



Case Study

MANAGEMENT OF JUVENILE RHEUMATOID ARTHRITIS (*AMAVATA*) THROUGH AYURVEDA: A CASE STUDY

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KEYWORDS: *Ayurveda*, *Amavata*, case study, Juvenile Rheumatic Arthritis.

ABSTRACT

Juvenile Rheumatoid Arthritis is an autoimmune, non-infective, inflammatory joint disease of more than 6 weeks' duration in children less than 16 years of age. It is a subset of arthritis seen in childhood, which may be transient and self-limited or chronic. It is comparable to the disease '*Amavata*' in Ayurveda. In disease *Amavata*, *Ama dosha* is being directed into joints by the vitiated *Vata Dosha (Vyana Vata)* and affects the *Shleshma Dhara Kala* (can be correlated as synovial tissue inflammation), resulting in effusion and swelling of joints. Due to this restriction of movement and persistent unendurable pain confined patient to bed with limited working area. Approximately 0.05% of total adult population i.e., 2.5 million adults of India are victims of these ailment. A 19 years old male came to Ch. Brahm Prakash Ayurveda Charak Sansthan, Kayachikitsa special OPD with complaint of *Angamarda* (body ache), *Aruchi* (loss of appetite), *Alasya* (weakness), *Sandhi Shoola* (joint pain), *Sandhisopha* (joint swelling) over whole body joint and Morning stiffness in multiple joints etc. Examination, investigations and history leads to diagnosis of Juvenile Rheumatoid Arthritis (*Amavata*). So, patient was treated with internal and external Ayurvedic drugs, *Pathya*, *Apathya* and *Yogasananas*. The treatment modalities done showed marked improvement in the patient's signs and symptoms and blood investigations and hence, Treatment through Ayurveda has effective results in the management of Juvenile Rheumatoid Arthritis (*Amavata*).

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INTRODUCTION

Juvenile rheumatoid arthritis is the most common type of arthritis in children. Arthritis is a long-term condition characterized by stiffness, swelling, and pain in the joints. JRA is an autoimmune disorder, which means that the body mistakenly identifies some of its own cells and tissues as foreign.^[1] The immune system, which normally helps to fight off harmful, foreign substances such as bacteria or viruses, begins to attack healthy cells and tissues. The result is inflammation which is marked by redness, heat, pain, and swelling. JRA is considered to be a multifactorial condition. Multifactorial inheritance means that many factors are involved in causing a health problem. The factors are usually both genetic and environmental, where a combination of genes from both parents, in addition

to unknown environmental factors, produce the trait or condition. Often one gender (either males or females) is affected more frequently than the other in multifactorial traits. Multifactorial traits do recur in families because they are partly caused by genes.^[2]

Amavata is a chronic, degenerative disease of the connective tissue mainly involving the joints. Swelling and pain in multiple joints are the main features of *Amavata* (Rheumatoid arthritis).^{[3],[4]} Constant use of incompatible food articles and strenuous exercise immediately after consumption of fatty foods leads to indigestion. This results in the formation of *Ama* which gets circulated throughout the body by *Vyana Vayu*. This then accumulates at *Shlesmathana*, and especially at the *Shleshaka-*

kapha, i.e., in the joints leading to the manifestation of symptoms of the disease. Body pain, loss of appetite, fever, weakness, excessive thirst and heaviness are also manifested.^[5] Involvement of joints restricts the normal body movements which may lead to contracture of muscle and permanent deformities. ^[6] Blood investigations show a high erythrocyte sedimentation rate (E.S.R.) and positive Rheumatoid arthritis (RA) factor in 30-40% cases. Prognosis of *Amavata* is poor especially in those cases where *Tridoshas* are involved.^[7] The principles of treatment of *Amavata* are *Langhana* and *Swedana*; and drugs having *Tikta*, *Katu Rasa*, *Deepana*, *Virechana*, *Snehapana* and *Basti* properties.^[8] Many Ayurvedic formulations are claimed to be effective in *Amavata*, however, scientific evidence needs to be produced. The need to establish a firm scientific basis for classical *Ayurvedic* formulations is now being felt. Though ample research work has been done on the disease *Amavata*, satisfactory results have not been obtained till date.

