



Case Report

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EFFECT OF LEECH THERAPY ALONG WITH ADJUVANT AYURVEDA DRUGS IN THE MANAGEMENT OF JANUSANDHI GATA VATA WITH SPECIAL REFERENCE TO KNEE -OSTEO ARTHRITIS: A CASE REPORT

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ABSTRACT

Knee osteo arthritis is the commonest form of articular disorder and leading cause of chronic disability in elder population. This condition can be co related with Janusandhigata Vata. In Allopath, NSAID, Analgesic and Steroids are advocated but, have limited prognosis due to untoward effects after prolong use which leaves a scope for Ayurved to holistically cure this condition. This is a single case study, a male patient aged 65-year, diagnosed with Knee osteo arthritis, treated with a Leech Therapy (locally-2 sittings at interval of 15 days) adjuvant to Ashwagandha Ghanvati, Yograj Guggulu and Gandharv Haritaki –powder (internally). Therapeutic evaluation of treatment was done based on prognosis. The parameters observed were pain, tenderness, swelling, restricted movements, crepitation and stiffness in knee joint. The observation showed complete relief in pain, swelling, tenderness and restricted joint movement, whereas, mild relief in symptoms such as crepitation and stiffness in joints after one month therapy. The data showed that Leech Therapy (locally) adjuvant to palliative Ayurveda drugs (internally) has provided significant relief in symptoms of Janusandhigata-Vata. Considering the side effects of modern medicines, this specific regimen can prove effective in the management of Janusandhi gat-Vata with special reference to Knee osteo arthritis.

Keywords: Sanadhigatavata, Osteoarthritis, Leech therapy, Yograj Guggulu, Ashwagandha

INTRODUCTION

Osteoarthritis also erroneously called degenerative joint disease, represents failure of the diarthrodial joint. It is the most common joint disease of humans characterized by breakdown of joint cartilage. It is caused by the mechanical stress to the joints and produces the symptoms like joint pain, swelling, stiffness etc. Among elderly, knee osteo arthritis is the leading cause of chronic disability. The prevalence of this disease increases with the age and is more in females (25%) when compared to the males (16%).¹

In Allopath, huge range of treatment such as Analgesics, Anti inflammatory, Muscle relaxant, Calcium and Vitamin -D Supplements and Steroids along with Physiotherapy are available but, have limited prognosis due to untoward effects after prolong use. This leaves a substantial space for Ayurvedic treatment which can cope-up with the sign and symptom of degenerative Knee-osteoarthritis. This disease can be co-related with Janusandhigata -Vata due to resemblance in sign and symptoms of Sandhigata -Vata such as Sandhi Shula, Shotha, Stambha, Sparsha-asahyata, Sphutana, Akunchana-PrasaranaVedana etc. at the affected joints.²

Ayurveda offers various treatment alternatives for Sandhigat-Vatasuch as Panchkarma modalities Snehana (oleation), Swedana (fomentation), Basti (Medicated enema), Sthanik Lepa (local paste application), Raktamokshan (blood letting therapy), Agnikarma (Heat burn therapy) etc. adjuvant to Vata-Kaphashamak (Vata-Kapha pacifier) and Dhatuvaradhan (nourishing tissue) palliative herbal drugs.³ Further, in

Sushrutasmhita, bloodletting by means of Leech has been advocated in the management of all inflammatory painful conditions, to relieve pain and to break the pathogenesis of disease.⁴⁻⁶

In present study, after detailed assessment, patient with Knee -osteoarthritis, was treated with mainly Leech Therapy (locally- 3 Leeches at a time and 2 sittings at interval of 15 days) adjuvant to Ashwagandha Ghanvati, Yograj Guggulu and Gandharv Haritaki-Churna (internally -for 30 days) which proved significant in relieving symptoms of Knee -osteoarthritis such as pain, tenderness, swelling, restricted movements, crepitation and stiffness in knee joint. However, to establish this regimen as mainstream treatment, further study with larger sample size is desirable.

