TO EVALUATE THE EFFICACY OF BALA TAILA MATRA BASTI W. S. R. TO RANGE OF MOTION IN PATIENTS OF ‘JANU SANDHIGATAVA’ VIS-À-VIS ‘OSTEOARTHRITIS-KNEE JOINT’

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ABSTRACT

Aims and Objectives: Aim to investigate whether the procedure of Matra Basti with Bala Taila has any effect on ‘Range of motion’ in the patients of Osteoarthritis of Knee Joints. Materials and Methods: A total of 20 patients having Osteoarthritis of knee joints were included in the present study. Patients were administered with “Matra Basti using Bala Taila” after giving snehan and svedana to them. The time of administration of Basti, time of expulsion and samyaka anuvasita lakshanas were noted on each day. The readings for range of motion for both knee were noted before treatment and after treatment of 7 days. Observation: Twenty patients of osteoarthritis of knee joint of age group 40 to 70 years irrespective of sex, religion and socioeconomic status were included for the study. Patients having systemic disorders, which might interfere with the treatment and those having traumatic conditions were not included in the study. Results: The study showed significant improvement in range of motion scores after administration of Matra Basti with Bala Taila. Conclusion: The administration of Matra Basti using Bala Taila has significant results for the improvement of ‘range of motion’ in the patients of Osteoarthritis of Knee Joints. Key words: Bala Taila, Matra Basti, Sandhigata Vata, Janu, Osteoarthritis, Knee Joint, Range of motion.

KEYWORDS: Matra Basti, Bala Taila, amyaka anuvasita lakshanas, Sandhigata Vata.
INTRODUCTION
Ayurveda propagates wholesome health. Its objectives are to preserve the health of the healthy and cure the ailment of the ailed. These objectives lead to an improved quality of life for all people. There are innumerable diseases that are barriers in attaining these objectives.

All the diseases in the body whether in shakha, kostha or marma pradesha are inspired mainly by vata.\(^1\) Sandhi-gata-vata is one such disease in which the vitiated vata localizes in the asthi-sandhis of the body. It is a condition common in the vriddha awastha coinciding with the vata predominant phase of life. Such a condition, when affecting the knee joints, is termed as JanuSandhigatavata. In ayurvedic terminology, janu refers to the knee joint.

Sandhigata vata is correlated with Osteoarthiritis. It is a degenerative joint disorder which may begin asymptotically in the second and third decades of life. Knee joint is a common site for osteoarthiritis. The major risk factors associated with knee joint are old age, female sex, obesity and occupational knee-bending. Its treatment includes administration of pain killers like NSAIDS (non steroidal anti inflammatory drugs), Narcotics, Corticosteroids, Intra articular injections and other remedies, which gives only temporary relief. Surgery (Knee replacement) is the last resort. These are quite expensive, need hospitalization and often cause adverse effects.

Basti Chikitsa is considered the best management of vitiated vata.\(^2\) The panchkarma procedure of Basti has been hailed as ‘arda chikista’, that is, half of the whole treatment by acharyas.\(^3\) Anuvasana Basti is a type of Basti\(^4\) in which Sneha dravya is given by Basti. Matra Basti is a type of Anuvasana Basti.\(^5\) It is explained that this type of Basti can be given to almost everybody, in all the seasons, without any strict regime of ahara and vihara and it is nishpariharya,\(^6\) i.e, it can be given with maximum ease and has no complication thereafter.

Janu is a Sandhi Marma.\(^7\) It is explained in Charaka Samhita that for the management of the diseases at marma sthana, vata dosha should be treated.\(^8\) Basti is considered most effective for the management of vata; summing the above points Basti might be considered most rewarding in the treatment on Janushandhigata vata.

Charaka refers to taila as ‘marutaghana’. Taila is mentioned to reduce vata without increasing kapha. It also stabilizes the mansa dhatu.\(^9\) Taila is used as drug of choice in anuvasana Basti. Due to its sneha property it balances the rooksha guna of vayu, due to its
guru guna treats laghu guna of vayu and due to its ushna guna takes care of the sheethala guna of vayu. Acharya Sushruta mentions snehana (outer/internal) for management of Sandhigatavata. Asthi dhatu has kharatva which is also combated by taila. So we can say that taila can be used to treat sandhigata vata and bring normalcy to the dhatu.

In the present study Bala Taila is used as sneha dravya in Matra Basti for the management of Janusandhigata Vata. In Sahastrayogam, Bala Taila as ‘Shrestha Vata Vyadi Vinashanam’ and can be used as a Sneha for Matra Basti.

