

Case Report

Ayurvedic management of unilateral thenar atrophy mimicking hirayama disease: a case report

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Received: 08 September 2026

Revised: 14 October 2026

Accepted: 19 October 2026

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ABSTRACT

Thenar atrophy is the atrophy of the muscles on the radial aspect of palm, flexor pollicis brevis, abductor pollicis brevis and opponens pollicis which have the function of precision pinching and grip strength. Thenar atrophy can be correlated to Viswachi in Ayurveda in which there is deficit in function of hand. Viswachi is a disease said in vatavyadhi nidana in which vata affected Kandara which supplies the bahu cause diminished functioning of the hand. The article assesses the effect of Ayurveda treatment as a supportive measure in motor neuron disease. Here is an Ayurvedic management and supportive rehabilitation of 24 years old male who was presented with weakness and atrophy of thumb of right hand since 2 years. The clinical presentations are very much similar to Hirayama disease and on detailed clinical examination there is motor deficit of recurrent branch of median nerve. Upon investigations the MRI findings are suggestive of cervical myelopathy rather than Hirayama disease. The patient was admitted and managed with the protocol of vatavyadhi chikitsa. The treatment protocol included shodhana, samana and brimhana chikitsa adopted in this case and mode of action is described in this article. Considering the thenar atrophy treatment local brimhana therapy was also administered. Follow up medicines were prescribed along with upanaha and continued for one month. The case was assessed using the MRC scale of muscle strength, and Quick DASH questionnaire for quality of life. Muscle strength improved and QOL with DASH questionnaire improved from 61.36 before treatment to 40.90 after treatment. The present case of viswachi was rehabilitated and got improvement in quality of life related to the function of the hand by conservative ayurvedic treatment protocol.

Keywords: Thenar atrophy, Hirayama disease, Ayurvedic management, Case report

INTRODUCTION

The abductor pollicis brevis, opponens pollicis, and flexor pollicis brevis muscles comprise the thenar muscles and are located at the radial aspect of the palm. The abductor pollicis brevis and opponens pollicis muscles are innervated only by the recurrent branch of the median nerve. The two heads of the flexor pollicis brevis muscle have different innervations, with the deep head innervated by the deep branch of the ulnar nerve and the superficial head by the recurrent branch of the median nerve. The primary role of the thenar muscles is operating the first carpometacarpal joint of the thumb, including precision

pinching and grip strength. While thenar muscle atrophy is most frequently caused by carpal tunnel syndrome, it may also occur following injury to the recurrent motor branch of the median nerve, proximal median nerve neuropathy, medial cord/lower trunk plexopathy, cervical radiculopathy of the C8 or T1 nerve roots, ventral horn cell disorder of C8 and T1, disuse atrophy, or congenital aplasia.¹ Monomelic amyotrophy, or Hirayama disease, is a rare motor neuron disorder characterized by progressive weakness and atrophy in the distal upper extremities, typically beginning during adolescence. The condition involves asymmetric muscle atrophy in the hand and forearm, sparing the brachioradialis muscle.² Cervical

myelopathy is a clinical syndrome caused by spinal cord dysfunction, with symptoms varying according to its location and severity. It may present with subtle signs such as impaired balance and dexterity or severe outcomes such as paralysis and incontinence. The most common cause of cervical myelopathy is canal stenosis due to spondylosis. Other common causes include ossification of the posterior longitudinal ligament, trauma, and tumors.³ The Nurick grade is primarily based on gait and ambulatory function and ranges from grade 0 to grade 5.⁴ In Ayurveda thenar atrophy can be correlated to viswachi as there is karmahani of bahu. Viswachi is a disease explained in vatavyadhi in which the kandara supplying the hand get affected with vata cause karmakshaya of bah.⁵ It is a type of Vatavyadhi which mainly affected hastha due to Dhatukshaya limiting routine activities. Lifestyle, diet pattern, low birth weight and neck posture in daily routine activities may contributed to the condition in the young age. The condition caused mamsasosha and involved madhyama rogamarga categorised as krichrasadya.

