

CASE REPORT ON MANAGEMENT OF CEREBELLAR TONSILLAR ECTOPIA - AN AYURVEDIC APPROACH

Rahul H¹, Aysha Juhi Amal Hafeez²

¹Assistant Professor, Department of Panchakarma, Vaidyaratnam Ayurveda College, Thrissur

²House Surgeon, Vaidyaratnam Ayurveda College, Thrissur

Corresponding Author: drrahulayurveda@gmail.com

<https://doi.org/10.46607/iamj2912112024>

(Published Online: November 2024)

Open Access

© International Ayurvedic Medical Journal, India 2024

Article Received: 05/10/2024 - Peer Reviewed: 30/10/2024 - Accepted for Publication: 14/11/2024.



ABSTRACT

Cerebellar tonsillar ectopia is where the cerebellar tonsils protrude through the foramen magnum, often causing neurological symptoms. In this case, the patient mainly complained of weakness in both lower limbs, difficulty while walking, and lower body balance. Diagnosis of this case was challenging, but after the study of MRI of the cervical and dorsal spine, the case was diagnosed as Cerebellar tonsillar herniation. She was given Ayurveda medication internally, and *Panchakarma* procedures were done at the IP level. Throughout the entire course of treatment, physiotherapy was also done. There was a marked improvement in the symptoms, which helped her improve her quality of life.

Keywords: *Cerebellar tonsillar ectopia, Ayurveda, Panchakarma*

INTRODUCTION

Cerebellar tonsillar ectopia is a neurological condition characterised by the herniation of cerebellar tonsils, a soft tissue structure in the cerebellum, into the spinal cord through the foramen magnum. The cause of this disease can be categorised into congenital and

acquired types¹. The congenital factors include genetic mutation, abnormal brain development during fetal growth and maternal factors. Acquired factors are physical trauma to the head, development of tumours or cysts, spinal cord injuries and other degenerative

conditions of the spinal cord like syringomyelia, spinal stenosis, cerebrospinal fluid disorders, and complications of spinal injury. The disease usually produces symptoms during the period of adolescence or adult life. The most common symptoms are occipital headache, especially after sudden coughing, sneezing or straining, neck pain, gait disturbance, abnormal movement or posture, difficulty in speaking and swallowing, weakness of lower extremity, wasting of proximal and distal part, scoliosis, and spasticity of upper extremity². Additional features include respiratory infection, cardiac abnormalities, urinary frequency, numbness of hands and feet, and loss of muscle mass. The estimated prevalence rate of this disease is about 0.1%-0.5%. However, a permanent cure for this disease was not found till date.

PATIENT INFORMATION

Chief complaints

Weakness of both lower limbs for 5 years.

Difficulty while walking and less balance of body.

History of the present illness

The patient, aged 28 years, born to consanguineous parents, presented with a complaint of weakness in both lower limbs for 5 years. The patient first noticed difficulty walking and getting up from sitting. She uses her arms to lift her legs to climb the stairs from the floor. She walks on the lateral longitudinal arch of the right side of the foot, and on the left, the foot is entirely placed on the ground with less balance. In addition, the patient complains of difficulty swallowing the food. She walks very slowly with a waddling gait.

History of past illness

The patient's growth and development were normal until the age of 7. After that, she developed difficulty walking.

Family history

The patient was born to consanguineous parents. Her maternal grandfather had a history of difficulty in walking and lower limb weakness.

Social history

Middle-class family.

Immunization history

Immunized till date

Personal history

Diet - mixed

Appetite – satisfactory

Bowel - regular, once a day

Micturition - 3-5 times/day

Sleep - 6-7 hrs/day

Treatment history

I underwent physiotherapy for the present illness 3 years back.

CLINICAL FINDINGS

General examination

Appropriate built with an average height of 153cm, weight of 53kg, BMI of 24.1kg/m² and good nutritional status.

BP - 116/82

Pulse - 74 bpm

Respiratory rate - 18/mint

Pallor - absent

Icterus - absent

Systemic Examination

Central nervous system

HMF and the sensory part of the CNS are found to be normal. Muscular atrophy was observed in the lower limbs, and the strength of quadriceps muscles on both sides is grade 1. The knee-jerk responses were diminished. She had a waddling gait with a heel-toe test positive.

Locomotor system

Upon inspection and palpation, all the joints appeared to be normal. The patient had difficulty with flexion and extension of both knees and flexion, extension, hyperextension, abduction, and adduction of the hip joint. Other than these joints, the ROM of all joints was within the normal limit.

Table 1
Timeline assessment showing efficacy before and after treatment

Parameters	Before treatment	After treatment
Muscle strength (quadriceps)	Grade 1	Grade 2
Muscle tone (lower limbs)	Grade 4	Grade 1
Walking speed	<1ft/sec	3 ft/sec
Knee jerk reflex	Diminished	++

DIAGNOSTIC ASSESSMENT

At the time of admission, the patient mainly complained of lower limb weakness. Her body posture was abnormal, and she had less balance while walking and standing. After careful examination and study of MRI of the cervical and dorsal spine, a T2W hyperintense area measuring 42*11mm in the central cord at C2 to C4 vertebrae was revealed. The cerebellar tonsils were noted to be 15mm below the level of the foramen magnum.