METHODS

Study Design and Patients: A sample of 20 patients with JanuSandhigatavata were selected for the study. All the patients were given Matra Basti with Bala taila.

Inclusion criteria were as follows: Patients with Pratyatma Laksana of Sandhigata Vata; Patients of age group 40 to 70 years irrespective of sex, religion and socioeconomic status; patients who are fit for Matra Basti and were willing to sign the informed consent.

Exclusion criteria were: Patients having systemic disorder which might interfere with the treatment, Patients who were not fit for Matra Basti, Patients with infective Neoplasic and traumatic condition of Knee joint.

Procedure

The patients who fulfilled the inclusion criteria were subjected for routine Haematological examination and Antero-Posterior View & Lateral View X-ray of affected Knee joint. Before commencement of the treatment an informed consent was taken from the patients, and the patients were evaluated for both Subjective and Objective parameters and grading were noted.

Patients were subjected to whole body snehana for 30 minutes followed by baspa sweda for 10 minutes. Bala taila was used for bahaya snehana. The patients were asked to consume laghu and alpa ahara. The patient was then asked to attend natural urges and walk a few steps before reaching the Basti room.

The patient was advised to lie comfortably in left lateral position on a cot. The cot was of comfortable height. The patient was asked to lie with left leg stretched straight and the right
leg flexed at knee and hip joints without support of pillow. The head resting on left hand with the right hand resting on the right leg.

_Bala Taila_ was taken in a small container. The _taila_ was made lukewarm by keeping it in a vessel containing hot water.

The _taila_ was taken in an enema syringe fitted with rubber catheter. The anal orifice and the tip of the catheter were lubricated with oil. After removing the air from the syringe and the catheter, the catheter was introduced into the anus gently upto 4 inches. The piston of the syringe was pressed gently and with uniform force and the _taila_ was into the rectum.

The patient was asked to take deep breath and not to shake his body while introducing the catheter and drug. Small quantity of _taila_ was retained in the syringe in order to avoid entrance of air into the _pakvashaya_ (intestine/rectum).

After the administration of _Basti_, the patient was advised to lie in supine position with hand and legs freely spread over the table. Thereafter both the legs of the patient were raised from the cot three times. The buttocks were gently tapped three times. Simultaneously taps were given on the soles and palms also. After sometime patient was advised to get up from the table and take rest and not to indulge in day sleep.

The time of administration of _Basti_, time of expulsion and _samyaka anuvasita lakshanas_ were noted on each day. The readings for range of motion were noted before treatment and after treatment of 7 days. Goniometric Method was used to measure the range of motion.

The subjective criteria were scored in accordance with Index of severity of Osteoarthritis of the Knee by Lequesne et’al.

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<tr>
<th>Parameters</th>
<th>Findings</th>
<th>In cms</th>
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<tbody>
<tr>
<td>Range of Movement (Goniometric Method)</td>
<td>Right Knee Joint Flexion</td>
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<td></td>
<td>Left Knee Joint Flexion</td>
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The patients were assessed on the first day (before starting the treatment) and 7th day (after completion of treatment). As there is no strict restriction of diet and regimen for _MatraBasti_, no strict Pathya-Apathya was advised. If the patient develops urge to defecate or micturate or to pass flatus, then the Bastinetra should be removed, after completion of the urges the remaining medicines should be administered.
Ethics
The procedures in the present study were in accordance with the ethical standards of the responsible committee. Patients were given information saying that participation was voluntary and that they could choose not to participate at any time without having to give a reason.

Data analysis
A pre-test, post-test experimental group design was used for the study. Data was tabulated on master chart. Statistical analysis was performed using SPSS 16.0 version software. Independent T test was used for the analysis of pre-treatment and post-treatment finding. Significance level was set at P<0.05.

RESULTS
A statistically significant difference was observed within pre and post reading of range of motion. Pre and post analysis was done by Independent T test.

![Figure 1: showing pre-post analysis range of motion in right knee joint](Image1)

![Figure 2: showing pre-post analysis range of motion in right knee joint](Image2)
DISCUSSION

_Sandhigatavata_ is described in all _Samhita_ and Sangraha-Grantha under _Vatavyadhi_.