CASE REPORT

A 24-year-old male student was admitted in Kayachikitsa department of Vaidyaratnam Ayurveda College Hospital on 13/11/2025 with the following presenting complaints. Primary concerns at the time of admission were weakness of the right hand especially thumb and difficulty in holding things since 2 years. He was unable to hold things especially with the tip of the fingers. He experienced tremor on the right forearm and fingers during effortful hand movements. Tingling sensation on the right forearm and hand occasionally.

History of presenting complaints

A 24 years old male who was a student of AC mechanic course noticed the weakness of the right hand and difficulty in holding pen while he was attending exam in March 2023. He noted the weakness of thumb and weakness in opposition of thumb against his index finger in the right hand. Also he noticed the muscle wasting on the thenar region. Tremor and weakness of the hand get exacerbated on exposure to cold and strenuous activities with the hand. He consulted in a private clinic and Medical College Hospital Thrissur in 2023, but he had not taken any further medications for the disease. As he was unable to hold objects with finger tips and fine motor movements with hand get disturbed, he had to discontinue his career which affected him emotionally. He subsequently consulted Vaidyaratnam Ayurveda College Hospital for the Ayurveda treatment and admitted for the IP management.

Personal history

Patient has normal appetite and follows a mixed diet with habit of skipping meals occasionally. He had satisfactory bowel and sound sleep. He reported no known allergy to

dust or medications. And there was no history of addiction in this patient.

Medical, family and psychosocial history

Patient was a low-birth-weight baby and history of recurrent febrile illness in his childhood. Occasional emotional liability was reported as he had to discontinue his career.

Relevant past interventions with outcome

No relevant past interventions were done.

Systemic examination

The patient was lean and moderately nourished with weight 62.5 kg, height 174 cm and of BMI 20.6 kg/m². The patient was neat and tidy with co-operative behaviour and oriented to date, time and place. On physical examination there weakness and functional deficit noted in the upper limb, so the detailed examination of the musculoskeletal and neurological examination of cervical spine and both upper limbs were done and compared as the diagnostic approach.

Examination of the locomotor system

Spine

On inspection of the cervical spine no swelling, erythema and wasting was observed. Mild tenderness was present in the right para spinal region extending up to right scapular area. On examining the range of movements restriction noted in flexion and rotation of the neck and also there was restriction with slight pain on left lateral flexion of the neck. No abnormalities were noted on the inspection, palpation and range of motion of the thoracic and lumbar spine.

Upper limbs

On examination of the bilateral shoulder joint, elbow joint and wrist joint no abnormalities were detected in the inspection, palpation and range of movements. Examination of the right-hand revealed thenar wasting with relative preservation of other muscles of hand and forearm and fasciculations in the thenar region (Figure 1). Spurling test, Valsalva Manoeuvre, Lhermitte's sign was tested negative in the patient. Phalen's and Tinel's test were also negative.

Neurological examination

Higher mental functions and cranial nerves were intact. Muscle tone was normal in all the four limbs. On examination of the power of the bilateral upper and lower limbs, weakness was noted in the right hand were found to be affected. The muscle bulk of the both hands was

assessed and recorded (Table 1). Power of the bilateral thumb on all range of movements are noted (Table 2).

The power of the distal muscles of the bilateral hands are recorded (Table 2). Reflexes of the bilateral hands including Biceps, Triceps, Supinator and Hoffman's reflex were normal. Co-ordination test of the upper limb-finger-nose test and dysdiadochokinesis were normal with both limbs. The patient was unable to button his clothing with the right hand because of impaired fine motor function. In the lower limbs, muscle tone was normal, power was 5/5 in all major muscles groups bilaterally and deep tendon were symmetric and normal.

Table 1: Muscle bulk of the upper limb.