MATERIALS AND METHODS

Case report: A Male patient aged about 19 yrs visited OPD of Kayachikitsa, Ch. Brahm Prakash Ayurveda Charak Sansthan, Khera Dabar presenting with complaints of *ī* (body ache), *Aruchi* (loss of appetite), *Alasya* (weakness), *Sandhi ruk* (joint pain), *Sandhisopha* (joint swelling) and morning stiffness of the joints since, 9 months.

History of present illness: Nine months before, the patient had a gradual onset of stiffness and pain in the right knee joint followed by symptoms in the left knee joint. Gradually pain and stiffness developed in bilateral ankle joints, toes, bilateral wrist joints. The pain was so severe that it was associated with swelling and felt difficulty while initiating any action and aggravated on exposure to cold. The symptoms subsided by application of heat. There is occasional night starts present. He feels comfortable after taking *Ayurvedic* medicines. Hence, He came to our hospital for better management.

History of past illness: H/o Normocytic Normochromic Anaemia 10 month before.

Treatment history: H/o taken pain killers for Arthritic complaints 9 months before.

Personal history: On Examination of patient, pallor was present, tongue was clear and he is vegetarian in diet style. Pulse rate is 62/min. His appetite was poor. Occupation is student. Heart rate is 60/min with 110/70 mmHg. Bowel history is 1- 2times/day and frequency of Bladder is 3-4 times/day, 1-2 times at night. He has disturbed sleep due to severe

arthritis pain. He does not have any complains of stress or emotional disturbance.

On Systemic examination of Musculoskeletal system: On Inspection: Swelling present on Lt. wrist joint, B/L knee joints. On Palpation: Tenderness present on B/L shoulder, wrist and knee joints. Tenderness also on thoracic spine and Sarco- iliac joint. The range of Movements are Painful movements of B/L shoulder joints, B/L wrist joints, B/L knee and ankle joints, MTP joints. Lateral flexion of lumbosacral spine painful.

A.) Grading of *Sandhisotha*

- Severity of swelling:
 1. No swelling - Grade 0
 2. Slight swelling -Grade 1
 3. Moderate swelling- Grade 2
 4. Severe swelling -Grade 3

B.) Grading of *Sandhigraha*

- Severity of Stiffness
 5. No stiffness - Grade 0
 6. 5 min to 2 hrs- Grade 1
 7. 2 hrs to 8 hrs - Grade 2
 8. More than 8 hrs- Grade 3

C.) Grading of *Sparshasahatwa*

- Severity of tenderness:
 9. No tenderness- Grade 0
 10. Subjective experience of tenderness - Grade 1
 11. Wincing of face on pressure- Grade 2
 12. Wincing of face and withdrawal of the affected part on pressure- Grade 3
 13. Resist to touch- Grade 4

Investigations: 1. Hb 2. TLC 3. DLC. 4. LFT 5. KFT 6. Anti CCP 7. Serum CRP 8. TSH 9.ESR 10. R.A. Factor

Diagnosis: Juvenile Rheumatoid Arthritis (*Amavata*)

Treatment plan

Oral medication

1. *Erand snehpana* 20 ml at bed time with warm water.
2. *Sudarshan churna* 2 gm thrice a day with warm water before food.
3. *Punarnavadi Mandoor* (250 mg) 2 tab twice a day with decoction of *Erandmooladi Kwath* 40ml twice a day empty stomach.

