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Case Study

# EFFICACY OF *DEEPANA-PACHANA, SWEDANA* AND *SHAMANA CHIKITSA* IN JUVENILE IDIOPATHIC ARTHRITIS (JIA)

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# ABSTRACT

Juvenile Idiopathic Arthritis (JIA) is a type of most common chronic inflammatory rheumatic disease with very little clarity about etiology and pathology. **Main clinical findings:** A 16-year-old adolescent female girl with the complaint of pain and swelling in knee joint bilaterally, difficulty in walking, restricted movement and pain in wrist, ankle and interphalangeal joints, morning stiffens in hand and wrist joints. **Diagnosis:** This case of Juvenile Polyarticular (RF positive) arthritis was diagnosed as *Amavata* (symptoms suggest *pravridhavastha*). **Interventions:** Treatment given for 3 months in a duration dependent pattern. *Deepana, Pachana* followed by *Snehan, Rechana* and *Baluka sweda, Upnah* was done along with oral medications. **Outcome:** Patient felt relief in pain, swelling of joints reduced, restriction of joint movement was reduced, *Lakshana* of *Ama* like Anorexia, Fatigue, Heaviness and Laziness were also relieved. **Conclusion:** This paper is an attempt to explore effectiveness of Ayurvedic treatment in case of JIA.

## **INTRODUCTION**

Juvenile Idiopathic Arthritis (JIA) is a type of most common chronic inflammatory rheumatic disease affecting children and adolescents before the age of 16 years. There are very little clarity about etiology and pathology of JIA and many classifications available to understand this disease. The International League of Associations for Rheumatology (ILAR) classifies JIA into Seven types.<sup>[1]</sup> There is paucity of prevalence data of JIA in India Globally, this disease contributes 28% of all musculoskeletal cases in the Southeastern Asia only, which also includes India.<sup>[2]</sup> JIA is an Autoimmune disease with symptoms like Tenderness or pain on movement, swelling and warmth in the affected joints (most commonly Knee, Ankle, wrist, fingers), limitation of movement, Fatigue, Morning stiffness in joints, in some cases Uveitis and fever may present.<sup>[3]</sup> Laboratory investigations include raised inflammatory markers such as elevated WBC, ESR, CRP levels.

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Additionally articular changes in X-Ray appears in chronic cases, positive Antinuclear antibody (ANA) and Rheumatoid factor (RF) observed out of which ANA and RF are more specific for diagnostic purpose. Treatment part includes judicious use of NSAIDs, Disease Modifying Antirheumatic Drugs (DMARDs), Corticosteroids and Cytokine modulators. These treatment modalities provide promising symptomatic relief to the patients but concurrently have potential side effect like GI upset, Nausea, Vomiting and immunosuppression.<sup>[4]</sup>

Symptoms of JIA are much more similar to the disease *Amavata* described in Ayurveda, which is characterized by *Angamarda* and *Daurbalya* i.e., general weakness, *Agni Daurbalya* and *Aruchi* i.e., anorexia, *Stabdhta* and *Jadta* i.e., stiffness, *Saruja Sotha* i.e., swelling and pain in joints, *Daha, Jwar* i.e., fever and *Vidvibadhatta* i.e., constipation<sup>[5]</sup>. As the name suggest this disease is caused by *Ama* and *Vata dosha*. *Ama* is an intermediate product formed due to *Mandagni* during the process of *Dhatu* formation and *Poshana*. *Vata dosh* is responsible for transport and further pathogenesis due to *Ama* in the body. *Ama* formation is the much similar to the mechanism of Autoimmune disease where own body cell or tissue is treated as antigen by host immune system.<sup>[6]</sup> So, we

have treated this case based on treatment principles of *Amavata* described in various Ayurvedic texts.

## **Patient Information**

A 16-year-old adolescent female girl having weight 35 kg came to OPD department of Kaumarabhritya with the complain of bilateral pain and swelling in knee joint, difficulty in walking, restricted movement and pain in wrist, ankle and interphalangeal joints, morning stiffens in hand and wrist joints. Associated complaints include Anorexia, fatigue and laziness, feeling of heaviness and occasional nausea.

This episode of illness started with pain and mild swelling in right toe 3 years ago than it gradually spread to knee joint bilaterally over next 1.5 year. Then after patient had 3-4 episodes of mild fever for 1 month and pain spread to nape of neck, wrist and Metacarpals of both hands over next 6 months. At present taking allopathic medication for pain and swelling and have minimal relief, additionally patient had developed anorexia over the time. Complaint of pain, swelling aggravated due to cold exposure and winters. Patient has no family history of similar illness and not any kind of pain and redness in eyes, painful micturition, chest pain, involuntary limb movement and skin eruptions. Patient was taking allopathic treatment from last 3.5 year and at the time of our OPD visit patient was non-steroidal ant-inflammatory drugs (Naproxen).