Muscle bulk		Right (cm)	Left (cm)
Upper limb	10 cm above olecranon process	24.5	26
	10 cm below olecranon process	21.2	23

Table 2: Muscle power of the thumb movements.

Movements of thumb	Right (Out of 5)	Left (Out of 5)
Flexion	3	5
Extension	4	5
Adduction	4	5
Palmar abduction	3	5
Radial abduction	3	5
Distal muscles of hand	Right (Out of 5)	Left (Out of 5)
Opponens pollicis	3	5
First dorsal interossei	5	5
Palmar interossei	5	5
Pincer grip	3	5
Power grip	4	5

Sensory examination

Superficial sensations including pain, touch and temperature were found to be intact. Deep sensations including Vibration and proprioception were intact. Cortical sensations including two-point discrimination, stereognosis, graphesthesia were also intact bilaterally.

Nidana Panchaka

Considering the nidana of the patient included Aharaja nidanas - alpaasana, katurasa pradhana ahara and viharas-vishamangasayana, rathri jagarana, ativyayama may contributed to the disease condition. Considering the Ayurvedic diagnostic assessment (Table 3) and samprapthi ghatakas the above nidanas in the krisa roga lead to dathukshaya followed sirasnayu vaikalya in bahu and caused mamsa sosha which manifested as cheshtahani and karmahani in dakshina hastha. Poorvaroopo was not

manifested in this disease. Roopa – krisatha in dakshina hastha, karmakshaya and cheshtahani of the dakshina hastha.

Table 3: Ayurvedic diagnostic assessment.

Prakriti	Vathapitha (TNMC prakriti questionnaire)
Doshas vitiated	Vyana vayu, avalambaka kapha, sadhaka pitta
Dushya	Raktha, mamsa, medas, asthi, majja
Sara	Madhyamam
Satwam	Madhyamam
Samhananam	Madhyamam
Vyayama sakthi	Madhyamam
Satmyam	Katu rasa pradhana
Pramanam	Madhyamam
Ahara sakthi	Abhyavaharana sakthi- madhyamam Jarana sakthi- madhyama
Vaya	Vaya
Kalam	Kshanadi- vasantha Vyadhyavastha- navam
Desham	Bhoomi- sadharanam Deham- sakhasritham(ekadeshajam)
Rogamargam	Madhyamam

Diagnostic assessment

The case was presented as wasting and weakness of the right thumb in a 24 years old male since 2 years. Upon clinical examination unilateral wasting of right thenar eminence with preservation of other muscles of the hand and forearm (Figure 1) and motor deficit in performing functions of the right hand particularly flexion, palmar and radial abduction and opposition with cold paresthesia, fasciculation in the affected muscle group were noted. Tremor was noted in the right thumb which exaggerate on exposure to cold and strenuous activity.



Figure 1: Wasting of thenar eminence of right hand with sparing of other muscles of the forearm.

The sensory symptoms, gait disturbances and pyramidal symptoms are absent on clinical examination. Upon clinical examination the motor functions of the recurrent branch of median nerve got affected. Local compression of

the nerve at the wrist was excluded in the clinical examination.

The Nerve Conduction Study findings show evidence of right sided median motor neuropathy. The MRI findings did not have features of flexion induced changes and the MRI feature suggestive of cervical myelopathy rather than monomelic amyotrophy. The patient had no gait disturbance and functional impairment of the lower limbs and would therefore be classified as Nurick grade 0 based on ambulatory findings. The case was considered as unilateral thenar atrophy with Hirayama-like clinical features, associated with cervical compressive myelopathic changes in MRI and electrophysiological evidence of right median motor neuropathy in NCS.

Investigations

Imaging techniques

X ray cervical spine

On lateral view normal cervical lordosis reduced with mild narrowing in the disc space and degenerative changes in the lower cervical region (Figure 2).



Figure 2: X-ray cervical spine AP and lateral view.

