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# Effect of Siddha Basti on Inflammatory Markers in Amavata (Rheumatoid Arthritis): A Case Series

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**ABSTRACT:**

**Background:** *Amavata* is a chronic inflammatory disorder described in Ayurveda, characterized by pain, swelling, and stiffness of joints along with systemic features. The disease occurs due to impairment of *Agni*, leading to the formation of *Ama*, which associates with aggravated *Vata* and produces inflammatory pathology. Elevated inflammatory markers such as Rheumatoid Factor (RF), C-Reactive Protein (CRP), and Erythrocyte Sedimentation Rate (ESR) reflect disease activity and systemic inflammation. *Basti* is considered the prime therapy for *Vata* disorders, and *Siddha Basti* is indicated in Amavata due to its *Ama-Vatahara* and *Shothahara* actions.

**Aim:** To evaluate the effect of *Siddha Basti* on inflammatory markers in patients of *Amavata*.

**Materials and Methods:** A case series of five patients clinically diagnosed with *Amavata* was conducted in the Department of Panchakarma, SDM Institute of Ayurveda and Hospital (SDMIAH), Bengaluru. *Siddha Basti* was administered for 8 days in *Yoga basti* pattern. Inflammatory markers—RF, CRP, and ESR—were assessed before treatment, after treatment, and at follow-up on the 24th day.

**Results:** All patients showed a consistent reduction in inflammatory markers following *Siddha Basti* therapy. Further improvement was observed during follow-up, indicating sustained reduction in systemic inflammation. The response was more pronounced in CRP and ESR, while RF showed a gradual downward trend.

**Conclusion:** *Siddha Basti* demonstrated a beneficial effect in reducing inflammatory markers in *Amavata*, suggesting its potential role in controlling systemic inflammation. The findings support the use of *Siddha Basti* as an effective Panchakarma intervention in inflammatory joint disorders.

**Keywords:** *Amavata*, *Siddha basti*, Inflammatory markers, RF factor, ESR, CRP

## INTRODUCTION:

*Amavata*[1] is a disease described in classical Ayurvedic texts, characterized by joint pain (*Sandhi Shoola*), swelling (*Shotha*), stiffness (*Stambha*), and systemic features such as anorexia (*Aruchi*) and fatigue (*Angamarda*). It originates from impairment of *Agni*, leading to the formation of *Ama*, which associates with aggravated *Vata* and gets lodged in joints and other tissues, producing chronic inflammatory

manifestations. Due to its recurrent and progressive nature, *Madhava Nidana* categorizes *Amavata* as a *Kashtasadhya vyadhi* [2].

In the present era, sedentary lifestyle, intake of incompatible and unwholesome diet (*Viruddha Ahara*), irregular food habits, mental stress, and inadequate physical activity contribute significantly to deranged digestion and metabolism, thereby promoting *Ama* formation. Deposition of *Ama* at various levels of body physiology results in severe functional disability and loss of productivity, making *Amavata* a crippling chronic disorder.

Clinically, *Amavata* bears close resemblance to Rheumatoid Arthritis, a chronic systemic inflammatory autoimmune disease characterized by symmetrical joint involvement, pain, swelling, stiffness, and elevated inflammatory markers such as Rheumatoid Factor (RF), C-reactive protein (CRP), and Erythrocyte Sedimentation Rate (ESR), which indicate disease activity and systemic inflammation[3].

In Ayurveda, *Basti* is regarded as *Ardha Chikitsa* and is the principal therapeutic modality for *Vata*-predominant disorders. *Siddha Basti*, mentioned in *Vangasena samhita* [4] is particularly indicated in *Amavata* due to its *Ama-pachana*, *Vata-shamana*, and *Agni-deepana* actions, thereby addressing both the root cause and clinical manifestations of the disease.

**AIM:**

To evaluate the effect of *Siddha basti* on inflammatory markers in patients of *Amavata.*

**OBJECTIVES:**

1. To assess changes in RF, CRP and ESR before and after *Siddha basti*
2. To observe the sustainability of effect during follow-up
3. To understand the probable mode of action of *Siddha basti* in reducing inflammation.

**MATERIAL & METHODS:**

The case series includes 5 patients, who visited the OPD of Panchakarma at SDMIAH, Bengaluru , presenting with the complaints of pain in multiple joints (*Sandhishula*), swelling (*Shotha*), stiffness (*stabdhata*) and tenderness,. Cases were initially evaluated for history taking, screening, physical examination, laboratory investigations for inflammatory markers. Panchakarma therapy (*Siddha basti)* was planned for 8 days in *Yoga basti* pattern on IPD basis. The assessment on inflammatory markers was done before treatment ($0^{th}$ day), after treatment ($9^{th}$ day) and on follow up ($24^{th}$ day).

