



Efficacy of Ayurvedic Treatment in Managing Cervical Dystonia: A Case Report

Shyam Prasad PS¹, Singla M^{2*}

DOI:10.21760/jaims.10.4.56

¹ Shyam Prasad PS, Consultant Ayurveda Physician and General Surgeon, Yogakshema Ayurved Hospital, Kushalanagar, Kodagu, Karnataka, India.

^{2*} Manisha Singla, Ayurvedic Medical Officer, Ayush Health and Wellness Centre Chamaru, Patiala, Punjab, India.

Cervical dystonia (also known as spasmodic torticollis) is a neurological condition that causes involuntary muscle contractions in the neck, leading to abnormal jerky head movements with spasms. These contractions can cause the head to tilt to one side (laterocollis), rotate (rotational torticollis), or move forward (anterocollis) or backward (retrocollis). The condition can be painful and may interfere with everyday activities. Prakupita Vata (aggravated Vata) causes Vata Vyadhi (diseases of vitiated Vata) and treatments such as Snehana (oleation therapy), Swedana (sudation therapy), and Shodhana (internal detoxification) are advised. This case report presents a 62-year-old male with cervical dystonia/ spasmodic torticollis with complaints of progressive neck pain, involuntary movements predominantly in the right shoulder, shoulder and neck spasms, tremors, and abnormal postures of head. Following an Ayurvedic approach the patient experienced significant improvement within two months, with substantial symptom relief by the fourth month. Shodhana Virechan (internal detoxification) in combination with external Panchakarma procedures such as Nasya Karma, Shirodhara, Greeva Basti, Greeva Pichu with Agni Karma and internal medicines including Rasayana (rejuvenation), were administered. Toronto Western Spasmodic Torticollis Rating Scale (TWSTRS) was assessed for the outcome of the treatment. The patient showed good improvement in pain, stiffness, tremors, and neck retention time. TWSTRS score reduced from 68.5 to 15 and is presented here as a case study.

Keywords: Ayurveda, Cervical Dystonia, Shodhan, Shaman, Torticollis, Vatavyadhi

Corresponding Author	How to Cite this Article	To Browse
Manisha Singla, Ayurvedic Medical Officer, , Ayush Health and Wellness Centre Chamaru, Patiala, Punjab, India. Email: dr.manisha.singla@gmail.com	Shyam Prasad PS, Singla M, Efficacy of Ayurvedic Treatment in Managing Cervical Dystonia: A Case Report . J Ayu Int Med Sci. 2025;10(4):364-370. Available From https://jaims.in/jaims/article/view/4232/	

Manuscript Received
2025-03-08

Review Round 1
2025-03-25

Review Round 2
2025-04-05

Review Round 3
2025-04-15

Accepted
2025-04-25

Conflict of Interest
None

Funding
Nil

Ethical Approval
Not required

Plagiarism X-checker
11.63

Note



© 2025 by Shyam Prasad PS, Singla M and Published by Maharshi Charaka Ayurveda Organization. This is an Open Access article licensed under a Creative Commons Attribution 4.0 International License <https://creativecommons.org/licenses/by/4.0/> unported [CC BY 4.0].



Introduction

Cervical dystonia is a multisystem disease involving multiple systems such as the motor, sensory and visual systems. It arises from numerous regional changes in the brains of patients which are not restricted to a disturbance in the basal ganglia system alone.[1] The main signs and symptoms include Involuntary Muscle contractions, abnormal head Postures, neck Pain, headaches, tremors, limited range of motion in the neck, and emotional Impact. These symptoms can vary in intensity and may worsen with stress or physical activity. The exact cause of cervical dystonia is often unknown, it affects approximately 50-300 individuals per 100,000 globally, significantly impacting quality of life.[2] The exact incidence or prevalence of CD is unknown but is estimated to be about 60,000 people in the United States.[3] Cervical Dystonia can be diagnosed through combination of approaches such as - a thorough physical exam, including observing the involuntary muscle contractions and abnormal postures of the head and neck, reviewing the patient's medical history to identify any underlying conditions or factors that might contribute to the symptoms, MRI scans can help rule out structural abnormalities in the brain that might be causing the symptoms and Electromyography (EMG) test that can measure the electrical activity of muscles and can help confirm the presence of involuntary muscle contractions. Isolated cervical dystonia is idiopathic although a genetic susceptibility may be present as evidenced by a positive family history in approximately 10-25% of cases. Cervical dystonia is associated with changes (mutations) in several genes (GNAL, THAP1, CIZ1, ANO3genes) and several possible environmental factors. About 66%-75% of the patients with CD are believed to be disabled from the pain associated with this disorder.[4] There are essentially three treatment options - botulinum toxin injections, oral medications and surgery (Deep Brain Stimulation). These treatments may be used alone or in combination.