METHODOLOGY

This is a single case study. The patient with MRD NO. (OPD/2018/141233) has been treated with specific regimen (Leech therapy along with adjuvant Ayurveda drugs) and periodic assessment of prognosis with therapy was observed. Proper counseling, written informed consent was recorded after explanation of proposed line of treatment, following ICHH armonised Tripartite Guideline.⁷

Case history

In this study a 65-year-old male patient, who had apparently been normal 6 month back, gradually noticed pain around the knee region with crepitus and mild stiffness. Later on, pain got

aggravated with difficulty in the walking. Patient visited an orthopedic doctor, where he was diagnosed as case of Osteo arthritis of Knee joint and treated accordingly with allopathic medicines, but only symptomatic relief was achieved, moreover, symptoms gradually aggravated. Hence, patient visited this Hospital for the Ayurvedic management.

Chief Complaint

The onset of symptoms such as mild pain in knee joint and crepitus developed around 6 month back. However, the symptoms such as pain, stiffness, crepitus (sound sensation produced by friction between bone and cartilage), restricted movements of knee joint and difficulty to walk for long distance due to severe pain, aggravated since last one month.

Associated Complaint - Disturbed Sleep and occasional constipation.

H/O past Illness - History of fall (skid) hitting to the knee joints 15 years back.

Family History - No relevant family history - no hereditary link noted.

Personal History

- Diet: Vegetarian, preferred spicy food,
- Time and Frequency of intake: Regular,
- Appetite: Good,
- Sleep: Disturbed,
- Addiction: Tobacco chewing,
- Micturition: 4-5 times per day,
- Bowel: Irregular, occasional constipation.

Previous Surgical History – Vasectomy done 30 years back.

General Examination

Pallor – Absent, Icterus – Absent, Clubbing – Absent, Cyanosis – Absent, Oedema – Absent, Lymphadenopathy – Absent

Vitals - Pulse – 72/min, Respiratory Rate – 18/min, B. P. – 120/70 mm of Hg.

Systemic examination

- **Inspection** - Right Knee joint- Mild Swelling with deformity seen, Left Knee – No abnormality noted. No visible Injury, mass and scar mark.
- **Palpation** - Local Temperature – Normal, Tenderness – Right knee joint (medial and lateral aspect)
- **Movements**- Right knee joint: Flexion – Painful, Extension – Painful (incomplete), Left knee joint: Flexion – Painful (complete), Extension – Painful (complete)

- **Crepitation**- Right knee joint: Moderate (+++), Left knee joint: Mild (+)

Investigations

Routine Hematological, Urine and Radiographic investigations were carried out. The investigations had the following findings-

Blood- Hb 13.7 g/dl, ESR 40 mm/1hr, TWBC 5700. Random blood sugar 120 mg/dl, serum creatinine 1.1 mg/dl.

Radiographic investigations - X-ray of Knee joint – Degenerative O.A. changes with mild osteophytes.

Diagnosis - After detailed assessment - history taking, physical examination and radiological reports, the patient was diagnosed with case of knee -osteo arthritis i.e. Janu-Sandhigat Vata.

Treatment plan

Shodhanchikitsa

Leech Therapy

Leech therapy was done on the affected site, 2 sittings- at interval of 15 days.

Method of Leeching

Prior to leech application, patient was informed about the Leech therapy procedure to reduce anxiety. The part (knee joint) was prepared (cleaned) with tap water and 3 leeches were applied topically at the most painful site of the patient's painful knee joint. It is important to mention that one should not to use any antiseptics, creams, lotions, spirit for cleaning the site, as these can deter leeches from attaching. Leeching finished spontaneously within 40 minutes of application. Leech activity was monitored during the first 10 minutes, then assisted patient when leeches finished and fell off. A single leech suck or remove approximately 8-10 ml of blood. Further more, the trefoil-shaped puncture sites continued to ooze for approximately 1 to 4 hours after application. Hence, Turmeric powder was applied on the site and sterile bandaging was done which helps in stopping ooze and promote healing.

Shamanchiktisa

Internal palliative medicine given as mentioned below-

- Yograj Guggullu- (500 mg) 2 tablets, three times a day after meals with water.
- Ashwagandha Ghanvati- (500 mg) 2 tablets, two times a day after meals with water.
- Gandharv Haritaki powder- 3 gm at night (HS) with lukewarm water.

