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Observational Analytical Study to find out the Correlation Between Asthivaha Strotas Dushti and Amavata

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Abstract
The primary objective of this study is to explore the correlation between Amavata and Asthivaha Strotas Dushti on both theoretical and practical levels. 20 patients diagnosed with Amavata were chosen based on the hetu (causative factors) and lakshana (symptoms) outlined in the Samhita Granthas. The study evaluated the gradation of etiological factors and clinical features of Asthivaha Strotas Dushti in Amavata patients. Among the patients, 65 % belonged to the 31–50 years of age group. Of the 20 patients, 80 % were females and 20 % were males. The predominance of female patients was noted. Among the patients, 80 % patients have mandagni. 40 % patients belong to Kapha-pittaj Prakriti, followed by 30 % were Vatta -pittaj. The majority of patients, 65 % fall under grade 2 and 25 % under grade 3 in hetu gradation. Similarly, the Lakshana gradation demonstrates that Grade 2 is the most common, again accounting for 65 % of subjects, along with 20 % belongs to grade 3. This indicates that individuals with Amavata predominantly exhibit a moderate degree of Asthivaha Strotas Dushti. Although classical texts and samprapti place Amavata under Rasavaha Strotas, the present findings also indicate significant involvement of Asthivaha Strotas. Therefore, consideration of Asthivaha Strotas in the management of Amavata is essential to prevent joint deformities and other bone-related complications.

Keywords: Amavata, Asthivaha Strotas Dushti, Rasavaha Strotas

Introduction

Amavata is a chronic disorder under the category of Vata diseases, affecting a considerable portion of the population due to present-day lifestyle patterns. Irregular routines, unhealthy dietary practices, and excessive physical strain such as improper or untimely exercise in gyms. In the rush to earn and meet daily demands, people often neglect proper meals, digestion and rest, which gradually creates a favorable condition for Amavata. The condition is mainly marked by persistent joint pain, stiffness, swelling and progressive deformities, which not only cause physical discomfort but also reduce mobility and independence. Over time, it may lead to severe complications, including cardiac involvement. Patients live with constant pain and limitations, often relying on others for routine activities, which affects their overall well-being. Though several treatment approaches are available, a permanent cure is still lacking, and management focuses on controlling symptoms and enhancing quality of life.

Amavata

Amavata is a Madhyama Roga Marga disorder, arising from the combined pathology of Ama and Vata. Ama refers to improperly digested food material that over time, circulates and spreads throughout the body, while Vata is the prime dosha that governs all body movements and directs the functioning of other doshas, dhatus and malas. When Vata becomes aggravated, it mobilizes the Ama and deposits it in Sleshma Sthana and various dhamani mainly the joints causing Srotorodha. This blockage leads to inflammation and degeneration, manifesting as Sandhishula (severe joint pain), Sandhishoth (swelling), Stambhta (stiffness), Jwara (fever), and restricted movements. The presence of systemic symptoms like fever, along with joint affliction, further deteriorates the patient's quality of life, making it a highly distressing disorder, ultimately hampering the patient's quality of life [1-4].

Causes of Amavata

The causative factors of Amavata are multifaceted. Different Acharyas have presented diverse perspectives regarding the mechanisms responsible for the formation of Ama in this disease.

The specific aetiological factors mentioned are as follows- [5, 6]

1. Viruddha Ahara (Incompatible food)
2. Viruddha chestha (Incompatible actions)
3. Mandagni (Hypo functioning of Agni)
4. Nischala (lack of exercise)
5. Snigdha Ahara followed by immediate exercise

Acharya Madhavakara has specifically highlighted these Nidanas (causative factors) for Amavata, which are of great significance because they simultaneously contribute to the formation of Ama and the aggravation of Vata.These factors indicate that both Ama production and Vata vitiation occur concurrently, leading to the development of Amavata.

Lakshana of Amavata

Amavata signs are grouped into four categories:

1. Pratyatma Lakshana:[7]

Sandhishula (severe joint pain), Sandhishotha (joint swelling), Gatrasthambha (stiffness), Sparshasahatva (tenderness), Sashabda Sandhi (joint crepitus).