In addition, physical therapy may provide a helpful complement to medical treatment. In Ayurveda, neurological movement disorders are often categorized under the umbrella term "*Vata-Vyadhi*," encompassing conditions affecting the musculoskeletal, locomotor, and neurological systems. There is no specific mention of cervical dystonia in ayurvedic texts but it's signs and symptoms can be correlated with various *Vata-Vyadis*. Cervical dystonia includes various *Vata*-related symptoms, some overlapping with conditions like *Shirograha* - causing heaviness and tightness in the head and neck, *Vataja Ardita* (facial paralysis) which involves one-sided head and neck turning with possible tremors, *Danda Apatanaka* - stiffness and release of body part resembling sternocleidomastoid spasms, *Akshepaka* - episodic contractions, *Antarayama* of *Kantha* (Emprosthotonous) is linked to torticollis, *Anga Bhramsha* indicates shoulder displacement and torticollis shift while *Vyatha* signifies stress.[5] Considering *Vata Dosha* as the main causative factor in the genesis of cervical dystonia, treatment principle would be *Snehana* (oleation therapy), *Swedana* (sudation therapy), *Mridu Samshodhana* (mild purgation), *Agnikarma* (cauterization), nasal medication, poultices and other nourishing therapies.[6]

Case Report

A 62-year-old male with pre-existing conditions of diabetes, hypertension, and a history of cardiac stent placement presented to Yogakshema Ayurveda Hospital, Kushalnagara, Karnataka, in September 2021. His chief complaints were uncontrollable contractions and severe tremors of neck and right shoulder muscles, resulting in involuntary head turning towards right side very often, significant neck pain and discomfort radiating to right shoulder with limitations in neck movement. The chronic discomfort and physical limitations associated with condition significantly impacted his emotional well-being, leading to anxiety and depression.

Table 1: Timeline of the case

2018	Patient felt involuntarily symptoms like spasms in right hand fingers and pulling of arm back while walking, tightness and pain in neck for which he took allopathic treatment for 6 months but got very little relief and was referred to higher center and MRI. August 2018 patient suffered Myocardial Infarction.
2019-2020	Patient suffered from lot of stress due to some legal issues which led to worsening of symptoms. Patient suffered from uncontrollable contractions and severe tremors of the neck and shoulder muscles, resulting in involuntary head turning towards the right side very often, significant neck pain and discomfort radiating to the right shoulder with limitations in neck movement.

Dec 2020	MRI cervical spine 2/12/2020 impression - straightening of cervical spine, anterior marginal osteophytes at multiple cervical levels, Type 1 end plate changes at C5-6, partial fusion of C6, C7 IV disc, grade 1 anterolisthesis of C4 over C5, C2-C3-C4-C5-C6 disc desiccation. Screening of brain: FLAIR hyperintense signal involving B/L periventricular white matter, fronto-parietal subcortical white matter, rt posterior putamen - ischemic changes, chronic lacunar infarct in left parietal white matter, chronic infarct in left parietal cortex and adjacent white matter. On consultation with neurologist, Patient was diagnosed with Cervical Dystonia.
Sept 2021 - Nov 2021	Patient approached Yogakshema Ayurvedic Hospital, Kushalnagara, Karnataka and was diagnosed as Vata Vyadhi with TWSTRS score on the first day (5th Sept 2021) of treatment as 68.5. Ayurvedic Treatments such as Virechan, Sthanik Karma like Patrapotli Abhyang, Swedana, Agnikarma etc. were advised as given in Treatment Protocol-1. Oral medications were also given and TWSTRS score was 47.75 after 75 days of treatment. There was significant improvement in symptoms gradually after TP-1 and therefore TP-2 was initiated and executed in December 2021.
Dec 2021- Feb 2022	TWSTRS score before starting treatment protocol -2 was 29.25. There was marked reduction in pain and stiffness. Patient was given Virechan Chikitsa again along with Sthanik Karma and Rasayan. TWSTRS score after treatment was 15.

