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AN OBSERVATIONAL CLINICAL STUDY OF JALUKA IN MANAGEMENT OF AMAVATA (RHEUMATOID ARTHRITIS)

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ABSTRACT

Leech therapy is used in the Indian system of medicines from the ancient era. In Ayurveda, it is considered as regimental therapy. Amavata (Rheumatoid Arthritis) is one of the most challenging diseases caused by ama combining with vitiated Vata. It causes swelling, pain, and stiffness of joints. A total of 40 patients having Amavata were taken from OPD and IPD wards; between ages 16-60 years. Jalauka (Leech) was applied to the affected knee joint as described in Ayurveda textbooks.

As per Ayurveda Leeches first suck the vitiated blood resulting in a reduction in vitiated rakta and also there is the removal of srotoavrodha of vatadosha this both changes reduce the pain and inflammation. From the study, it can be concluded that Jalaukavacharana can be an ideal therapy for pain management in inflammatory painful joint disorders, as it helps not only in reducing pain but also reduced swelling and redness without any side effects. Apart from the mainline of treatment, this can help reduce the signs of Amavata.

KEYWORDS

Amavata, Ajmodadi, Rheumatoid arthritis, Vatak.

INTRODUCTION

Ayurveda is hope for suffering humanity in today's world where no one found a complete treatment solution for the commonest chronic inflammatory joint disease Amavata (Rheumatoid Arthritis). This causes swelling, pain, and stiffness of joints. A chronic condition may cause debility, deformities of joints, and crippling¹. Amavata is a condition where the stiffness of the body occurs due to lodging of vitiated Ama & Vata in Trika Sandhi, potent cause is diminished function of Agni at Jatharagni, Bhutagni, and Dhatwagni level. Amavata is Amashayothha Vyadhi, it is produced due to the improper functioning of the digestive system².

In the present days as per the senses and suffering of humanity, there is a great prevalence of joint disorders for various reasons and which is causing deformity in many suffering individuals. Rheumatoid Arthritis is one among them which is leading to various vital abnormalities. Apart from that this disease is mainly routed with abnormal and unhygienic food contents in day today life³. Acharya Madhavakara was the first author who has described Amavata as a separate disease entity in his text "Roga Vinishchaya" which is later on known as "Madhava Nidana"⁴. Acharya Madhava was the first scholar to describe the disease Amavata as a separate entity. He also gives the appropriate definition of Amavata as "when vitiated Vata and Ama simultaneously enters in the Kosta, Trika, and Sandhi leading to stiffness of the body and Trika sandhi vedna. This dreadful disease is known as Amavata."⁵

Raktamokshana is a para-surgical procedure directed for the treatment of specifically Raktaja roga (bloodborne diseases), along with many other surgical diseases. Bloodletting as a method of treatment is indicated in Gout Arthritis (Vatarakta), filariasis, herpes, tumors, various skin disorders, genital infections, abscess, inflammatory conditions, cellulitis, painful ulcers, and chronic ulcers. On the other hand it is found to be contraindicated in generalized swelling, swelling in those suffering from anemia, piles, phthisis and in pregnancy. The first description of leech therapy, classified as bloodletting, was found in the text of Sushruta Samhita (dating 800 B.C.).

Medicinal leech therapy made an international comeback in the 1970s in microsurgery, used to stimulate circulation to salvage skin grafts and other tissue threatened by postoperative venous congestion particularly in finger reattachment and reconstructive surgery of the ear, nose, lip, and eyelid. Other clinical applications of medicinal leech therapy include varicose veins, muscle cramps, thrombophlebitis, and osteoarthritis, among many varied conditions⁶.

With such conceptual things in mind, the present research work was undertaken to study the effect of jaluka (Leech) in the treatment of Amavata.

MATERIALS AND METHODS

Source of Data: A total of 40 patients of Amavata were randomly selected for the present study, from the Kayachikitsa OPD and IPD of Sir Sunder Lal Hospital, Institute of Medical Sciences, Banaras Hindu University, Varanasi. The case selection was random regardless of sex, occupation, and socio-economic conditions seropositive & seronegative conditions. Both acute and chronic phase of Amavata patients were taken for the study, following the criteria diagnosis of rheumatoid arthritis in Modern Medicine and the clinical features of Amavata described in Madhava Nidana.

Inclusion Criteria

1. Diagnosed cases of Amavata and Rheumatoid Arthritis
2. Age >16 years but less than 60 years
3. Patient willing to participate in the above trial

Exclusion Criteria

1. Patient with deformities & systemic complications.
2. The patient suffering from DM, HTN, Tuberculosis, Asthma, and other diseases.
3. Pregnant and lactating women
4. Patient discontinuing the trial drug with or without information to the investigator
5. Non-willing patients.