2. Samanya Lakshana:[8]

Angamarda, Aruchi, Trishna, Gaurava, Jwara, Apaka, Alasya, Angashunata, reflecting Ama and Agnimandya.

3. Doshanubandha Lakshana:[9]

Vatanubandha – severe Shula, Pittanubandha – Raga, Daha, Kaphanubandha – Staimitya, Guruta and Kandu.

4. Pravridha Amavata Lakshana:[10]

Additional findings like Antrakujana, Praseka, Daha, Bhrama, Amaatisara, Vibandha, Kukshishoola, Utsahahani, Vairasya, Hridgraha, Jadya, Bahumutrata, Grahani features.

Rheumatoid Arthritis

Rheumatoid Arthritis (RA) is a chronic, progressive, and systemic inflammatory disorder of unknown origin that primarily affects the synovial joints in a symmetrical manner [11]. It is an autoimmune condition

in which the body's immune system mistakenly attacks its own tissues, particularly the synovial membrane and articular cartilage. The disease is marked by persistent synovial inflammation, joint swelling, pain, stiffness and progressive loss of joint function.

Typically, RA presents as a bilateral and symmetrical polyarthritis, affecting both small and large joints, leading to deformity and disability over time. The disease course is usually prolonged and characterized by alternating periods of remission and exacerbation. The presence of circulating autoantibodies, particularly Rheumatoid Factor (RF) and anti-citrullinated peptide antibodies (ACPA), is a distinctive immunological feature of the condition.

Etiology of RA

RA arises from a multifactorial interaction of genetic susceptibility (HLA-DR1/DR4), infectious triggers (Mycoplasma, EBV, Parvovirus), autoimmune mechanisms (T-cell activation and autoantibody formation), molecular mimicry and superantigen effects, along with environmental and hormonal influences such as stress, exertion, and post-menopausal changes. The exact cause of RA is not yet fully understood, though it is believed to be the result of a complex mix of genetic factors and environmental influences. One theory suggests that an infectious agent may activate an abnormal immune response in genetically predisposed individuals, particularly those carrying HLA-DR antigens on T cells. This leads to autoimmunity and persistent joint inflammation. Other contributing factors include age, gender, and environmental influences, with women being more commonly affected than men.

Clinical Features of RA

Rheumatoid arthritis commonly begins between 30–50 years, with a higher prevalence in females. Onset is usually gradual, presenting with joint stiffness, pain and symmetrical involvement of small joints of the hands and feet. Progressive swelling, deformities and cervical spine stiffness may appear, while some patients present with acute or systemic onset [12].

Extra-articular manifestations include fever, fatigue, weight loss, anemia, lymphadenopathy, splenomegaly, muscle wasting, tenosynovitis, bursitis and osteoporosis. Ocular, neurological, vascular, cardiac, and pulmonary complications may also occur. Rheumatoid nodules, seen in about one-third of patients, are typically found over pressure points and are associated with rheumatoid factor. Early muscle weakness with type II fiber atrophy is also common [13].

Joints Manifestation

Rheumatoid arthritis is marked by chronic, symmetrical inflammatory synovitis affecting peripheral joints. Persistent inflammation damages cartilage, bone and supporting structures, leading to pain, swelling, tenderness and progressive deformity. Morning stiffness lasting over an hour is a key sign. Synovitis may extend to form a Baker's cyst behind the knee. The wrists are almost always involved, causing restricted movement and sometimes median nerve compression. Knees commonly show synovial hypertrophy, effusion, and ligament laxity. With ongoing tissue destruction, classic deformities appear: in the hands- radial wrist deviation, ulnar deviation of fingers, Z-deformity, swan-neck and boutonniere deformities; in the feet- subtalar eversion, metatarsal head subluxation, widened forefoot, hallux valgus, and dorsal toe subluxation (Harrison, 1998).

