

An Ayurvedic treatment protocol on Temporomandibular Joint Osteoarthritis - A Case Report

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DOI:10.21760/jaims.10.4.49


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Temporomandibular Joint Osteoarthritis is a degenerative disorder affecting the temporomandibular joint, characterized by progressive cartilage degradation, subchondral bone changes, and inflammation. In Ayurveda, Temporomandibular Joint Osteoarthritis can be correlated with Hanusandhigata Vata. The disease has the symptoms like pain, joint noise, limited range of motion, impaired jaw function. This condition arises due to Asthikshaya in the Hanusandhi, here it is primarily caused by recurrent dislocation of the temporomandibular joint. Here an attempt is made on Temporomandibular joint osteoarthritis with Ayurvedic management. In this clinical study most of the Ayurvedic drugs and procedures used possess Brimhana (nourishing) property. The drugs and procedures used in this study are found to be effective in temporomandibular joint osteoarthritis.

Keywords: Temporomandibular joint Osteoarthritis, Ayurvedic treatment protocol, Case Report

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Silpa SS, Post Graduate Scholar, Department of Shalya Tantra, Govt Ayurveda College, Trivandrum, Kerala, India. Email: shilpasreekumar189@gmail.com	Silpa SS, Aiswarya K, Deepa MS, An Ayurvedic treatment protocol on Temporomandibular Joint Osteoarthritis - A Case Report. J Ayu Int Med Sci. 2025;10(4):321-325. Available From https://jaims.in/jaims/article/view/4197/	

Manuscript Received
2025-03-08

Review Round 1
2025-03-27

Review Round 2
2025-04-07

Review Round 3
2025-04-17

Accepted
2025-04-27

Conflict of Interest
None

Funding
Nil

Ethical Approval
Not required

Plagiarism X-checker
11.65

Note



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Introduction

Temporomandibular joint disorders comprise a disease group with complex aetiology (e.g. inflammatory, traumatic, genetic).[1] The individual symptoms includes pain, joint noise, limited range of motion, impaired jaw function and deviation or deflection upon mouth opening.[2,3] Temporomandibular joint -osteoarthritis represents an important subtype of temporomandibular joint disorders. Temporomandibular joint osteoarthritis can arise primarily or secondarily as a consequence of other subtypes (for example, disc displacement) and is characterized by progressive cartilage degeneration and subchondral bone sclerosis.[4,5]

Temporomandibular joint osteoarthritis is considered one of the most prevalent forms of osteoarthritis, with studies reporting a prevalence range of 8-60% among patients with temporomandibular disorders, meaning it is quite common compared to other types of osteoarthritis in the body.[6] In contemporary medicine, mild temporomandibular joint osteoarthritis is managed through physiotherapy and nonsteroidal anti-inflammatory drugs (NSAIDs). In severe cases, joint arthroplasty is the preferred treatment. However, this procedure is associated with potential complications, including facial nerve palsy, facial misalignment, and severe ear infections that may result in hearing loss. Though multiple conservative treatment options are available, treatment of temporomandibular joint osteoarthritis through *Ayurveda* remains unexplored. Here is a case of chronic temporomandibular joint osteoarthritis with pain, stiffness, limited jaw movements. It was treated through *Ayurveda* and showed good remission in pain, stiffness, limited jaw movements.

Case Report

Chief complaints

Stiffness and restricted movement of mouth (left side) since 1 year

History of Present illness

25 Years old male patient without any comorbidities and no known history of trauma ,1 year back suddenly developed stiffness on left side of jaw and restricted movement of mouth during early morning i.e., unable to open mouth for 15 to 20 minutes and get relieved by its own.

In that time, he was able to open the mouth to a extend of 1 finger only. He also felt pain while forcefully attempting to widely open the mouth. He ignored it initially 2 months later he had noticed the similar episode of stiffness and dislocation of temporomandibular joint followed by difficulty in opening the mouth continuously throughout the day. It was on and off in nature and 8 to 10 episodes were happened with in following 8 months. He always preferred to take hard chewing food items and drunk cold water. Then he consulted contemporary medicine and took some medications. But he didn't get any relief. There is no history of tooth grinding while sleeping and no association with climate changes.

