary involvement-pleural effusion, pulmonary nodules or interstitial fibrosis.

Bheda of Amavata Based on Dosha

Pittat sadaharagam cha soolam pavananugam

Stimitam gurukandum cha kaphadustham tamadhisht^[6]

1. Kapha pradhana Amavata

- *Gaurava* (heaviness)
- *Shita sparsha* (coldness of swelling).
- *Ati-staimitya* (excessive stiffness, esp. morning).
- *Mandharuja* (dull aching pain, less severe).
- *Guru-ghatrata* (sense of heaviness in body and limbs).^[7]

As per the *Ashraya ashyayi bhava kapha* takes *Ashraya* in *Rasa, Mamsa, Mada, Majja* when there is vitiation of

Kapha it leads to manifestation of above-mentioned symptoms and which can be correlated to very early abnormalities of rheumatoid arthritis.^[8]

➤ Pathologic abnormalities- Synovial inflammation and effusion.^[9]

➤ Radiographic abnormalities

- Soft tissue swelling - In the hand, periarticular fusiform swelling may be seen over the proximal interphalangeal (PIP) and 2nd and 5th MCP joints. Soft tissue swelling over the 3rd and 4th MCP joints, tissue swelling over the ulnar styloid may be better detected on radiographs, in the feet the soft tissue changes are less evident radiographically but may be seen over the 1st and 5th metatarsal heads. In the knee, there may be lateral bulging of the fat lines over the distal femur on AP radiographs, on lateral views, there is distension of the suprapatellar bursa with blurring of its surrounding fat lines. In the elbow, the anterior and posterior fat lines are displaced away from the joint on the lateral view.
- Joint space widening- Due to oedema and swelling of the synovium best detected at the MCP joints especially in the 5th digit.^[10]

➤ Radiographic tool

- Ultrasound- With the help of high-resolution linear transducers, the soft tissues around joints may be evaluated for the presence of synovial thickening and joint effusion and its disadvantage is poor visualization of bony abnormalities.
- MRI- It is considered as gold standard for synovial imaging it helps to differentiate between fluid and pannus. Fibrotic pannus and pannus with haemosiderin deposition shows low St on T1 and T2- weighted images and does not enhance on post-gadolinium images.^[11]

2. Pitta-pradhana Amavata

- *Daha* (burning sensation in joints)
- *Raga* (redness/discoloration)
- *Shotha* (hot inflammatory swelling)
- *Jvara* (fever with burning nature)
- *Bhrama* (giddiness sometimes mentioned)^[12]

As *pitta* takes *Ashyaya* in *Rakta* the inflammatory features as best seen here.

➤ Pathological abnormality- Acute inflammatory flare

➤ Radiological abnormalities- Hyperaemia, early erosions^[13]

- Local juxta articular osteopenia is due to synovial inflammation and hyperaemia. The inflamed synovial tissue or pannus has extended across the cartilaginous surface and is leading to chondral erosion. In the hands, erosions usually involve the

wrist, MCP and PIP joints and develops at larger bare area site. At the MCP joints, the erosions develop first and most extensively in the metacarpal heads and are most evident at the radio volar aspect of the 2nd and 3rd MCP joints. In the feet, erosions appear earlier and are most often seen at the 5th MTP joint.

➤ Radiological tool

- USG Doppler- The hypervascularity of the synovium can be detected on power doppler and is superior in evaluating synovial proliferation and erosion.
- MR - Is the imaging method of choice because it can detect erosions before radiographically detectable changes occur. On MR, erosions are seen as a focal loss of normal S1 from cortical or subchondral bone on T1 and focal regions of high SI on T2-weighted images. Erosions replace marrow fat and contain inflamed synovium which enhances with gadolinium and are thus easily differentiated from other interosseous fluid filled cystic lesions. [14]

3. Vata pradhana amavata

Ati-ruja (severe, shifting pain)

Spandana (twitching, vibration in joints)

Shoṣa (dryness, wasting)

Gati-nirodha (restricted joint movement, deformity)

Khara sparsha (rough touch sensation) [15]

As *Vata* increases the *Asthi dhatu kshaya* takes place thus developing above mentioned *Lakshanas*.

- Pathological abnormalities- Pannus destruction of subchondral bone.
- Radiological abnormalities
 - Wide spread erosion- Leads to marked destruction and narrowing of joint space. [16]
 - Subchondral cyst- formed due to large intraarticular pressure which exceeds the intraosseous pressure resulting in margination of synovial fluid into underlying subchondral bone.
 - Alignment deformities at joint-local synovitis weakening the capsule and tendinitis preventing normal musculotendinous actions causing subluxation and dislocation.

Examples- Ulnar deviation due to subluxation at MCP joints, Boutonniere deformity due to flexion at the PIP joint with extension at DIP joint.

Swan neck deformity due to PIP joint extension and DIP joint flexion.

Hitch-hiker’s thumb deformity.