Diagnosis of RA

Diagnosis of RA is based on the pattern and symmetry of joint involvement, particularly in the small joints of the hands, along with morning stiffness, subcutaneous nodules, and radiological changes. Blood tests further support the diagnosis. Research funded by the Arthritis Foundation highlights that individuals recently diagnosed with RA or those experiencing disability are at a higher risk of depression. Studies also indicate that RA patients with depression have poorer outcomes and higher mortality rates compared to those without depression. Additionally, postmenopausal women with RA antibodies show increased mortality, while knee arthritis has been found to improve with combined diet and exercise interventions.

Management of RA

Management of rheumatoid arthritis focuses on controlling inflammation, relieving pain, and preserving joint function, as its exact cause remains unknown. Treatment requires a multidisciplinary approach involving medication, physiotherapy, patient education, and long-term monitoring. During active disease, rest, splinting, local measures, NSAIDs [14], and analgesics are used for symptomatic relief. When symptoms persist, DMARDs such as antimalarials, sulphasalazine and gold preparations help slow disease progression, while corticosteroids are reserved for severe flares or organ-threatening complications due to their adverse effects [15]. Immunomodulatory agents like methotrexate or azathioprine are considered in resistant or rapidly progressive cases [16]. Supportive therapy includes supplements and measures to manage anemia, sleep disturbance or fluid retention. In advanced disease, surgical interventions such as synovectomy, tendon repair or joint replacement along with rehabilitation and assistive devices help maintain mobility and improve quality of life [17].

Asthivaha Strotas

Asthivaha Strotas are the channels responsible for carrying the nourishing fractions required for the formation and maintenance of Asthi Dhatu that is bone tissue. These channels ensure proper bone growth, strength and structural stability of the body. Their Mulasthana (root sites) are located in the Medas (adipose tissue) and Jaghana (pelvic region). Medas serves as the nutritive source for Asthi Dhatu through the Dhatu Parinama process, while the pelvic region provides structural support and represents the functional base of these Strotas. Overall, Asthivaha Strotas maintain the integrity and nourishment of the skeletal system (Charaka Samhita, Vimansthana 5/8).

Asthivaha Strotas Dushti and Modern Bone Disorders

Asthivaha Strotas Dushti, described in Ayurveda as impairment in the channels responsible for nourishing and maintaining bone tissue, closely resembles modern osteoporosis. When these channels are disturbed due to Vata aggravation, poor nutrition or Dhatu depletion, the bone tissue becomes weak and porous, leading to features of Asthikshaya, such as Dantabhangata, Keshanakhapatanam, Sandhishoola, Rukshata and Sharira asithirata. (Ashtanga Hridaya, Sutrasthana 11/17)

Modern osteoporosis similarly involves reduced bone mineral density and deterioration of bone microarchitecture, making bones fragile and prone to fractures. The catabolic dominance seen in osteoporosis parallels the Vata-driven depletion of Asthi Dhatu explained in Ayurveda. Thus, Asthivaha Srotas Dushti can be correlated with osteoporosis, offering an integrated understanding of bone degeneration from both traditional and contemporary perspectives.

Need of Study- Amavata in Relation to Asthivaha Strotas Dushti

Traditionally, Amavata is described always with Ama and Rasavaha strotas but practically when the patient came with complainting of join pain, inflammation and deformities in various types of joints like elbows, wrists, ankle, shoulder and hip joints, some patients may have mild pain of bried duration but some will have severe pain with functional impairment. As according to modern science Rheumatoid arthritis is a chronic symmetrical arthritis with systemic involvement. The modern science management involves -NSAIDS, glucocorticoids, etc. The prolong use of these drugs have side effects along with temporary relief. If not managed timely, it may cause permanent joint deformities, bones, muscles and other part of musculoskeletal system damage. To avoid these deformities Rasavaha strotas as well as Asthivaha strotas should be taken into consideration in the management of Amavata.

Materials and Methods

In this study, 20 patients who had been diagnosed with Amavata were chosen. A structured case record form was created to collect data in a systematic manner.