Assessment criteria and Observations

Table 1: Gradation parameters adopted for the assessment of therapy

Symptoms	Gradation			
	+++	++	+	0
	VAS Scale (0 to 10 score)			
Pain in Knee joint (Sandhi shool)	Worst possible pain (7-10)	Moderate pain while walking (4-7)	Mild pain on walking (1-3)	No pain (0)
Tenderness around knee joint (Sparshasahatwa)	Severe pain on touch, unbearable	Moderately painful on pressure, bearable	Mild painful on pressure, but bearable	No tenderness
Swelling at Knee joint (Sandhi shoth)	Persistent, even at rest condition	Moderate, after walking for 30 min.	Mild swelling, occasionally on walking	No Swelling
Knee joint movements (Sandhi Akunchan Prasaranvedana)	Painful-Restricted movement, unable to walk	Painful, incomplete, can walk with support	Mild pain, complete Can walk without support	Complete movement without pain
Crepitation (Sandhi sphutan)	Severe, painful	Moderate, painful	Mild, without pain	No crepitation
Stiffness in knee joints (Sandhigrah)	Whole day and night, at rest	After long sitting and walking, Almost 30 min.	Occasionally present	No stiffness



Figure 1: X-ray findings of patient



Figure 2: Leech therapy procedure

Observation

(Assessment of Overall Effect of Therapy)

Table 2: Assessment of result revealing effect of therapy

Symptoms	Follow-up Assessment			
	Day- 1	DAY -7	Day -15	Day -30
	Numerical Rating Scale (0 to 10 score)			
Pain in Knee joint (Sandhi shool)	+++ (7)	++ (5)	+ (3)	0
Tenderness around knee joint (Sparshasahatwa)	++	++	+	0
Swelling at Knee joint (Sandhi shoth)	+++	++	+	0
Knee joint movements (Sandhi Akunchan PrasaranVedana)	++	++	+	0
Crepitation (Sandhi sphutan)	++	++	+	+
Stiffness in knee joints (Sandhigrah)	++	++	+	+

RESULTS

The therapeutic evaluation drawn was based on overall assessment of effect of therapy. The result showed that Pain and Swelling at Knee joint was relieved on very next day, and effect sustained till end of treatment. However, complete relief was observed only at the end of treatment (i.e. Day 30). Similarly, other symptoms such as Tenderness around knee joint and painful knee joint Movements were also gradually relieved to Grade 0 at the completion of treatment. Further, Crepitation and Stiffness in joints showed mild relief with the therapy. Moreover, the present case study revealed that Leech Therapy (locally) adjuvant to Ashwagandha Ghanvati, Yograj Guggulu and Gandharv Haritaki –powder (internally) was effective in the management of Janu-sandhigata Vata with special reference to Osteo Arthritis of knee joint.

DISCUSSION

In this study, Leech Therapy (locally around Knee joint -2 sittings at the interval of 15 days) adjuvant to Ashwagandha Ghanvati, Yograj Guggulu and Gandharv Haritaki powder, internally for 30 days was given to the patient diagnosed with Janu-sandhigata Vata (knee-osteo arthritis). The prescribed treatment showed significant relief in the symptoms such as pain, tenderness and swelling around knee joint and restricted movements etc. Further, Knee X -ray was done before and after the treatment, but no change was observed in X -ray of patient.

Mechanism of action of Leech therapy

This therapy involves application of Nirvish Jalauka (Non-poisonous Leeches – Hirudomedicinalis) at the most tender part around knee joint. It is hypothesized that the strong sensory

stimulus caused by the pain and burning sensation of the Leech bite can alleviate the symptoms of the patient through the 'gate control theory'.⁸ Moreover, review of components of Medicinal Leech saliva reveals that, Hirudin inhibits blood coagulation by binding to thrombin, Calin inhibits collagen mediated platelet aggregation, Destabilase dissolves fibrin, Hirustasin inhibits kallikrein, trypsin, neutrophilic cathepsin G, Bdelin acts as anti-inflammatory and inhibits trypsin, Eglin acts as anti-inflammatory and inhibit activity of cathepsin G, Carboxypeptidase A inhibitors increases the inflow of blood at the bite site, Histaminelike substance, acetylcholine acts as vasodilator and Anesthetic substance which causes anesthesia at the bite site.^{9,10}

Furthermore, Yograj Guggullu is having Vata-shamaka and shoola-hara property and helps in prevention of pain and stiffness in joints.¹¹ Ashwagandha Ghanvati possesses Rasayana – Brimhana (nourishment to bone tissue), Vata-hara, Aam-pachak (improves metabolic fire), shotha and shoola-hara (swelling and pain relieving) property. Similarly, Gandharva Haritaki powder helps in Vata- Anuloman and cures Mala-vibandh, helping in smooth act of defecation.¹²