THERAPEUTIC INTERVENTION

The patient came to our OPD on 12/09/2024 and was given internal medicine such as *Maharasnadi Kashayam* with a dosage of 15mL *Kashayam* with 45mL lukewarm water twice daily before food.

Along with *Kashayam Sahacharadi*, 21 Avarti was given. After eating, one teaspoon of *Vaishwanara Choornam* with lukewarm water was given twice daily. The patient was admitted the same day, and the IP management began the next day. *Panchakarma* procedure *Utsadanam* with *Kolakulathadi Choornam* and *Prasaranyadi Thailam* was done for four days. The *Dhanya kizhi* dipped in *Dhanyamlawas* was done for four days, and then *Jambira Pinda Sweda* with *Dhanwantaram Thailam* was done for 7 days. After that, *Pizhichil* mixed with *Bala Ashwagandhadi Thailam* with *Mahamasha Thailam* was done for 7 days. Along with these *Panchakarma* procedures, physiotherapy was started from 18/09/2025 onwards.

Table 2
Timeline showing efficacy after each treatment

Parameters	<i>Utsadanam</i> 16/09/2024 (4 days)	<i>Dhanyakizhi</i> 20/09/2024 (4 days)	<i>Jambira Pinda Sweda</i> 27/09/2024 (7 days)	<i>Pizhichil</i> 04/10/2024 (7 days)
Muscle strength (quadriceps)	Grade 1	Grade 1	Grade 1	Grade 2
Muscle tone (lower limb)	Grade 4	Grade 4	Grade 2	Grade 1
Walking speed	1 ft/sec	1 ft/sec	2 ft/sec	3 ft/sec
Knee jerk reflex	Diminished	+	++	++

Follow-up and outcome.

After one month of treatment, there was a marked improvement in the signs and symptoms. She could stand without support for at least 20 seconds. Her walking speed has improved. The patient could place her right foot entirely on the ground while walking. Also, while attempting to get up from the chair, she was able to exert strength from her side. The patient was advised to take *Ajamamsa Rasayana*, one teaspoon at night, which helps improve the muscles' strength. It also nourishes the body and helps to re-

gain strength. *Maharasnadi Kashayam*, with a dosage of 15mL and 45mL lukewarm water, is given twice daily before food. To this *Kashayam*, one teaspoon of *Maharaja Prasaranyadi Thailam* is advised. This mainly aids in the relief of muscle stiffness, joint pain and inflammation. It also aids in managing *Vata*-related issues; *Balashwagandhadi Thailam* is recommended for external applications. It strengthens muscles, improves the quality of blood and relieves inflammation. The patient was advised to do physiotherapy and avoid food and habits aggravating *Vata*.

DISCUSSION

In this case, the patient mainly presents symptoms affecting the motor part of the body. The treatment aimed to reduce symptoms and improve the quality of life, stability and balance of the body. Medications and therapies, mainly *Vatahara*, *Kaphavardhaka* and *Brimhana*, are adopted. *Maharasnadi Kashayam* is a combination of 26 different drugs mentioned in *Vatavyadhi* by *Acharya Sharangadhara*. *Rasna* is the *Pradhana Dravya*, mainly *Vatahara*, due to its *Usna Virya*⁶. It performs actions like *Shophahara*, *Vatasoolahara*, and *Pacana* and is also a potent stimulant. *Sahacharadi 21 Avarti* soft gel capsule is beneficial in neurological and musculoskeletal disorders. This medicine has powerful ingredients that effectively treat pain, strengthen the muscles and joints, and relieves numbness and tingling sensations in the lower limbs. The action of *Vaishwanara Choornam* is *Vatakaphahara*, *Deepana Pacana*, *Anulomana*⁷. It has *Laghu Ruksha Guna* and is predominantly *Madhura Vipaka*. The main ingredient, *Hareetaki*, corrects the *Samana Vaayu*, which further improves the digestive fire of the patient⁶. The *Agni* also gets enhanced by the *Deepana* effect. Whenever there is an impairment in the functioning of *Dhatwagni*, the equilibrium of *Dosha*, *Dhatu* and *Malas* gets dearranged, resulting in poor absorption of *Poshaka* and *PoshyaDhatu*. This results in excessive production of *Malas*, thereby leading to *Srotodushti*. If this condition persists, the disease manifests, and there will be no proper absorption of nutrients.