MRI cervical spine- neutral and flexion position

C4–C5, C5–C6, C6–C7 level shows diffuse disc bulge with posterior annular tear causing indentation on the anterior thecal sac and secondary spinal canal stenosis.

Focal intramedullary cord hyper intensity with thinning from the lower border of C5 to the upper border of C7 vertebra. No significant increase in the posterior epidural space on flexion.

No abnormal flow voids/soft tissue signals in the posterior epidural space. Features are suggestive of cervical spondylosis with compressive myelopathy>>Hirayama's disease (Figure 3).

NCT findings

Normal motor conduction studies for bilateral ulnar and left median nerve. Sensory conduction study shows normal distal latencies, conduction velocities and sensory nerve action potential amplitudes for bilateral median and ulnar nerve. Findings show evidence of right sided median motor neuropathy.

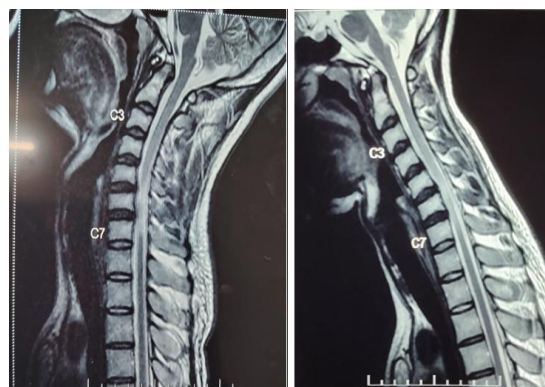


Figure 3: MRI cervical spine on neutral and flexion position of neck.

Therapeutic interventions

The treatment aimed to reduce the symptoms and improve the quality of life by optimising functional ability of the hand of the patient. The patient underwent vatavyadhi chikitsa and brimhana chikitsa. Internal medicines started from the date of admission (Table 4) and external therapies started the next day after admission (Table 4). The follow up medicines given and upanaha continued for one month (Table 5).

Table 4: Treatment administered.

Internal therapies			
S. no.	Date	Medicine	Mode of administration
1	14/11/2025	Ashtavargam kashayam	15 ml+45 ml lukewarm water- 6 am, 6 pm
2		Sudarsanam tab	1tab twice daily
1	21/11/2025	Prasaranyadi kashayam	15 ml+45 ml lukewarm water- 6 am, 6 pm
2		Yogarajaguggulu tab	1 tab twice daily with kashaya
External therapies			
Sl no	Date	Procedure	Medicine/remarks
1	14/11/2025 to 17/11/2025	Udwarthanam	Kolakulathadi choornam

Continued.

Internal therapies				
2	18/11/2025 24/11/2025	to	Jambeerapinda swedam	After abhyanga with ettanna mukkootu
			Pichu	Ettanna mukkootu
3	25/11/2025 01/12/2025	to	Pizhichil	Ettanna mukkootu and dhanwantharam thailam
4	02/12/2025 08/12/2025	to	Upanaha	Upanaha choorna. Vidaryadi choornam, ajamamsa

Table 5: Follow-up medicines.

S. no.	Medicine	Mode of administration
1	Prasaranyadi kashayam	15 ml+45 ml lukewarm water- 6 am, 6 pm
2	Maharajaprasarini thailam	10 ml twice daily with kashaya
3	Karpasasthyadi thailam	5 ml after food morning
4	Continue pratimarshanasya and upanaha for one month	

Table 6: Assessment before and after treatment.

MRC scale for grading of muscle power (out of 5)		
Movements of right thumb	Before treatment	After treatment
Flexion	3	4
Extension	4	4
Adduction	4	4
Palmar abduction	3	4
Radial abduction	3	4
Other movements and grip of right hand		
Opponens pollicis	3	4
First dorsal interossei	5	5
Palmar interossei	5	5
Finger squeeze (pincer grip)	3	4
Two finger squeeze (power grip)	4	5
Quick DASH questionnaire		
Before treatment	After treatment	
61.36	40.90	

Assessment criteria

The muscle power of the affected hand was assessed before and after the treatment using MRC scale of muscle strength (Table 6). The QOL of the patient assessed before and after the treatment using Quick DASH Questionnaire (Table 6).