**DIAGNOSTIC CRITERIA:**

**Ayurvedic criteria:** Diagnosis was made based on classical features of *Amavata* such as:

- *Sandhi shoola*
- *Sandhi shotha*
- *Stambha*
- *Angamarda*
- *Aruchi*

**Modern Parameters**

Patients with elevated RF, CRP, and ESR were included.

**Inclusion Criteria:**

- Patients aged 30–60 years

- Clinically diagnosed *Amavata*
- Elevated inflammatory markers
- Patients fit for *Basti karma*

**Exclusion Criteria:**

- Severe joint deformities
- Pregnancy and lactation
- Severe systemic illness
- Active infections

**INTERVENTION:**

***SIDDHA BASTI :***

| | ***SIDDHA BASTI*** | **DOSE** |
|---|---|---|
| ***NIRUHA BASTI*** | ***Guda*** | 1 pala (48gms) |
| | ***Saindhava lavana*** | 1 *Aksha* (12gms) |
| | ***Taila*** | 1 *Pala* (48ml) |
| | ***Shatapushpa*** | 1 *Aksha* (12gms) |
| | ***Amlika*** | 1 *Pala* (48ml) |
| | ***Gomutra*** | 8 *Pala* (384ml) |
| ***ANUVASANA BASTI*** | ***Gandharvahastadi taila*** | 72ml |

**SCHEDULE OF *BASTI:***

| **DAYS** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** |
|---|---|---|---|---|---|---|---|---|
| **MORNING** | | N | | N | | N | | |
| **AFTERNOON** | A | | A | | A | | A | A |

**ASSESSMENT CRITERIA:**

**Objective parameters:**

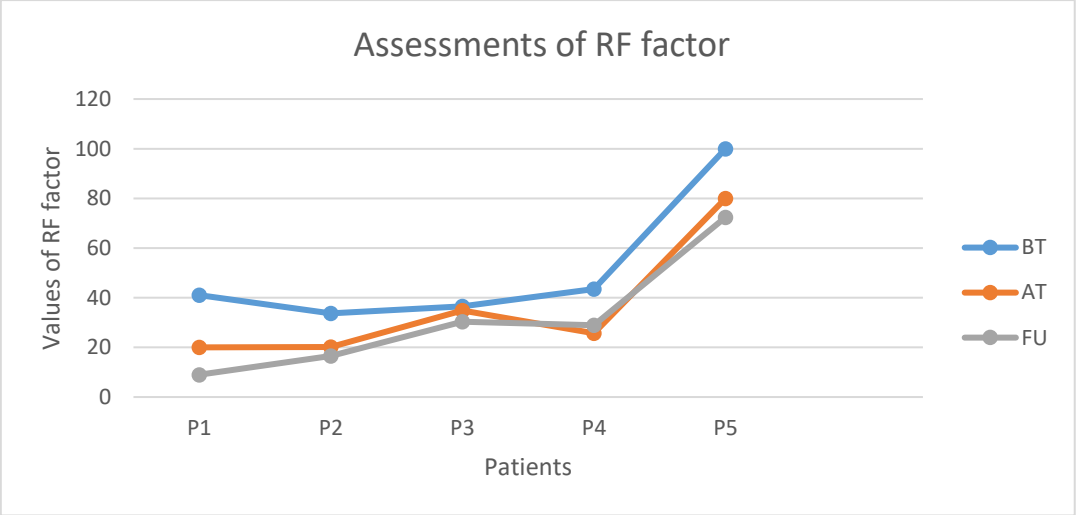
- Rheumatoid factor (IU/ml)
- C-Reactive protein (mg/L)
- Erythrocyte sedimentation rate (mm/hr)