## **Clinical Findings**

**General Examination:** At the time of OPD visit patients' general condition was not good, weight 35kg, height 155cm, pulse rate 86/min, BP 130/90mmHg, pallor present, no icterus, no lymphadenopathy and organomegaly. Findings of systemic examination are summarized below in Table No. 1.

Respiratory	Chest normal in shape and size
system	Bilateral equal air entry without any additional sound
Cardiovascular	S <sub>1</sub> , S <sub>2</sub> Within normal limit
system	No murmur present.
Gastrointestinal	Soft non tender abdomen
system	No palpable organomegaly present
Nervous system	Higher mental functions – Intact Gross motor and fine motor functions – Intact
Musculoskeletal system	Crouch-like gait having hyperflexion of hip and knee joint and less planter flexion in the ankle. Pain and swelling bilateral knee joints with difficulty in walking Restricted movement with morning stiffness and pain in bilateral wrist, ankle and small joints of hand

## **Table 1: Systemic Examination**

## Diagnostic Assessment

The patient was diagnosed as RF-positive Polyarthritis on the basis of patient history, pattern of symptomatic progression, joint involvement (Table No. 1) and available relevant investigations (Table No. 6) like RF-factor positive, Raised ESR and CRP, mild Anemia. The symptoms of patients suggest formation of *Ama* and *Vata prakopa* from Ayurvedic point of view. Diagnosis on the basis of Ayurveda diagnostic parameters can be understand by following description.

Dosha – Vata predominant Tridosha Dushya – Ras, Rakta, Snayu, Asthi, Sandhi Shrotasa – Rasavaha, Raktavaha, Asthivaha Shroto-dusthi- Sanga Adhisthan – Sarva Sandhi

**Udhbhav sthana –** Amashyotha

Rogamarga- Madhyana (Asthi-sandhi-marma)

**Vyadhi swabhava–** Chirkari (chronic in nature), Pravradhavastha

**Agni-** Mandagni (Jatharagni mandhya and Dhtwagni mandhya)

**Ama formation**– Present at the level of *Jathragni* and *Dhtwagani* 

*Sadyasadhyata– Krichasadhya* (multiple joint involvement with pain and swelling)

Poorvaropa – Agnimandhya, Alasya, Gaurav

**Roopa-** Hast-pada-janu sandhi sotha and Ruja, Jwara, Aruchi, Vidvibhadta

*Upshay- Anupshaya* – Symptoms aggravated due to cold exposure, local application of oil, symptoms relived by *Ushna dravya Sevana*, *Ruksha swedana*.

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# **Examination of Patient**

Going through all above information and assessment by *Trividh* (Table 2), *Asthvidha* (Table 3) and *Dashvidha pariksha* (Table No. 4) this case of Juvenile Polyarticular (RF positive) arthritis was diagnosed as *Amavata* (symptoms suggest *Pravridhavastha*) and started the treatment.

Table 2: Triviana Pariksna		
Darshan	Sotha and Raga in Sandhi Pradesh	
Sparshan	Snigdha, Stambhit Sandhi Pradesh	
Prashna	Proper history was taken by asking <i>Prashna</i> in the format explained above	

# Table 3 Asthvidha Pariksha

Nadi – Ksheerna	Shabda – Prakrita
Mutra – Manda and Guru	Sparsha – Snigdha
Mala – Constipated	Drika– Conjunctiva normal in shape size, pink
Jivha - Coated and whitish	Akriti – Madhyam

# Table 4: Dashvidha Pariksha

Satmya – Madhyam
Satva - Madhyam
Aharshaki – Uttam
Vyayamshakti – Avar
Vaya – Balyavastha

Assessment before and after treatment was done with investigations before and after the treatment which is shown in Table No. 5.

# Table 5: Investigations before and after treatment

Investigations	Before treatment	After treatment
C- Reactive Protein	59.4 mg/l	36.8mg/l
Erythrocyte Sedimentation Rate	50 mm fall in 1 hour	38 mm fall in 1 hour
Hemoglobin	10.7gm%	9.2gm%
RA Factor	94.5 ng/L Serum Positive	
Anti-Cyclic Citrullinated Peptide Antibodies (Anti CCP)	Positive- 419	Positive- 150

# **Timeline of Therapeutic Intervention**

Clinical Intervention includes total duration of 90 days, during the initial treatment of 15 days patients' dose of non-steroidal anti-inflammatory drugs (NSAIDS) was tapered gradually. The detailed timeline with therapeutic intervention is given in Table No. 6.