Methods of Patient Selection

Patients were selected on the basis of hetu (causative factors) and lakshanas (clinical features) of Amavata described in the Ayurvedic Samhitas.

Examination Method

Clinical examination was performed as per Samhita guidelines, beginning with Trividha and Shadvidha pariksha, followed by Roga pariksha based on Nidana Panchaka. Additionally, RA factor was carried out for all 20 patients.

Inclusion Criteria

1. Patient having classical symptoms of Amavata.
2. Patients between 18-60 years of age group.
3. Patients will be included irrespective of religion, caste, gender, age, occupation and socioeconomic condition will be included.
4. Patients with RA factor positive.
5. Patients willing for study.

Exclusion Criteria

1. Patients below 18 years of age.
2. Patients above 60 years of age.
3. Amavata patients also having other Asthivaha Strotas diseases.

Table 1. Overall Assessment Criteria

Hetu, lakshana grade present	Dushti involved interpretation
Grade 1	Mild
Grade 2-3	Moderate
Grade 4	Severe

Result

Table 2. Age Wise Distribution

Age	No. of patients	% of patients
21-30	2	10
31-40	7	35
41-50	6	30
51-60	5	25

Table 3. Gender Wise Distribution

Gender	No. of patients	% of patients
Male	4	20
Female	16	80

Table 4. Agni Wise Distribution

Agni	No. of patients	% of patients
Mandagni	16	80
Vishamagni	4	20

Table 5. Prakriti Wise Distribution

Prakriti	No. of patients	% of patients
Kapha - Pittaj	8	40
Vata – Pittaj	6	30
Pitta – Vattaj	5	25
Kapha - Vattaj	1	5

Table 6. Asthivaha Strotas Dushti Hetu Wise Distribution

Hetu	No. of patients	% of patients
Virrudha Ahar	19	95
Asthisankshobha	17	85
Aghat	2	10
Vyayam	8	40

Table 7. Hetu Gradation Wise Distribution

Hetu present	Grades	No. of patients	% of patients
1	1	1	5
2	2	13	65
3	3	5	25
4	4	1	5

Table 8. Asthivaha Strotas Dushti Lakshana Wise Distribution

Lakshana	No. of patients	% of patients
Asthibhedavat vedana	16	80

Asthishula	20	100
Asthivivarnata	14	70
Adhyasthi	1	5
Adhidanta	2	10
Dantabheda	2	10
Dantavivarnata	4	20
Kesha, loma, nakha, smashuvikara	11	55

Table 9. Lakshana Gradation Wise Distribution

Lakshana present	Grades	No. of patients	% of patients
1-2	1	3	15
3-4	2	13	65
5-6	3	4	20
7-8	4	0	0

Discussion

In the present study, the majority of patients 65 % belonged to the 31–50 years age group, indicating that Amavata commonly affects individuals during the most active phase of life. This finding supports classical descriptions that Mandagni and faulty dietary habits during adulthood contribute significantly to Ama formation. Similar age distribution has been reported in modern studies of rheumatoid arthritis, where disease onset is commonly seen in early to middle adulthood.

Female predominance was observed, with 80 % of patients being females. This aligns with both Ayurvedic and modern observations. From an Ayurvedic perspective, females are more prone to Kapha dominance and Agnimandya, while hormonally mediated immune susceptibility described in modern science also explains the increased incidence of rheumatoid arthritis among females.

1. Agni and Prakriti Association

A significant finding of the study was the presence of Mandagni in 80 % of patients. Agnimandya is the primary cause of Ama Utpatti, which plays a central role in the pathogenesis of Amavata. Persistent Ama circulates through the Rasavaha Srotas and later localizes in joints under the influence of aggravated Vata, eventually affecting deeper dhatus.

Regarding Prakriti, the majority of patients belonged to Kapha-Pittaja 40 % and Vata-Pittaja 30 % constitutions. Kapha dominance contributes to Ama formation and Strotorodha, while Vata facilitates the dissemination of Ama to asthi sandhis. Pitta association explains the inflammatory nature of the disease, correlating with synovitis and joint inflammation seen clinically.