Panchakarma Procedures:

1. *Sarvanga Ruksha Valuka Swedana* (Sudation - whole body with sand)
2. *Vaitarana Basti* (type of medicated enema) mentioned in Table

Drug Posology:**Table1: Ingredients of Punarnava Mandura^[9]**

S. No.	Ingredients	Latin name	Proportion
1	Punarnava	<i>Boerhaavia diffuse</i> Linn.	1 part
2	Trivrita	<i>Operculina turpethum</i> Linn.	1 part
3	Shunthi	<i>Zingiber officinale</i> Rosc.	1 part
4	Maricha	<i>Piper nigrum</i> Linn.	1 part
5	Pippali	<i>Piper longum</i> Linn.	2 part
6	Vidanga	<i>Embalia robusta</i> C.B. Clarke	1 part
7	Devdaru	<i>Cedrus deodara</i> (Roxb.)	1 part
8	Kushtha	<i>Saussurea lappa</i> C.B. Clarke	1 part
9	Haridra	<i>Curcuma longa</i> Linn.	1 part
10	Daruharidra	<i>Berberis aristata</i> DC.	1 part
11	Amalaki	<i>Embalica officinalis</i> Gaertn	1 part
12	Bibhitaki	<i>Terminalia belliricia</i> Roxb.	1 part
13	Haritakai	<i>Terminalia chebula</i> Retz.	1 part
14	Danti	<i>Baliospermum mountanum</i> (Wild.)	1 part
15	Chavya	<i>Piper chaba</i> Hunter.	1 part
16	Indrayava	<i>Holarrhena antidysenterica</i> (Roxb. Ex Flem.) Wall	1 part
17	Pippalimula	Root of <i>Piper longum</i> Linn.	1 part
18	Musta	<i>Cyperus rotundus</i> Linn.	1 part
19	Chitraka	<i>Plumbago zeylanica</i> Linn.	1 part
20	Mandura Bhasma	Incinerated red oxide of iron	40 parts
22	Gomutra	Cow's urine	Q.S.

Ingredients of Vaitarana Basti^[10]

Guda (Jaggary), *Saindhava Lavan* (Rock salt), *Tila Taila* (Sesame oil), *Chincha* (*Tamarindus indica*) and *Gomutra* (Cow urine).

Saindhava lavana (Rock salt)- 1 *Karsha* (12 gm.)

Chincha (*Tamarindus indica*)- 1 *Pala* (50 gm.)

Guda (Jaggary)- ½ *Pala* (25 gm.)

Tila taila (Sesame oil) - (50 ml.)

Gomutra (Cow urine) - 1 *Kudava* (200 ml.)

Method of Preparation

Mix *Guda* (25gm.) in water and evaporating required quantity of water so as to make the solution dense to be used as honey - 60ml then *Saindhava Lavana* is added - 12gm. After that *Moorchita Tilataila* is added - 50ml. *Chincha* (*Tamarindus indica*) is put first in hot water, mixed well and filtered. Then the liquid is added to the above mixture -60ml. Lastly 200ml. of *Gomutra* (Cow urine) was added slowly and mixing continued so, as to have uniform *Basti Dravya*.

Pathyapathya^[11]**Pathya**

Purana Shali, *Yava*, *Shrutshit Jala*, *Gomutra*, *Lasuna*, *Aadraka Patol*, *Karvellaka*, *Shigru*, *Takra*, *Kulatha Yush*, *Ruksha Sweda* with *Baluka Potali*.

Apathya

Navanna, *Dwidala*, *Masa*, *Kheera*, *Dahee*, *Anupdeshiya Mansa*, *Purvi Vata Sevana*, *Vega Vidharana*, *Ratri Jagarana*, *Vishamasan*. *Dravyas* possessing *Guru*, *Snigdha*, *Ati Drava*, *Pichchhila Guna*, *Abhisyandi* property are considered as *Apathya* for *Amavata*. For better understanding, we can summarize the *Pathyapathya*. It is good to consume little less quantity of food which facilitates the action of *Pachaka Pitta* which will help to control the formation of *Ama*. Since the diet which aggravates the *Kapha*, also contributes the formation of *Ama*. Thus, dairy products, oily food items, salty and sour food articles should be avoided. Consumption of incompatible food items i.e., *Viruddha Ahara* should be strictly avoided since, it is considered to be a chief etiological factor of the disease. Nuts in general are not good for *Kapha*;

they are heavy and mucous forming and hence tend to increase the formation of *Ama*. So these should also be avoided. Cold beverages, cold water, ice cream should be avoided as they can precipitate the disease. Cold breeze, bathing with cold water should also be avoided strictly. Proper amount of exercise and maintaining the regularity in exercise are considered to be prime importance in prevention of disease. It is good to take a short walk after taking food in routine to avoid *Ama* formation.