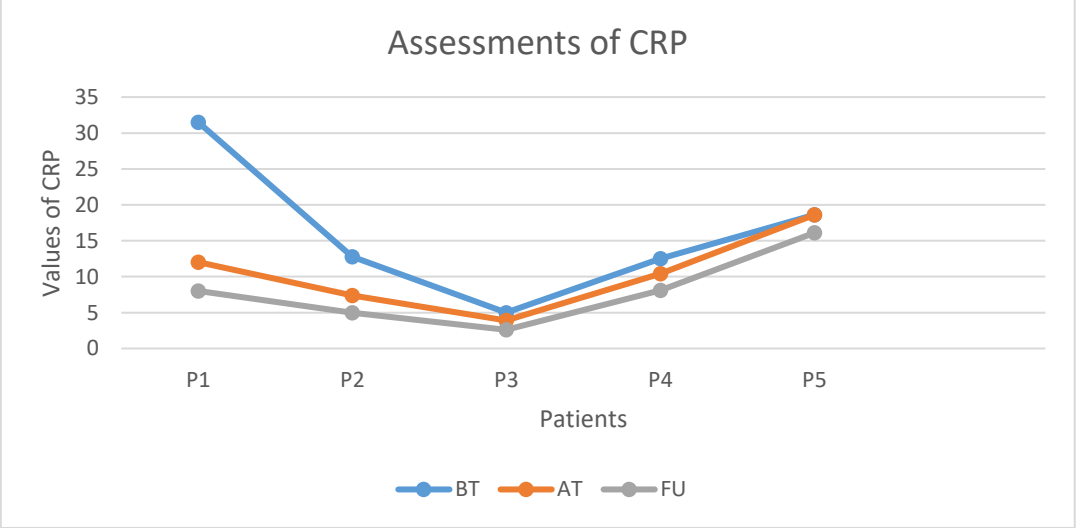
**OBSERVATIONS & RESULTS:**

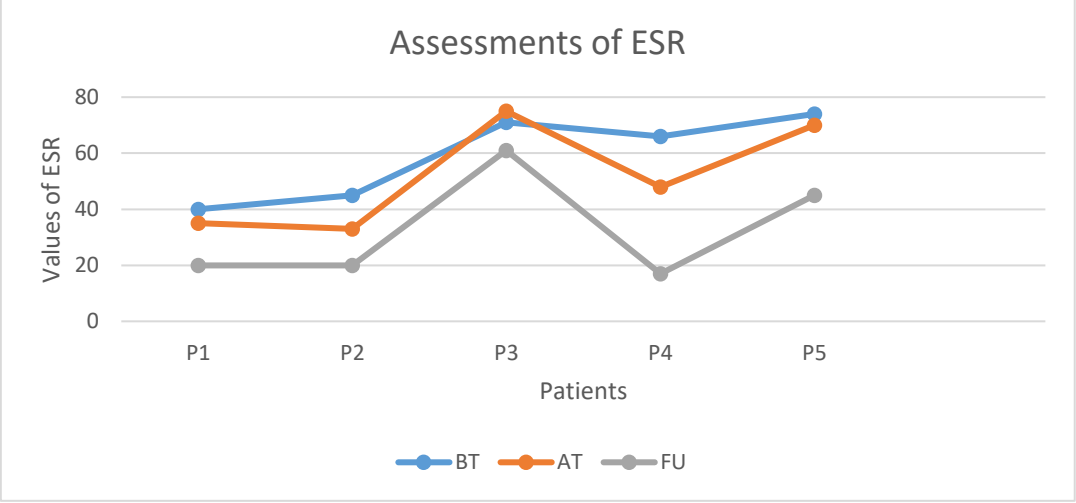
| **Patient No.** | **Age** | **Gender** | **Duration of disease** | **RF Factor** | | | **CRP** | | | **ESR** | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **BT** | **AT** | **FU** | **BT** | **AT** | **FU** | **BT** | **AT** | **FU** |
| P1 | 55 | F | 3 years | 41 | 20 | 09 | 31.5 | 12 | 08 | 40 | 35 | 20 |
| P2 | 53 | F | 4 years | 33.7 | 20.1 | 16.6 | 12.8 | 7.4 | 05 | 45 | 33 | 20 |
| P3 | 42 | F | 4 years | 36.5 | 34.9 | 30.3 | 05 | 3.9 | 2.6 | 71 | 75 | 61 |
| P4 | 58 | F | 1 year | 43.5 | 25.7 | 28.9 | 12.5 | 10.4 | 8.1 | 66 | 48 | 17 |
| P5 | 33 | F | 2 years | 100 | 80 | 72.4 | 18.6 | 18.6 | 16.1 | 74 | 70 | 45 |

All 5 patients were females, aged between 33 and 58 years, with disease duration ranging from 1 to 4 years. Overall, a decreasing trend was observed in RF, CRP, and ESR across all patients. CRP and ESR

showed more consistent reduction, while RF demonstrated a gradual decline, indicating sustained reduction in systemic inflammation.(Graphs included)