History of Past illness

No h/o DM, HTN, DLP

H/o Impacted teeth

Family History

Maternal history of Rheumatoid arthritis

Diet history

Mixed- 4-6 eggs at morning, Reduced intake of rice, prefer to take cold water and food items like chicken.

Clinical Findings

Temporomandibular joint

Inspection:

Slight deviation of jaw towards left
Smooth closure and opening of jaw only possible up to 1 finger.
Clenching of teeth in normal position
No features of any facial muscle paralysis and dental carriers noted.

Palpation:

No tenderness over left temporomandibular joint
No lymph node enlargement
Normal muscle tone of masseter
Crepitus - present

ROM:

Depression - Possible up to 1 finger only, with pain
Elevation - Affected
Retraction - Possible
Protrusion - Possible
Lateral deviation - Possible

Diagnostic Assessment

MRI - Temporomandibular joint

- Left sided internal derangement /temporomandibular dysfunction
- The disk in closed mouth position shows anterior displacement and is irregular/distorted in shape with degeneration.
- Open mouth position shows partial reduction of displaced disk remains predominantly anteriorly displaced.
- Mild degenerative changes in articular disc on right side.
- No disk replacement and normal reduction
- Early changes of TM Joint osteoarthritis on left side.
- Minimal thickening of inferior belly of lateral pterygoid muscle.

Diagnosis

Temporomandibular joint osteoarthritis due to recurrent temporomandibular joint dislocation

Therapeutic Intervention

Table 1: Treatment

SN	Treatment given	Dose	Duration
1.	Hanuvasthi with Murivenna		7 days
2.	Snehapanam with Gugguluthikthakam Ghritam[7]	Starting with dose of 25 ml increased up to 125 ml	6 days (upto Samyak Snigdha Lakshana)
3.	Abyangam with Murivenna and Ushma Swedam		3 days
4.	Virechanam with Gandharva Erandam	20 ml in hot water	1 day
5.	Hanuvasthi with Dhanwantharam Tailam		10 days
6.	Ksheeradhooma with Bala Kashaya		7 days
7.	Nasyam[8] with Ksheerabala 7A[9]	12 drops each nostril	7 days
8.	Abyangam with Murivenna and Ushma sweda		3 days
9.	Shastika anna lepa		6 days
10.	Salvana Kizhi[10]		5 days
11.	Ksheera Vasthi[11] with Panchathikthakam Kashyam + Guggulu Thikthakam Ghritam + Dhanwantharam Tailam Mezhuakupakam		5 days
12.	Jalookavacharanam - Over bilateral TMJ		1 day

Table 2: Salvana Kizhi[10]

SN	Ingredients	Amount
1.	Dhanwantharam Tailam	200 ml
2.	Saindhavam	50g
3.	Vidaryadi Kashaya Choornam	100g
4.	Aja Mamsam	200g for 7 days
5.	Gugguluthikthakam Ghritam	Sufficient quantity
6.	Chincha Rasam	200 ml

Table 3: Internal Medications

1.	Dhanwantharam Kashayam	90 ml bd
2.	Gandha Tailam	12 drops with milk at night
3.	Vaiswanara Choornam (before Snehapanam)	1 tsp bd with hot water(B/F)

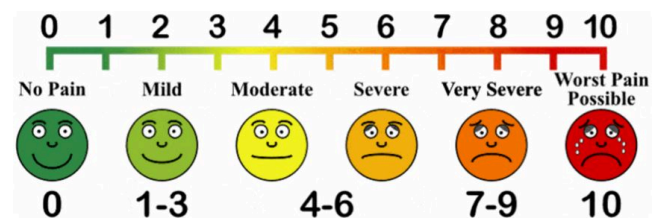
Detailed descriptions of internal medicine and external procedures administered are provided in table no 1, 2 & 3.