## **Table 6: Clinical Intervention**

18/06/22	Patient came to OPD with the complains of bilateral pain and swelling in knee joint, difficulty in walking, restricted movement and pain in wrist, ankle and interphalangeal joints, morning stiffens in hand and wrist joints.
20/06/22 - 05/07/22	Deepan pachana and oral medicine
	Ajmodadi churna (3gm) + Pippalyasava (10ml) with lukewarm water twice a day.
	Dashmoola Kashaya 10ml twice a day.
06/07/22 - 21/07/22	Ajmodadi churna (2gm) + Pippalyasava (10ml) with lukewarm water twice a day.
	<i>Dashmoola Kashaya</i> 10ml twice a day. <i>+ Gandharvaa hastadi tailam</i> (10ml) with lukewarm water twice a day.

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	Patolakaturohinayadi Kashaya 15ml + 45 lukewarm water twice a day.
Non-steroidal anti-inflammatory drugs was stopped	
	Procedure
	Baluka Swedan given 15 – 20 minutes once daily.
	Upanaha (Prepared Kottamchukkadi churan with Gomutra).
22/07/22 - 29/07/22	Ajmodadi churna (2gm) with lukewarm water
	Dashmoola Kashaya 10ml twice a day + Gandharvaa hastadi tailam (10ml) with lukewarm water twice a day.
	Patolakaturohinayadi Kashaya 15ml + 45 lukewarm water twice a day.
	Tab Shallaki 250mg Twice daily
30/07/22 - 13/08/22	<i>Ajmodadi churna</i> (2gm) with lukewarm water twice daily.
	Dashmoola Kashaya 10ml twice a day + Gandharvaa hastadi tailam (10ml) with lukewarm water twice a day.
	Patolakaturohinayadi Kashaya 15ml + 45 lukewarm water twice a day.
	Tab Shallaki 250mg twice daily
	Procedure
	Baluka Swedan given 10 – 15 minutes once daily.
	Upanaha (Prepared Kottamchukkadi churan with Gomutra)
14/08/22 - 21/08/22	<i>Ajmodadi churna</i> (2gm) with lukewarm water once daily.
	Dashmoola Kashaya 10ml twice a day
	Patolakaturohinayadi Kashaya 15ml + 45 lukewarm water twice a day.
	Tab Shallaki 250 mg twice daily
	Tab Sihnathgugglu 1 Tab three times in a day
22/08/22 - 05/09/22	Ajmodadi churna (2gm) with lukewarm water twice daily.
	Dashmoola Kashaya 10ml twice a daily.
	Patolakaturohinayadi Kashaya 15ml + 45 lukewarm water twice a day.
	Tab Shallaki 250mg twice daily.
	Tab Sihnathgugglu 1 Tab three times in a day.
	Procedure
	Baluka Swedan given 5 – 10 minutes once daily.
	Upanaha (Prepared Kottamchukkadi churan with Gomutra).
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06/09/22 - 20/09/22	Ajmodadi churna (2gm) with lukewarm water twice daily.
	Dashmoola Kashaya 10ml twice a daily.
	Patolakaturohinayadi Kashaya 15ml + 45 lukewarm water twice a daily.
	Tab <i>Shallaki</i> 250mg twice daily.
	Tab <i>Sihnathgugglu</i> 1 Tab three times in a daily.

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20/01/2022	Dashmoola Kashaya 10ml twice a daily.	
	Tab <i>Shallaki</i> 250mg twice daily.	
	Tab <i>Sihnathgugglu</i> 1 Tab three times in a daily.	
20/05/2023	Dashmoola Kashaya 10ml twice a daily.	
	Tab <i>Shallaki</i> 250mg twice daily.	
	Tab <i>Sihnathgugglu</i> 1 Tab three times in a daily.	
	Last follow up of patient.	