CONCLUSION

In this clinical case study, Leech therapy led to rapid symptomatic relief in pain and swelling and was well accepted by the patient. Further, symptoms such as crepitation and stiffness in joints showed mild relief whereas, tenderness and restricted joint movements were relieved gradually but completely with this unique Ayurvedic treatment. Moreover, the observation revealed that, the combination treatment i.e. Leech Therapy (locally) adjuvant to Ashwagandha-Ghanvati, Yograj Guggulu and Gandharv Haritaki- powder (internally) in the prescribed dose provided significant relief in the management of symptoms of Janu-sandhigat Vata (knee-osteo arthritis).

Considering the increasing healthcare burden of knee osteoarthritis and the side effects of long-term use of NSAID, Steroids and analgesic drugs in modern medicine, this traditional alternative treatment should be tested in larger randomized controlled trials with longer observation periods to establish and prove its significance in the management of Janusandhigat Vata with special reference to Knee osteo arthritis.

REFERENCES

1. Harrison's Principles of Internal Medicine, Dennis L. Kasper, Anthony S. Fauci, Eugene Braunwald *et al*, editors. 16th Edition, Volume 2, Part 13, Section 3, Disorders of joint and adjacent tissues, Ch 312, Osteo arthritis: 2036-37.

2. Agnivesha's Charaksamhita with Chakrapanidatta commentary, Acharya Vaidya Jadhavaji Trikamji, editor. Chaukhamba Sanskrita Sansthan, Varanasi, Vol. 28, Chikitsasthan; Chapter 37: 618.
 3. Agnivesha's Charaksamhita with Vaidyamanorama Hindi Commentary, Acharya Vidyadhar Shukla, Prof. Ravidutta Tripathi, editors. Charaka Samhita-Uttarardha, 2nd edition. Chaukhamba Sanskrit Pratishthan; Varanasi, Vatavyadhi chikitsaadhyay: 699.
 4. Sushruta's Sushrutsamhita, English translation-Illustrated Sushrut Samhita, K. R. Srikant Murthy, editor. 2nd edition, Vol. 1, Ch. 13 (Shlok no. 4). p. 78 and Ch. 23 (Shlok no. 6-7). p. 170-171.
 5. Andreas Michalsen *et al*. Leech therapy for symptomatic treatment of knee osteoarthritis: Results and Implications of a pilot study, *Alternative therapies* 2002; 8(5): 84-88.
 6. P. K. Rai, A. K. Singh, *et al*. Efficacy of leech therapy in the management of osteoarthritis (Sandhivata), *AYU* 2011; 32(2): 213-217.
 7. https://www.ich.org/fileadmin/Public_Web_Site/ICH_Products/Guidelines/Efficacy/E6/E6_R1_Guideline.pdf
 8. [http://www.brainblogger.com/2014/06/23, gate-control-theory-and-pain-management/](http://www.brainblogger.com/2014/06/23/gate-control-theory-and-pain-management/)
 9. Dwivedi Amarprakash P. and Chaugule Pradnya D: Pain Management Through Ayurveda: A Meticulous Review *International Ayurvedic Medical Journal*, http://www.iamj.in/posts/images/upload/1176_1185.pdf
 10. Medicinal Leech Therapy, Author: Andreas Mechallsen, Manfred Roth, Gustav Dobos. Publication-Theme, New York, USA; 2007. p. 11-12 and 132-138.
- This book is an authorized and Revised translation of German Edition published and copyright 2006 by Karl F., Hang Verlag. Title of German Edition- "Bluteqeltherapie".
11. Bhaishajya Ratnavali of Shri. Govinddasji, Ambikadatta Shastri, Commentator and Dr. Kanjiv Lochan, English translator. 1st edition, Chaukhamba Sanskrit Sansthan, Varanasi, Vol. 2, Ch. 26, Vatavyadhi. p. 171 and 179.
 12. Bhaishajya Ratnavali of Shri. Govinddasji, Commentary by Ambikadatta Shastri (English translation by Dr. Kanjiv Lochan), 1st edition, Chaukhamba Sanskrit Sansthan, Varanasi, Vol. 2, Ch. 29, Aamvata. p. 311.

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