Stages and Grouping

Group 1: 20 patients of this group were applied by Jalauka over various affected joints.

Group 2: 20 patients of this group were given control group drug celecoxib 100mg bd.

METHODOLOGY

The selected patients were interrogated by their family members too to obtain detailed information about the patients as well as the disease and the following data were collected.

- **Demographic profile:** patient's name, Age, Sex, Occupation. Religion, Socio-economic status, Marital status, Deha prakriti, Effect of weather Family history, Dietary habit, Habitat, Agnibala, Bowel habit and Duration of illness, etc.
- **Clinical profile:** Chief complaints with the total duration of illness, Precipitating factors: In relation to time, weather, work, etc.; Onset of Disease: Acute, Subacute, Chronic; Biographic details like Family history, Occupational history, Menstrual history (If female), Any allergic disorder, etc.

➤ **Subjective parameters:** Study of symptomatology of Amavata was done apart from modern clinical features and the following 8 points were selected from Madhava Nidana for the present study:

1. Angmarda (Bodyache)
2. Aruchi (Loss of taste)
3. Trishna (Thirst)
4. Alasya (Lack of enthusiasm)
5. Gaurav (Heaviness)
6. Jwara (Fever)
7. Apaka (Indigestion)
8. Shuntaanganam (Swelling of the body)
9. Above symptoms of Amavata were assessed by the following symptom rating scale:

Physical Examination: Under the physical examination patient's general condition, pulse rate, blood pressure, pallor, icterus, cyanosis, lymphadenopathy, thyroid status, and body weight were recorded at the basal level and each successive follow-ups.

Systemic Examination: Detailed examination of G.I.T., cardiovascular system, respiratory system, central nervous system, urogenital system, and locomotor system were undertaken. Apart from the routine examination of the locomotor system like examination of swelling, stiffness, deformity, restriction of joint movement, some special tests like walking time, grip power of hands were also done to assess the functional ability of the joints. All these were recorded at each successive follow-ups and taken as the criteria for improvement of the patients of Amavata.

Objective Parameters: For the purpose of diagnosis of a disease, its assessment, severity, clinical improvement and to assess the possible side effects, certain routine and specific investigations were performed in every patient viz:

- Hematological investigations: Total leucocytes count, Hemoglobin, Erythrocyte Sedimentation Rate, TLC, S. Creatinine, SGOT, SGPT, RBS, T.bilirubin
- C-Reactive Protein (CRP titre)
- Rheumatoid factor (RA titre)
- Normal level: titre
- Anti-CCP
- Clinical Assessment of the Disease

Follow-up Study: All the cases were followed up at the interval of 1 month for a total 3 months duration.

Statistical Analysis: The data collected were analyzed using statistical software SPSS (Version 16.0) for the various sign and symptoms number and percentages of grades for different groups were calculated and to test the significance of the difference between various follow-ups within the group for symptoms grade, Friedman Chi-square test was applied. Chi-square (χ^2) was used to find out the significant difference among the groups. Wherever expected frequency came less than 5, Chi-square had been calculated after suitably pooling the rows/columns. Mean and S.D. of investigations at different follow-ups was calculated for all the groups. Wilcoxon Signed-Rank test was used to see the effect of drugs from baseline to different follow up in quantitative variable. Non-parametric ANOVA (Kruskal-Wallis & Mann Whitney method) was used to infer any significant difference among the groups.

APPLICATION OF JALUKA (Leech)

Preparation of Jalauka: Jalauka was taken from the pot and then kept in turmeric water for 5-10 minutes. It was then kept in normal water for 5 to 10 min and then applied on the affected part.

Preparation of the patient: Examination and preparation of the patient for Jalaukavacharana including identification of most painful point at the knee joint. All the procedures were fully explained to the patients in their local language. The patient was instructed not to use any ointment before and after treatment on that part.

Pradhana karma: Jalauka was applied to the most painful point of the affected knee joint. The Jalauka was observed whether it was sucking properly or not. The Jalauka was kept on the affected area till it detaches itself but if the patient feels any discomfort in the form of itching burning etc on that area Jalauka was detached by sprinkling the turmeric powder over its mouth.

Paschat karma: Haridra (Turmeric) powder has been used for local application to stop bleeding after removal of Jalauka. The bandage has been applied to the site of Jalaukavacharana. Vamana of the Jalauka has done after its removal.

OBSERVATION AND RESULTS

Jalaukavacharana can be an ideal therapy for pain management in inflammatory painful joint disorders commonly due to RA, Gout, and osteoarthritis, as it helps not only in reducing pain but also swelling and redness without any side effects. It is one of the safe, effective, local acting bloodletting therapy widely used worldwide.