DISCUSSION

In this case of viswachi, the patient was presented with sosha and karmahani of dakshina hastha due to vatakopa occurred in sirasnayu vaikalya. The patient was lean, with a history of low birth weight and lack of nourishment caused dathukshaya which in turn lead to vatakopa. The vata aggravation got manifested as the deficit in muscle group- adductor pollicis brevis, abductor pollicis brevis and opponens pollicis. The deficit in this particular muscle is presented as the thenar wasting and hyposthenia of right thumb. As the case had the features of Hirayama disease in clinical presentation cervical collar advised to avoid the

neck flexion posture. The cervical myelopathy was diagnosed as the underlying cause of cervical compression as per MRI findings which pointed out in degenerative pathology. The vatavyadhi protocol in viswachi was adopted in this case and mamsa sosha occurred in the right hand managed with brimhana proyoga locally. Viswachi is a disease that occurring in kaphasthana, we had adopt kaphavrutha vata treatment in the first stage and vatasamana protocol in the next phase. While doing sweda, we have to consider rooksha sweda in the first stage followed by snehana and snigdha sweda. In this case as there is marked muscle wasting and weakness considered brimhana upanaha on the affected muscle group.

Mild udwarthana is done externally for three days which has kaphamedohara property. Kolakulaththaadi Choorna is mentioned in Vatavyadhi treatment. The particular treatment was adopted in the patient considering the kaphavarana as the prabhava sthana of kandara in viswachi is greeva which is kapha sthana. Udwarthana is an important therapeutic procedure based on

Doshapradhanyata. In udvartana karma, dravyas used are predominantly of Ushna and Tikshnaguna. Udwarthana is kapha-medhopachana, vilayana, draveekarana and does dilatation of Srotomukha. Kolakulaththaadi Choorna contains Kola, Kulaththa, Masha, Atasi, Yava, Devadaru, Vacha, Rasna, Kustha, Taila Phala.⁶

Jambira pinda sweda is a modified type of sankara sweda having mridu and snigdha guna. Swedana is one of the important treatment modalities for number of disorders especially of vata-kapha origin mentioned in panchakarma. Acharya Charaka has included swedana karma under shadupakarma, where it is described as a principal method of treatment. It improves blood circulation, increases muscle strength, and relieves body pain and stiffness. The ingredients of jambira pinda sweda potali are vata-kaphashamaka, shoollaghana, and shothahara. Jambira being the main ingredient of the potali is amla rasatmaka hence possesses vatashamaka properties.⁷ Before performing jambira pinda potali swedana, abhyanga done with ettenna mukkoottu. Ettenna mukkoottu is a traditional Ashtavaidya combination of thaila, eranda thaila and kera thaila and other medicated vatahara thailas and is applied externally for the management of vatavikaras. Jambeera pinda sweda was selected in this case as the treatment used traditionally in vyadhis affecting oordhaanga.⁸

Pizhichil is a snigdha drava sweda which is used in conditions of vitiated vata. The pizhichil is a procedure which give snehana, swedana and brimhana.⁸ The dhanwantharam thaila and ettenna mukkoottu was administered in the procedure. Dhanwantharam thailam is an oil which having brimhana property prepared out of balamoola kwatha and dasamoola, yava, kola, kulatha kwatha along with 6 times cow's milk and kalka dravyas and is applicable in sarva vata vikaras.⁵ Pizhichil is a sneha sweda which can be selected as a treatment modality in the last stage of the therapy which is vatahara property and done in this case prior to sodhana nasya and brimhana upanaha.