➤ Radiological tools

- X ray for erosions, deformities and joint space narrowing we can easily see but it fails to detect early changes in RA.
- MRI - A decreased signal from the bone marrow on T1-weighted images and gadolinium-enhanced images indicates bone marrow oedema. MRI can also reveal synovial thickening, which has been shown to predict the future presence of bony erosions. [17]

4. Sannipataja amavata

Mixed features of *vata*, *pitta* and *kaphaja amavata lakshana*

➤ Pathological changes-laxity of capsule and ligament, muscular contraction and spasm, fibrous and bony ankylosis.

➤ Radiological changes- Bony ankylosis, deformity, dislocation, stress fracture, sclerosis and giant cyst formation. [18]

Severe erosion leads to marked destruction and narrowing of joint space and extreme irregularity

Ex-telescoping of fingers, bird beak appearance of femur head.

In severe cases pulmonary involvement can also see which leads to pulmonary effusions, pulmonary nodules (30%) or interstitial fibrosis (predominantly lower lobe).

➤ Radiological tool

- Computed tomography – CT can demonstrate the presence of erosions particularly in the carpal and tarsal bones which are difficult to assess radiologically. It can also show joint space narrowing or ankylosis and used for surgical planning.
- X-ray will show gross abnormalities and ankyloses. [19]

Steinbrockers Radiological Classification of Rheumatoid arthritis [20]

Stage I (Early)	Stage II (Moderate progression)	Stage III (Severe progression)	Stage IV (Terminal disease)
Juxta-articular osteoporosis	Joint space narrowing	Extensive erosions	Fibrous or bony ankylosis
Soft tissue swelling	Early erosions	Joint deformity and subluxation	Severe deformity and disability.
No erosions yet	Cartilage damage	Marked narrowing of joint space	End-stage destruction of joints.
	Still some preserved mobility	Loss of function begins	

Summary

Types of Amavata	Lakshanas (Madhava Nidana + Madhukosha)	Modern RA Correlation	Radiological Stage (Steinbrocker)	Best Imaging Tool
Kapha dominant	Gaurava (heaviness), Shita sparsha (cold swelling), Ati-staimitya (stiffness), Mandaruja (dull pain), Guru-gatrata (heaviness in body)	Effusion-predominant RA with stiffness	Stage I-II (soft tissue swelling, mild erosions)	Ultrasound (for effusion, synovial thickening), MRI (to differentiate fluid vs pannus)
Pitta dominant	Daha (burning), Raga (redness), Shotha (hot swelling), Jwara (fever), Tikshṇa-ruja (sharp pain)	Acute inflammatory flare	Stage II (early erosions + active synovitis)	MRI with contrast (best for synovitis, bone marrow oedema), Ultrasound with Doppler (for effusion, synovial vascularity)
Vata dominant	Ati-ruja (severe pain), Spandana (twitching), Shoṣa (dryness), Hrasva-gati (restricted movements), deformities	Erosive, deforming RA	Stage II-III (erosions, joint space narrowing, subluxations).	X-ray (for erosions, deformities); MRI (early erosions, cartilage damage)
Sannipataja	Mixed features (pain, swelling, burning, stiffness, deformity, ankylosis)	Chronic RA with deformities, ankylosis	Stage III-IV (multiple erosions, ankylosis, deformities)	X-ray (gross deformities, ankylosis) CT (complex deformities, surgical planning)

DISCUSSION

Amavata in Ayurveda is understood through the framework of *Doṣa-pradhanya* and *ama* involvement. *Madhava Nidana* and *Madhukosha* commentary highlight both the general and specific symptomatology. These features correlate closely with different stages of RA, which is a chronic, progressive autoimmune disorder.

- **Kapha-pradhana Amavata** represents early disease, where stiffness and heaviness dominate. Radiology shows only soft tissue changes; hence ultrasound and MRI are more useful.
- **Pitta-pradhana Amavāta** corresponds to inflammatory flares with redness, burning, and fever. Here, MRI and Doppler ultrasound are superior for assessing active synovitis.
- **Vata-pradhana Amavata** reflects progressive and erosive stages, where joint deformities appear. X-rays and MRI are best suited.
- **Sannipataja Amavata** correlates with advanced RA, where multiple *Doṣas* are involved, leading to deformities and ankylosis. X-ray and CT are most appropriate.

Thus, Ayurvedic differentiation by *Doṣa* aligns with radiological staging in RA, showing how traditional diagnostics can be integrated with modern imaging.

CONCLUSION

- *Amavata* shares strong clinical and pathological similarity with rheumatoid arthritis.
- *Doṣa*-based classification in Ayurveda corresponds to radiological stages of RA.
- Early detection (*Kapha/Pitta* stage) offers better prognosis, while advanced *Vata/Sannipataja* stages lead to irreversible deformities.
- Integration of Ayurvedic diagnostics with radiological tools can enhance patient management, prognosis assessment, and global acceptance of Ayurveda.