Criteria for Assessment:

Bodyache (Angmard)

0 = No body ache

1 = less than 1 hr

2 = 1-2 hrs

3 = more than 2 hrs

Loss of taste (aruchi)

0 = No loss of taste

1 = Mild loss of taste

2 = Moderate loss of taste

3 = Severe Loss of taste

Thirst(trishna)

0 = Normally drinks water 2-3 l/day

1 = 3-4 l/day(feeling present only)

2 = 4-5 l/day(frequent feeling of thirst)

3 = Excessive water intake of more than 5 l/day

Lack of enthusiasm (Alasyam)

0 = Absent

1 = Loss of enthusiasm on excess work

2 = Loss of enthusiasm on moderate work

3 = Loss of enthusiasm on mild work

Heaviness

0 = No heaviness

1 = Mild less than 30 mins localized

2 = Moderate for 30-60 mins generalized

3 = Severe greater than 60 min generalized

Fever

0 = Normal body temperature

- 1 = Mild less than 99 degree F
 2 = Moderate 99-100 F
 3 = Severe greater than 100 degree F

Indigestion

- 0 = Gets normal appetite and digests in 3 yaam
 1 = Digestion in 3-4 yaam
 2 = Digestion in 4-5 yaam
 3 = Digestion more than 5 yaam

Swelling of the body

- 0 = No swelling of the body
 1 = Mild swelling
 2 = Moderate swelling in localized few joints
 3 = Severe in multiple joints and other parts of the body

The application of jalauka avacharan caused feasible relief in angmard (bodyache), Aruchi (Loss of taste), Trishna (Thirst), Alasya (Lack of enthusiasm), Gaurav (Heaviness), Jwara (Fever), Apaka (Indigestion), and Shuntaanganam (Swelling of the body). Systemic examination showed that; Groups 1 shows no significant changes in the values of Hb, ESR Urea level but group 2 i.e control group showed a significant decrease in the value of all these. Hb decrease in group 2 is due to aam dusti rasa formed which is morbid leading to faulty rakt dhatu hence it will cause reduced Hb; ESR due to its anti-inflammatory actions and increase in urea which may be due to its mild nephrotoxic activity.

Total bilirubin level was found to increase in both the groups; in group 1 rise may be due to AS it has no systemic applications. SGOT, SGPT shows slight decrement in group 1 while the increase in values was observed in group 2. In group 2 due to the mild hepatotoxic nature of the drug control group, it showed a mild increase in the amount of total bilirubin; SGOT, SGPT levels. Overall reduction was observed in the CRP, Anti CCP, and RA factor in both the groups. But the most highly significant values in the reduction of CRP level were found in group 2 whereas the mild increase in total RBS was noted in group 2 might be due to increased glucogenesis induced by cox2 inhibitors.

DISCUSSION

Disease amavata can be correlated to Rheumatoid Arthritis, which is one of the chronic destructive polyarthritis systemic diseases. The exact etiology of the disease remains unknown, but the pathognomic nidana like Ama is believed to act as autoantigen, which triggers the immunological reaction in genetically susceptible individuals. Primarily the samprapti originates in the annavaha srotasa then branches out through the madhyama roga marga, with special inclination for sleshma sthana especially sandhi. Sandhishoola, sandhishotha, stabdhata, and sparshasahyata are the salient feature of the disease.

The disease amavata run a chronic course and jadya (stiffness), sankocha (contracture), angavaikalya (deformities), etc. are responsible for crippling the patients in the long run. The disease amavata is diagnosed on symptomatology, specific laboratory tests like anti-CCP help in diagnostic and RF & ESR help in the prognosis of the disease. Some of the symptoms of pravridha amavata and its upadravas can be considered as the extra-articular manifestations of RA. As the disease is genetic and autoimmune in origin the permanent complete remission is not possible. But ayurvedic management can help to decrease the symptoms of amavata. The specific ayurvedic line of management and drugs helps in decreasing the autoantigens and may act as modifying the immune response to autoantigens.

CONCLUSION

Jalaukavacarana (leech therapy) is a method of local Raktamokshana which is easy to apply on the painful joint. Considering all these facts, this study is planned to evaluate the effect of Jalaukavacarana in the management of joint pain in patients who do not get relief from the pain even after proper Ayurvedic treatment. Reduction in pain after Jalaukavacharana is highly significant. This suggests that in various painful joint diseases, Jalauka reduces pain satisfactorily. This study shows a highly significant decrease in joint pain by Jalaukavacharana. improvement in pain might be due to the main pathology in knee joint disorders is inflammation and it can be useful in Amavata.

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