Upanaha sweda is a type of salwana sweda which the medicine is applied and bandaged over the site with vatahara leaves and cloth.⁹ Here the upanaha done is brimhana upanaha containing upanaha choorna, vidaryadi choornam and ajamamsa. Mamsa is used in upanaha in the hand as there is mamsasosha. Vidaryadi choornam explained in Susrutha samhitha suthrasthana have vatagna property. Vidarigandhadi gana comprises of 20 dravyas all of plant origin. This gana is said to be useful in shosha, gulma, angamarda, kasa, shwasa and having vata-pittanashak property.¹⁰

Ashtavargam kashayam is a decoction of 8 drugs bala, sahachara, eranda, devadaru, sunti, rasna, sinduvara, lasuna which is vatahara due to srotosodhana and vatanulomana.¹¹ Prasarnyadi kashayam explained in Sahastra yogam kashaya prakaranam contains prasarini, masha, bala, rasana, rasna, nagara. Prasarini is

kaphavataghna and ushnaveerya in nature .It is tissue stabilizer, hot in potency.¹² Yogaraja guggulu preparation contains 29 herbal drugs. But according to the different acharyas the ingredients are different. Mainly the drugs having property like tikta, kashaya, katu rasa and ushna, ruksha guna, ushna virya and acts as kaphavatahara. During pounding of guggulu, small amounts of ghrita are added to make kuttitha guggulu. Ghrita minimises the adverse effects during digestion. Guggulu due to its lekshana property and ushna guna helps in bringing back the vitiated vata into normalcy. Triphala added will reduce the ushnata and ugrata of guggulu. Most of the drugs of the compound act as vata shamaka. These drugs also act as vedana stapaka, nadi balya, shulashamaka, shothahara which is most essential in promoting symptomatic relief in vatavyadhi.¹³ Karpasasthyadi thaila as pana and nasya in this case. Karpasasthyadi thaila is one such formulation which is prepared by using karpasasthi, bala, masha, kulattha, ajaksheera, tila thaila and many other prakashepa dravyasand can be used for nasya karma, abhyanga and pana.¹⁴ Maharajaprasarini thailam Prasarani thaila is a thaila preparation explained in Ayurveda Pharmacopeia, Sharangadhara Samhitha, Bhavaprakasha, Sarasamkshepayaya, Cakradatta and Bhaisajjaratanavali in Vata vyadhi. The main ingredient is Prasarani panchanga and dravas used are Prasarani kashaya, Dadhi, Kanjika and Godugdha. Prasarani thaila, trishati prasarani thaila, saptashataki prasarani thaila, ekadashashataki prasarani thaila, ashtadashashataki prasarani thaila and maharaja prasarani thaila used for abhyanga as well as vasti, pana and nasya. The main indications of all types of prasarani thaila is for vata roga, rasayana and vajikarana.¹⁵

CONCLUSION

The present case of viswachi in 24-year-old male patient was managed and rehabilitated with Ayurvedic inpatient treatment. The pain noted on the para spinal region got reduced. Improvement was noted in the quality of life of the patient and emotional liability in the patient got reduced as he able to commence his job after treatment. As there is deficit in daily routine activities, advised to continue hand strengthening exercises and advised to use cervical collar for restriction in neck movements. Proper dietary intake of food, timely meals and sleep, maintenance of proper posture of neck on activities are advised at the time of the discharge. Though the vyadhi is krichrasadya the patient was treated and rehabilitated with the procedures snehana, swedana and brimhana chikitsa adopted as per the treatment protocol of vatavyadhis chikitsa. However, further evaluation through well-designed controlled clinical studies with larger sample sizes and adequate follow-up is required to substantiate these observations and determine whether similar outcomes can be reproduced in a wider population.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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Cite this article as: Agrawal S, Das V, Agarwal A, Pandey A. Fetal Doppler for prediction of adverse perinatal outcome in preeclampsia in a low resource setting. *Int J Res Med Sci* 2026;14:5441-5447.