Figure 1: Hanuvasthi

Assessment

1. Pain by using VAS scale



2. Range of motion measured by distance between cutting edges of the upper and lower front teeth using a ruler.

Table 4: Assessment

Criteria	Before treatment	After treatment
Pain (VAS score)	5	2
Range of motion	1.5 cm	4.5 cm

Outcome

After undergoing the treatment procedures, the patient's pain and stiffness significantly decreased. Additionally, the range of joint movement improved, and crepitus was no longer present.

Discussion

Temporomandibular Joint Osteoarthritis is a degenerative disorder affecting the temporomandibular joint, characterized by progressive cartilage degradation, subchondral bone changes, and inflammation.

In Ayurveda, Temporomandibular Joint Osteoarthritis can be correlated with *Hanusandhigata Vata*. This condition arises due to *Asthikshaya* in the *Hanusandhi*, here it is primarily caused by recurrent dislocation of the temporomandibular joint. In Ayurveda different treatment modalities have been explained both *Bahya* and *Abhyanthara*. Here in this patient along with *Bahya Chikitsa Samana Oushadhis* are also given to relieve the symptoms. Initially, external *Hanuvasti* was performed using *Murivenna* for a duration of seven days to alleviate pain. Subsequently, the choice of medicated oil for *Hanuvasti* was changed to *Dhanwanthara Tailam* to achieve *Santharpana* and *Vata Samana*.

Snehapana is one of the primary treatments for *Vatakopa* especially in degenerative conditions. Therefore, *Snehapana* was administered using *Guggulutiktakam Ghritam*, which has a specific action on deeper tissues such as joints and bones. Prior to *Snehapana*, *Agnideepthi* (enhancement of digestive fire) was achieved through the internal administration of *Vaiswanara Choornam*.

Ksheera Dhooma is a unique Ayurvedic treatment where medicated milk steam is inhaled to provide relief in conditions affecting the head, neck, and jaw. In temporomandibular joint osteoarthritis, it offers the following benefits:

- Helps in reducing pain and stiffness by providing warmth and nourishment.
- Acts as a mild sudation therapy (Swedana), which improves joint flexibility.

- Strengthens the surrounding muscles and ligaments, enhancing jaw mobility.

Here *Bala Kashaya* is used for *Ksheeradhooma* which is mainly *Vatahara* and *Brimhana* in property. *Nasyam* is a therapeutic procedure in Ayurveda that involves the administration of medicated oils or herbal extracts through the nasal route. In temporomandibular joint osteoarthritis, *Nasyam* helps by:

- Nourishing and strengthening the structures of the head, including the temporomandibular joint.
- Reducing *Vata Dosha* aggravation, which is a primary cause of joint degeneration.
- Alleviating pain, stiffness, and restricted jaw movements.
- Enhancing lubrication of the joint and preventing further degeneration

Here *Nasya* is done by *Ksheerabala 7A* which has a *Rasayana* property also.

Salvana Kizhi is a type of *Sweda* (sudation) procedure. It helps to alleviates *Vatakapha Dushti* and strengthens the joint.

Ksheera Vasthi (a medicated enema using milk infused with herbs) is an *Ayurvedic Panchakarma* therapy that is primarily used for *Asthi Sandhi Gata Vata* disorders. It has potential benefits for Temporomandibular joint Osteoarthritis because of its lubricating, anti-inflammatory, and nourishing properties.

Jalookavacharana, or leech therapy, is an effective *Raktamokshana* (bloodletting) therapy helps reducing inflammation, and improving circulation in the affected joint.

Thus, by the treatment given to the patient found to considerable relief like reduction in pain and increase in range of motion.

Conclusion

Temporomandibular joint is a degenerative disease, which is caused by *Vata Kapha Dushti*. In this clinical study most of the Ayurvedic drugs and procedures used possess *Vatahara* and nourishing property to *Asthi* and *Sandhi*. The drugs and procedures used in this study are found to be significantly effective in temporomandibular joint osteoarthritis.

This treatment protocol can be applied in large samples to manage the condition in conservative line of treatment and to serve the mankind.

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