**DISCUSSION:**

*Amavata* is a systemic disorder caused by *Mandagni*, leading to the formation of *Ama* and aggravation of *Vata Dosha*. Circulating *Ama*, propelled by vitiated *Vata*, localizes in the joints, producing pain, swelling, stiffness, and systemic features. With chronicity, deeper tissues such as *Asthi* and *Majja* become involved, resulting in deformities and disability[5]. This pathogenesis closely parallels Rheumatoid Arthritis (RA), a chronic systemic autoimmune disease characterized by persistent inflammation and progressive joint damage[6].

Inflammatory markers such as Rheumatoid Factor (RF), C-reactive protein (CRP), and Erythrocyte Sedimentation Rate (ESR) are widely accepted indicators of disease activity and systemic inflammation in RA[7]. CRP, an acute-phase reactant synthesized by the liver, reflects active inflammation and responds rapidly to therapeutic interventions, making it a reliable marker for monitoring treatment response[8]. RF, an autoantibody directed against the Fc portion of IgG, is associated with disease severity and extra-articular manifestations[9]. ESR reflects changes in plasma proteins during inflammation and correlates with ongoing inflammatory activity and joint damage[10].

In Ayurveda, chronic inflammation and immune dysregulation can be correlated with the accumulation of *Ama* and *Mala*, which act as toxic metabolic by-products and initiate systemic pathology. The contradictory therapeutic requirements of *Ama* (requiring *Deepana* and *Pachana*) and aggravated *Vata* (requiring *Snehana*) make *Amavata* a challenging and often *Yapya* condition.

*Siddha Basti*, a type of *Kshara Basti* described by Vangasena for the management of *Amavata*, possesses *Rukshana*, *Lekhana*, and *Shodhana* properties[11]. The formulation comprising *Guda, Dhanyamla, Shatapushpa, Saindhava Lavana, Gomutra,* and *Gandharvahastadi Taila* acts by reducing *Ama*, pacifying *Vata-Kapha*, enhancing *Agni*, and clearing *Srotorodha*. *Gandharvahastadi Taila* facilitates *Vatanulomana* and elimination of *Purana Mala*, while *Dhanyamla* contributes antioxidant and anti-inflammatory effects[12]. *Gomutra*, with its *Ushna* and *Teekshna* properties, enhances *Shodhana* and mobilization of morbid *Doshas*.

From a modern perspective, rectal administration enables rapid systemic absorption due to the rich vascular and lymphatic supply of the colon, partially bypassing first-pass hepatic metabolism[13]. *Basti* therapy exerts systemic effects through modulation of gut immunity and correction of dysbiosis. Altered gut microbiota has been implicated in the pathogenesis of RA, contributing to immune activation and inflammation[14]. Correction of gut imbalance may thus play a role in reducing systemic inflammatory markers.

The observed reduction in RF, CRP, and ESR in the present case series suggests that *Siddha Basti* effectively attenuates systemic inflammation and immune activity. Thus, *Siddha Basti* not only provides symptomatic relief but also influences the underlying inflammatory pathology of *Amavata* (Rheumatoid Arthritis).

**CONCLUSION:**

The findings of the present case series suggest that *Siddha Basti* is effective in reducing systemic inflammation in patients of *Amavata*, as evidenced by notable improvement in inflammatory markers such as Rheumatoid Factor (RF), C-reactive protein (CRP), and Erythrocyte Sedimentation Rate (ESR). The observed reduction in these parameters indicates attenuation of immune-mediated inflammatory activity and disease burden.

From an Ayurvedic perspective, *Siddha Basti* acts by eliminating *Ama*, pacifying aggravated *Vata-Kapha*

*Dosha*, restoring *Agni*, and clearing *Srotorodha*, thereby addressing the core pathophysiology of *Amavata*. From a modern viewpoint, its systemic anti-inflammatory and immunomodulatory effects may be attributed to enhanced colonic absorption, modulation of gut immunity, and correction of dysbiosis.
Thus, *Siddha Basti* emerges as a rational and effective therapeutic modality in the management of *Amavata* (Rheumatoid Arthritis), particularly in reducing inflammatory markers. However, larger controlled clinical trials with longer follow-up periods are warranted to substantiate these findings and to establish *Siddha Basti* as an evidence-based intervention in inflammatory arthropathies.

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