Clinical Intervention, Follow-up and Result Achieved: Patient was given Aimodadi Churna 3gm with the Anupana of Pippalyasava 10ml initially and with *Anupana* of lukewarm water then for Amapachana additionally, to reduce pain and inflammation Dashmool Kashayam 10ml twice daily was advised. During this period patient was advised to take Laghu ahara and Ushna jalapana throughout the day. After taking this initial treatment patient felt mild relief in pain, swelling and anorexia. For next 15 Days continued previous treatment with addition of Gandharvaa hastadi tailam (10ml) with Luke warm water along with Dashmool Kashayam (10ml) twice a day and Baluka Sweda 10-15 min, Upanaha with Kotamchukkadi churna processed in Gomutra. NSAIDS was stopped during this time period. After this treatment patient felt relief in the pain, and joint swelling was reduced (bilateral knee girth 35 Cm at the time of admission Fig. 1, Fig.2 and 32 Cm after treatment Fi.4, Fig. 5)

For next 7 days procedures were stopped and patient was on same oral medicines, added tab *Shallaki* 250mg twice daily during this period. For next 15 days patient was on same oral medicine plus procedures (*Baluka sweda* and *Upnaha*) again. After this course of treatment patient felt relief in pain, swelling of joints reduced (knee girth from 34cm to 33.5cm). Patient started walking properly i.e., restriction of joint movement was reduced, *Lakshana* of *Ama* like anorexia, fatigue, heaviness and laziness were also relieved. Now procedures were again stopped for 7 days additionally, *Gandharvhastadi tail* was stopped and Tab *Shallaki* 1 Tab twice a day, *Sighnath guggulu* 1 Tab thrice started. These same oral medicines continued for next 15 days along with *Baluka Sweda* and *Upnaha* (Fig 3). Now patients' procedures were stopped and patient was advised for follow-up after 15 days by continuing same oral medicines.

**Therapeutic Focus and Assessment:** The treatment given above reduced patients knee joint swelling (knee girth from 35cm to 32cm at the end of treatment Fig. 4 and 5), pain was relieved; restriction to joint movement significantly reduced but was not cured completely. This overall improvement is shown in Table No. 7. Currently patient is on follow -up in every 4<sup>rd</sup> month and her condition is stable.

S.No	. Parameters	Before treatment	After treatment
1	Pain	Numerical Rating Scale score 8/10	Numerical Rating Scale score 3/10
2	Swelling	Knee girth 35cm	Knee girth 32cm
3	Joint mobility	Restricted	Restriction reduced
4	Anorexia, fatigue, heaviness, laziness	Present markedly	Relieved

## **Table 7: Results of intervention**

## **FIGURES**



Fig. 1

Fig. 2



## DISCUSSION

This case was managed as per the treatment principles of *Amavata* in Ayurveda.<sup>[7]</sup> The whole pathology of this disease depends upon two factors formation of Ama and vitiation of Vata in the body. These two factors along with *Kapha* and *Pitta* produce general and systemic symptoms in the disease as visible in this patient.<sup>[8]</sup> Initially treatment was started with Deepana, Pachana by Ajmodadi Churna [9], *Pippalyasava*<sup>[10]</sup> and to reduce the pain and swelling of joints, Dashmool Kwatha <sup>[11]</sup> having Vata shamaka and Shothhara properties was also given. These medicines provided mild symptomatic relief to the patient and reduced the dependency on analgesics and antiinflammatory agents. Continuing these medicines along with addition of *Gandharvahastadi tailam* with Dashmool kwatha for next 37 days was done for the purpose of Snehana and Rechana both<sup>[12]</sup>. Patolakaturohinayadi Kashaya<sup>[13]</sup> mainly containing Patola and Katurohini was given till treatment continued as a Katu tikta dravya. During this period further relief in swelling was provided with the *Baluka* sweda (A kind of Ruksha Sweds) and Upanaha. These two procedures were done for rest of the treatment duration in pattern of 15 days continuation and intermittently 7 days gap. Kotamchukkadi Churna<sup>[14]</sup>

Fig. 4

Fig. 5

was used for Upanaha due to its Vata shamaka properties on local application, also patients antiinflammatory analgesics were and stopped. Additionally, *Sihnathgugglu* <sup>[15]</sup> and Tab *Shallaki* <sup>[16]</sup> as a Tridosha Shamaka drug given. Patient was under close monitoring during the whole treatment.

## **CONCLUSION**

explore This paper is an attempt to effectiveness of Ayurvedic treatment in case of JIA. In this case we find that RF- positive Juvenile polyarthritis can be treated on the basis of Amavata treatment principles. The present scenario patient came for the treatment in Krichasadhya condition but, still got relief in pain and swelling, restriction of joint movement was reduced and dependency on analgesic and anti-inflammatory agents withdrawn. Thus, Ayurvedic treatment in such cases improves overall lifestyle of patients.

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