2. Asthivaha Strotas Dushti Hetu Analysis

The study revealed that Viruddha Ahara was present in 95 % of patients, making it the most common etiological factor for Asthivaha Strotas Dushti. Viruddha Ahara is known to impair Agni, produce Ama and vitiate all dhatus, including Asthi Dhatu. Asthi Sankshobha was present in 85 % of patients, indicating chronic stress and overuse of joints, which further aggravates Vata and predisposes to bone and joint pathology. The predominance of Grade 2 (65 %) and Grade 3 (25 %) in hetu gradation indicates a moderate but sustained exposure to etiological factors. This chronic exposure explains the progressive nature of joint involvement and supports the concept of dhatu-gambhira involvement in Amavata.

3. Lakshana Analysis of Asthivaha Strotas Dushti

Among the clinical features, Asthishula was observed in 100 % of patients, while Asthibhedavat Vedana was present in 80 %, highlighting significant involvement of Asthi Dhatu. These symptoms directly reflect classical Asthivaha Strotas Dushti Lakshanas described in the Samhitas. Other features such as Asthivivarnata, dental changes and hair-nail abnormalities further support chronic dhatu kshaya and strotodushti.

Lakshana gradation revealed that 65 % of patients belonged to Grade 2 and 20 % to Grade 3, again indicating moderate severity of Asthivaha Strotas Dushti in the majority of Amavata patients. The absence of Grade 4 severity may be attributed to early to moderate disease stage or timely medical intervention.

4. Correlation Between Amavata and Asthivaha Strotas Dushti

Although classical descriptions emphasize Rasavaha Strotas involvement in Amavata, the findings of this study clearly indicate significant Asthivaha Strotas involvement. Continuous presence of Ama, chronic inflammation and Vata aggravation eventually leads to Asthi Dhatu Dushti, manifesting as pain, deformities, and functional impairment of joints. This observation closely parallels modern descriptions of rheumatoid arthritis, where chronic synovial inflammation leads to cartilage erosion and bone destruction. Thus, Asthivaha Strotas Dushti can be considered an important contributory factor in the later stages and complications of Amavata.

5. Clinical Implications

The present study emphasizes that management of Amavata should not be limited to Ama pachana and Vata shamana alone. Along with Rasavaha Strotas, Asthivaha Strotas should be given due consideration to prevent progressive joint deformities and musculoskeletal damage. Therapeutic approaches focusing on Asthi Dhatu Poshan, Srotoshodhana, and Vata-Kapha Shamana may help in improving long-term outcomes and quality of life in Amavata patients.

Conclusion

The present study highlights a significant clinical association between Amavata and Asthivaha Strotas Dushti. Although classical Ayurvedic texts primarily describe Amavata as a disorder of Rasavaha Strotas associated with Ama and Vata, the findings of this study clearly demonstrate notable involvement of Asthivaha Strotas in Amavata patients. The predominance of Mandagni, moderate-grade hetu and lakshana involvement, and classical features of Asthivaha Strotas Dushti indicate progressive dhatu involvement beyond the rasa level.

The study also reveals a higher prevalence of Amavata among females and individuals in the middle age group, with Kapha-Pittaja and Vata-Pittaja Prakriti being more commonly affected. The moderate degree of Asthivaha Strotas Dushti observed in the majority of patients suggests that chronicity of disease and persistent etiological factors play a crucial role in the progression of joint pathology.

Therefore, it can be concluded that effective management of Amavata should not be restricted to Ama Pachana and Vata Shamaka measures alone. Therapeutic strategies addressing Asthivaha Strotas, along with correction of Agni and elimination of etiological factors, are essential to prevent joint deformities and long-term musculoskeletal complications. Incorporating Asthivaha Strotas oriented treatment principles may enhance clinical outcomes and improve the quality of life in patients suffering from Amavata.

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