REFERENCES

1. Madhava. Madhava Nidana (Rogavinischaya) with Madhukosha commentary by Sri Vijayarakshitha and Srikantadatta, edited with Vimala Madhudhara Hindi commentary and noted by Dr Brahmananda tripathi. Part I. Varanasi: Chaukhambha Surbharati prakashana; Reprint 2010. Chapter 25/2 Page No. 573.
2. Munjal YP, editor-in-chief. API Textbook of Medicine. 9th Ed. New Delhi: The Association of Physicians of India; 2012.
3. Madhava. MadhavaNidana (Rogavinischaya) with Madhukosha commentary by Sri Vijayarakshitha and Srikantadatta, edited with Vimala Madhudhara Hindi commentary and noted by Dr Brahmananda

- tripathi. Part I. Varanasi: Chaukhambha Surbharati prakashana; Reprint 2010. Chapter 25.
4. Madhava. MadhavaNidana (Rogavinischaya) with Madhukosha commentary by Sri Vijayarakshitha and Srikantadatta, edited with Vimala Madhudhara Hindi commentary and noted by Dr Brahmananda tripathi. Part I. Varanasi: Chaukhambha Surbharati prakashana; Reprint 2010. Chapter 25.
 5. Berry M, Chowdhury V, Mukhopadhyay S, Suri S, editors. Diagnostic Radiology: Musculoskeletal and Breast Imaging. 2nd Ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2005.
 6. Madhava. MadhavaNidana (Rogavinischaya) with Madhukosha commentary by Sri Vijayarakshitha and Srikantadatta, edited with Vimala Madhudhara Hindi commentary and noted by Dr Brahmananda tripathi. Part I. Varanasi: Chaukhambha Surbharati prakashana; Reprint 2010. Chapter 25.
 7. Madhava. MadhavaNidana (Rogavinischaya) with Madhukosha commentary by Sri Vijayarakshitha and Srikantadatta, edited with Vimala Madhudhara Hindi commentary and noted by Dr Brahmananda tripathi. Part I. Varanasi: Chaukhambha Surbharati prakashana; Reprint 2010. Chapter 25.
 8. Vagbhata. Astanga Hrudaya. English translation and commentary by Sreekumar T. Thrissur (Kerala): Harisree Publications; [year of publication]. Sutrasthana. Chapter 11, shloka 26.
 9. Resnick D, Kransdorf MJ. Bone and joint imaging. 3rd ed. Philadelphia: Elsevier Saunders; 2005.
 10. Berry M, Chowdhury V, Mukhopadhyay S, Suri S, editors. Diagnostic Radiology: Musculoskeletal and Breast Imaging. 2nd Ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2005.
 11. Berry M, Chowdhury V, Mukhopadhyay S, Suri S, editors. Diagnostic Radiology: Musculoskeletal and Breast Imaging. 2nd Ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2005.
 12. Madhava. Madhava Nidana (Rogavinischaya) with Madhukosha commentary by Sri Vijayarakshitha and Srikantadatta, edited with Vimala Madhudhara Hindi commentary and noted by Dr Brahmananda tripathi. Part I. Varanasi: Chaukhambha Surbharati prakashana; Reprint 2010. Chapter 25.
 13. Berry M, Chowdhury V, Mukhopadhyay S, Suri S, editors. Diagnostic Radiology: Musculoskeletal and Breast Imaging. 2nd Ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2005.
 14. Berry M, Chowdhury V, Mukhopadhyay S, Suri S, editors. Diagnostic Radiology: Musculoskeletal and Breast Imaging. 2nd Ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2005.
 15. Madhava. Madhava Nidana (Rogavinischaya) with Madhukosha commentary by Sri Vijayarakshitha and Srikantadatta, edited with Vimala Madhudhara Hindi commentary and noted by Dr Brahmananda tripathi. Part I. Varanasi: Chaukhambha Surbharati prakashana; Reprint 2010. Chapter 25.
 16. Resnick D, Kransdorf MJ. Bone and joint imaging. 3rd ed. Philadelphia: Elsevier Saunders; 2005.
 17. Berry M, Chowdhury V, Mukhopadhyay S, Suri S, editors. Diagnostic Radiology: Musculoskeletal and Breast Imaging. 2nd Ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2005.
 18. Resnick D, Kransdorf MJ. Bone and joint imaging. 3rd ed. Philadelphia: Elsevier Saunders; 2005.
 19. Berry M, Chowdhury V, Mukhopadhyay S, Suri S, editors. Diagnostic Radiology: Musculoskeletal and Breast Imaging. 2nd Ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2005.
 20. Steinbrocker O, Traeger CH, Batterman RC. Therapeutic criteria in rheumatoid arthritis. Ann Rheum Dis. 1949 Dec; 9(4): 497-500. doi:10.1136/ard.9.4.497.

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