It is better to avoid excessive water intake after consuming food as it interferes with the concentration of the digestive enzymes and slows down the digestive process.

OBSERVATION AND RESULT

The observation and results are displayed in this Table represent the improvement in objective criteria assessment of the patient.

Table 3: Assessment of Symptoms

		Before treatment				After treatment		
		Joints	Knee	Ankle	Wrist	Knee	Ankle	Wrist
1.	<i>Sandhishool</i>	Left	1	2	2	0	0	0
		Right	2	1	2	0	0	0
2,	<i>Sandhishotha</i>	Left	2	1	2	0	0	1
		Right	2	2	1	0	1	0
3.	<i>Sandhigrah</i>	Left	1	1	1	0	0	0
		Right	2	1	2	0	0	1
4	<i>Sparshaasahtva</i>	Left	1	2	2	1	0	0
		Right	1	2	1	0	0	0

Table 4: Assessment of objective criteria

S. No.	Criteria	Before Treatment (23/07/2018)	After Treatment (31/01/2019)
1.	HB	11.8 gm/dl	12.2 gm/dl
2.	Anti C.C.P.	1021.96 RU/ml	694.43 RU/ml
3.	ESR	30 mm/hr	18 mm/hr
4.	R. A. Factor	21.96 Iu/ml	
5.	RBC Count	4.2 mill/cmm	4.33 mill/cmm
6.	Globulin	4.2 gm/dl	2,29 gm/dl
7.	Sodium	149.4	134.1 mmol/L
8.	CRP	39.5 mg/l	

DISCUSSION

Ama is chief pathogenic factor in ailment of *Amavata*, which is produced as result of *Mandagni*. So first aim in management of disease is suggested to be prevention of formation of *Ama*, its *Pachana* by stimulating *Jatharagni* which achieved by taking *Katu, Tikta Rasatmak and Deepana, Pachana Guna* prominent drug. The signs and symptoms of Rheumatoid Arthritis can be correlated to that of *Amavata*. In this case, the patient presented with multiple joint pain and swelling along with morning stiffness and early fatigue. It can be compared to the *Amavata* features like *Angamarda, Alasya, Angashoonta, Sarujam sotham in Joints*. Along with that other *Ama* features like *Jihwa Upalepa, Aruchi* etc also was seen. Drugs having *Ushna, Tikshna, Deepana, Pachana, Shothahara, Vedanahara* properties can be the choice of drugs for the treatment of the complaints. [12]

Probable mode of action of Erand (Castor oil) [13] *Erand tail* has *Vata-kapha-shamaka* property which is more specifically required in the disease RA. Along with this it is also have *Ushna Virya* and *Ama Pachana* properties. Ricine present in the *Eranda Taila* on action of lipase enzyme gets hydrolyzed to Recionelic acid which is responsible for purgation.

Probable mode of action of Sudarshana Ghana Vati: In the first stage of disease pathogenesis, *Amotpatti* takes place. At this stage, *Sudarshana Ghana Vati* shows *Amapachana* as all the pharmacodynamic properties of *Sudarshana Ghana Vati, i.e., Lahgu, Katu, Tikta Rasa, and Ushna Veerya* are against the *Guru, Snigdha, Picchila and Sheeta* properties of *Ama*. Also, *Sudarshana Ghana Vati* has some anti-oxidant properties which act against *Ama*. Further, *Ama* formation is stopped by the

Deepneeya action. In the *Srotoabhishyanda*, it shows *Srotoshodhana* and relieves the symptoms of *Sandhishula*, *Shotha*, and *Aruchi* by its analgesic and anti-inflammatory action. So it is very suitable for the *Samprapti Vighatana* of the disease and to combat the main culprits of *Vata*, *Kapha (Ama)* and *Mandagni*, the root causes of *Amavata*.^[15]