The therapeutic procedure begins in *Rukshana Kriya* and ends in *Brimhana Kriya*. Firstly, *Udvardana* is done with *Kolakulathadi Choornam* mixed with *Prasaranyadi Thailam*. This is done using upward strokes, which help to stimulate circulation, reduce excess fat, tone the muscles, maintain the balance of *Vata Dosha*, and lead to a state of lightness in the body. The ingredients of *Kolakulathadi Choornam* are *Vedana Sthapana*, *Shothahara*, *Vata kaphahara* and *Amahara*⁸. So, this is very effective in relieving

local pain and swelling. *Prasaranyadi Thailam* is a *Yuktikrita Thaila* yoga which is prepared using *Prasaranyadi Kashayam* and *Prasarani Thailam*⁶. *Prasarani* is the drug of choice in disease, having *Sira-Snayu Sankocha* as pathology, as it can act on *Prasarana of Raktha*. The concept of *Rukshana Kriya* is to clear the passage of channels obstructed by the *kapha dosha*, and then *Shamana* therapy is done to normalize the *PrakupitaVata*⁸. After the *Rukshana* therapy, mild *Snehana* and then *Brimhana* therapy like *Pizhichil* was done. The medicines selected were *Brimhana* in nature as the disease is due to vitiation of *Vata*, which causes *Dhatu Kshaya*. *Dhanyamla* is a medicinal preparation with great therapeutic values, as described under *Sandhana Kalpana*. *Dhanyamla* has properties of *Laghu*, *Amala rasa*, *Teekshna* and *Snigdha Guna*, *Ushna Veerya* and *Amla Vipaka*⁸. Applying heat, herbal drugs and gentle pressure on the skin works together to improve circulation, relax muscles, and reduce pain and inflammation. After *Rukshana* therapy, *Jambira Pinda Sweda* with *Dhanwantaram Thailam*, having a dual nature, combined with both *Snehana* and *Swedana*, is done. *Snehana* helps lubricate and soften the tissue, while *Swedana* aids in opening up the channels and expelling toxins from the body. This combination not only addresses the symptomatic relief of pain and stiffness but also supports the overall detoxification and rejuvenation of the body. *Dhanwantaram Thailam* mainly contains *Dashamoola*, which mitigates *Vata* without aggravating *Kapha* due to its *Anabhishtyandi property*. Followed by this, *Pizhichil* was done with *Bala Ashwagandhadi Thailam* and *Mahamasha Thailam*. The application of medicated oil increases the metabolic rate, which causes vasodilation of the blood vessels. This vasodilation opens the smaller channels and increases peripheral circulation⁸. The medicated oil falling over the body creates an impact force that transfers to deeper tissue. The stimulus, thus created, stimulates the sympathetic nervous system. *Balashwagandhadi Thailam* promotes muscle health by helping fortify the muscle fibres and supporting their natural development. *Mahamasha Thailam* is mainly *Vata Shamana*, *Balya*, *Guru* and

Pushti Vardhana. It greatly impacts nerves and is widely used in nervous system diseases. Physiotherapy intervention also helps to improve efficiency and muscle activity, which helps to minimize long-term pain and dysfunction⁵. Various stretches, strengthening exercises and balance training were advised. Orthotic devices such as ankle foot orthosis were also recommended, which helps increase independence and place the foot properly on the ground. Cerebellar tonsillar ectopia is considered a disorder of *Majja Dhatu* (nervous system) and *Asthi Dhatu* (bone tissue) involving the imbalance of *Dosha, Dhatu* and *Mala*. Through the ayurvedic treatment approach, the symptoms are reduced, and the quality of life, overall well-being, and immune function are improved.

REFERENCES

1. Andrew H Kaye, Edward R Laws JR, Brain Tumors, 2nd Ed; Harcourt Publishers Limited; 2001; pg 207
2. Dennis L. Kasper, Anthony S. Fauci, Stephen L. Hauser, Dan K. Longi, J. Larry Jameson, Joseph Loscalzo. Harrison's principles of internal medicine. 19th Ed; McGraw-Hill Companies; 2015; 2658 pg
3. Professor P. Ronan O'Connell, Professor Andrew W. McCaskie, Professor Robert D. Sayers. Bailey and love surgery practice; 28th Ed; CRC press; 2023; pg: 523
4. Kenneth W. Lindsay, Ian Bone. Neurology and neurosurgery illustrated; 4th Ed; Churchill Livingstone; 2004; pg: 79-81, 217, 375-377
5. Paul W. Brazis, Joseph C. Masdeu, Jose Biller, Localization in clinical neurology; 6th Ed; Lippincott Williams & wilkins; 2011; pg: 107
6. Dr. J. L. N Sastry, Dravyaguna vijnanam; 3 rd Ed; Chaukhambha Orientalia; 2008; pg: 375, 531
7. K. V krishnanVaidyan, S. Gopal Pillai; Sahasrayogam; 26th Edition; Vidyarambha Publishers; 2006; pg 286, 294
8. Dr. Ram karan Sharma and Vaidya Bhagwan Dash; Agnivesha's Caraka Samhita; reprint 2014; Chowkhamba Sanskrit Series Office; pg 244, 268

Source of Support: Nil

Conflict of Interest: None Declared

How to cite this URL: Rahul H & Aysha Juhi Amal Hafeez: Case Report on Management of Cerebellar Tonsillar Ectopia- An Ayurvedic Approach. International Ayurvedic Medical Journal {online} 2024 {cited November 2024} Available from:

http://www.iamj.in/posts/images/upload/2108_2112.pdf