Various Aharaja, Viharaj, Manasa and other _Vata_ Prakopaka Nidanas are mentioned in _detaila_ for the occurrence of _Vatavyadhi_. Though, _Sandhigatavata_ usually occurs in Vriddhavastha which is parihanikala in which Dhatukshya takes place which leads _Vataprakopa_.

_Vata_ and _Asthi_ have Ashraya-Ashrayi Sambandha, this means that _Vata_ is Situated in _Asthi_. Vriddha- Increased _Vata_ diminishes Sneha from _Asthidhatu_ due to its opposite qualities to Sneha. Due to diminution of Sneha, Khavaigunya (Rikta Srotas) occurs in _Asthi_ which is responsible for the production of _Sandhigatavata_.

Osteoarthritis is the most common form of arthritis. It is a degenerative type of arthritis which mainly occurs in old age. Degeneration takes place in the joint which makes the individual disabled or handicapped. Degeneration occurs continuously in most of the patients which makes the person disabled for life long. It is a chronic degenerative disorder of multi-factorial etiology characterized by loss of articular cartilage and periarticular bone remodeling. It involves the entire joint including the nearby muscles, underlying bone, ligament, synonimum and capsule. The risk factors for osteoarthritis are old age, obesity, female sex, major joint trauma, repetitive stress, genetic factors, prior inflammatory joint diseases and metabolic or endocrine disorders.

Symptoms of _Sandhigatavata_ are _Sandhishula, Sandhishotha_, Akunchana Prasarana Janya Vedana and Hanti _Sandhi_ Gati described by various _Acharya_. Here, _Sandhishula_ and _Sandhishotha_ occurs due to _Vataprakopa_. A special type of Shotha i.e. _Vatapurna-driti-sparsha_ or Atopa is mentioned which indicates _Vata_ dominancy of Shotha. Akunchana-prasaranjanya-vedana and Hanti-sandhi-gati occurs due to Kaphakshya and _Vata_ Prakopa. Symptoms of Osteoarthritis are similar as of _Sandhigatavata_ i.e. Joint pain, Swelling, Stiffness, Disability and Crepitations over joint.

In the _Samprapti_ of _Sandhigatavata_, Prakupita _Vata_ gets situated in _Asthi Sandhi_ where Khavaigunya - Rikta Srotas is already present. Then _Dosha Dushya_ Sammucchana takes place in _Asthi Sandhi_ and further in _Samprapti_, the disease _Sandhigatavata_ appears with its symptoms.
Sandhigatavata is Kastasadhya vyadhi because all the Vatavyadhis are difficult to cure and they are said as Mahagada. So being a Vatavyadhi, Sandhigatavata is Kastasadhya. Madhyama Rogamarga, Situation in Marma Asthi Sandhi, Vitiation of Asthi and Majja, Dhatukshya, Vriddhavastha also makes it Kastasadhya. In Allopathy science, the scientists believe that once the disease Osteoarthritis has taken place, then it is very difficult to reverse or block that disease process. Till date, no treatment is available that can reverse or slow or block the disease process. Allopathy science has only palliative treatment for Osteoarthritis.

Acharya Charakaa has mentioned repeated use of Snehana, Svedana, Basti and Mrudu Virechana for the treatment of Vatavyadhi. He has not mentioned the treatment of Sandhigatavata separately. Acharya Sushruta has described specific treatment for the Sandhigatavata first time i.e. Snehana, Upanaha, Agnikarma, Bandhana and Unmardana.

Range of motion right knee: There was a significant improvement in the range of motion observed before treatment and after treatment (p<0.05) in the right knee joint.

Range of motion left knee: There was a significant improvement in the range of motion observed before treatment and after treatment (p<0.05) in the left knee joint.

Scope of Future Research
- Larger number of sample size should be included to confirm our results and generalize the results to population outside this sample population.
- Other parameters like pain, stiffness, difficulty in walking etc. should also be assessed for the patients.
- Same procedure using other taila should be studied to compare the relative efficacy of different tailas.

CONCLUSION
The present study is an attempt to explore the efficacy of Matra Basti in the management of Sandhigata vata. Bala taila has been used and its effects compared based on various parameters. Matra Basti can be used effectively and with ease in management of Sandhigata vata. Since it is one of the simplest forms of Basti and involves no complications it can be administered without much hassles or prolonged preparations. The ease of the procedure can be an encouraging factor for the physician to employ Panchakarma to provide relief to the patient.
The administration of Matra Basti using Bala Taila has significant results for the improvement of ‘range of motion’ in the patients of Osteoarthritis of Knee Joints.

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