Probable mode of action of Punarnava Mandoor:^[16] Most of the drugs in that is *Triphala*, *Trikatu*, *Chitraka*, *Vidanga* and *Pippalimula* are having appetizer, digestive and carminative properties. Hence it improves digestive power and ultimately absorption of nutrition and drug also. The components like *Trivrita*, *Haritaki* and *Danti* act as purgative/laxative which help in relieving constipation mainly found in old age. *Haridra*, *Amalaki*, *Pippali*, *Punarnava* and *Trivrita* are thought to be *Panduhara* by various *Acharyas*. Other drugs that is *Amalaki*, *Danti*, *Pippali*, *Punarnava*, *Kushtha* and *Daruharidra* are documented as drugs which are having immunomodulator and antioxidant properties. Hence, they may have the potential to confer beneficial health effects due to their antioxidant activity and thus useful in anaemia.

Tikta Rasa is *Akasha* and *Vayu Mahabhuta Pradhana* and is best *Ama Pachaka* as well as *Agni Deepana*. *Katu Rasa* is *Vayu* and *Agni Mahabhuta Pradhana*. *Chhedana* and *Lekhana* properties of such drugs help to cure *Dosha Sammurchhana* and *Srotobhishyanda*.^[17]

Probable mode of action of Ruksha Valuka Sweda^[18]

Amavata is a *Vata Kapha Pradhana Vyadhi* having *Stambha*, *Gaurava* and *Shita* as *Pradhana Lakshanas* and *Svedana* is mainly indicated in *Vata Kaphaja Vyadhi*. *Svedana* indicated here is *Ruksha Svedana (Valuka and Pottli)*.

Probable mode of action of Vaitran Basti^[19]

The *Basti* therapy is considered as prime in the treatment of *Amavata* diseases, *Saindhava Lavana* by its *Sukshma* and *Tikshna* properties, it helps to pass the drug molecule in systemic circulation through mucosa. Thus, it helps the *Basti Dravya* to reach up to the molecular level. It is also helpful for the elimination of waste due to its irritant property. It can liquefy the viscid matter and breaking it into minute particles. In this *Basti* instead of honey (*Madhu*) *Jaggary* was used. It along with *Saindhava* makes homogenous mixture, to form a solution having properties to permeable the water easily. The retention of the irrigative substances may be favoured by making its solution as nearly isotonic as possible by using colloidal fluids. Here, *Purana*

Guda should be taken as it is *Laghu*, *Pathya*, *Anabhishyandi*, *Agnivardhaka* and *Vatapittaghna*. It also helps in carrying the drug up to micro-cellular level. In this *Basti*, *Tila Taila* mixed with the solution of *jaggary* and *Saindhava* help in forming the uniform mixture. *Chincha* is having *Vata-Kaphashamka*, *Ruksha* and *Ushna* Properties. These properties of the *Chincha* make it useful for the disease *Amavata*. In *Vaitarana Basti*, the *Gomutra* is chief content, which owing to its *Katu Rasa*, *Katu Vipaka*, *Ushna Virya*, *Laghu Rausha* and *Tikshan Guna* Pacify the *Kapha*. It is having *Tridosahara*, *Agnideepana*, *Pachana*, *Srotovishodhana* and *Vatanulomana* properties.^[20]

CONCLUSION

Amavata is terrifying ailment, capable of producing disability. In Ayurvedic texts categorize it under *Krichhasadhya Vyadhi* and are challenging issue for contemporary medical science also owing to changing lifestyle. It can conclude that RA can be cured completely or manage well with Ayurveda medicines and *Panchakarma*. There are no chances of recurrence if person follow the Ayurvedic concept of healthy life style and regular cleansing of body through *Panchakarma*. It can be choice of management of auto-immune disorder like *Amavata* through traditional medicine without any complication.

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Cite this article as:

Jitendra Varsakiya, Singh. N. R., Alisha. Management of Juvenile Rheumatoid Arthritis (Amavata) Through Ayurveda: A Case Study. AYUSHDHARA, 2019;6(1): 2015-2020.

Source of support: Nil, Conflict of interest: None Declared

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