Past Medical History

- Diabetes mellitus (2014)
- Hypertension (2013)
- History of cardiac stent placement (Feb 2019)

Personal History

Psycho-social history - stress due to personal reasons

Addictions - Nil

Family History - Nothing significant

Examination

Neurological examination findings were consistent with cervical dystonia. The patient exhibited a dystonic head posture characterized by right-sided torticollis with noticeable tremors, shoulder elevation and prominence of the Right sternocleidomastoid muscle. The Toronto Western Spasmodic Torticollis Rating Scale (TWSTRS)[7] score on the first day (5th Sept 2021) of treatment was 68.5.

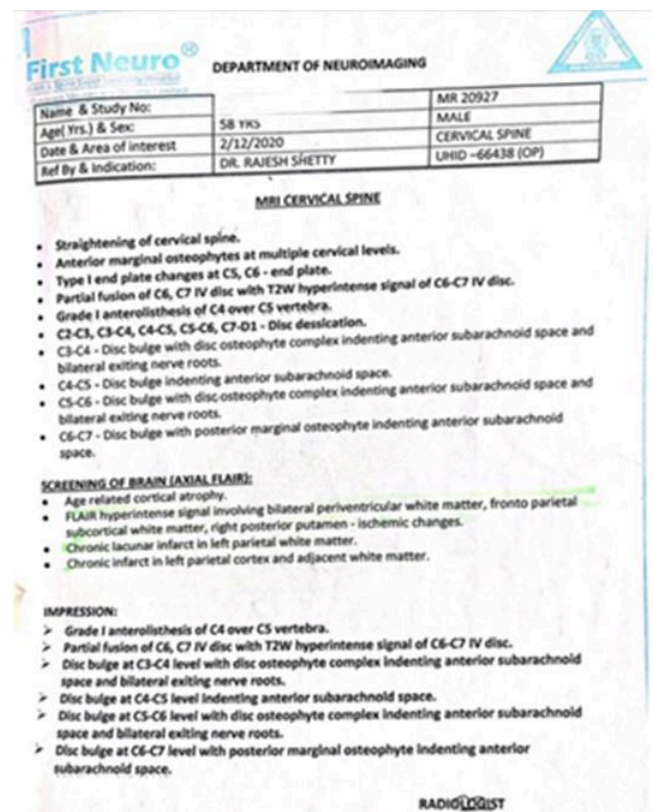
Ashtasthana Pariksha revealed a *Vata-Pitta* imbalance, as evidenced by a rapid, irregular pulse (*Nadi: Vata-Pittaja*, 78 beats/min) and irregular bowel movements (*Mala: Saama*). Other parameters, including micturition and tongue examination appeared normal. The patient had a well-proportioned build (*Akriti*).

Investigation

MRI cervical spine 2/12/2020 impression - straightening of cervical spine, anterior marginal osteophytes at multiple cervical levels, Type 1 endplate changes at C5-6, partial fusion of C6, C7 IV disc, grade 1 anterolisthesis of C4 over C5, C2-3-4-5-6 disc desiccation.

Screening of brain: FLAIR hyperintense signal involving B/L periventricular white matter, fronto parietal subcortical white matter, rt posterior putamen - ischemic changes, chronic lacunar infarct in left parietal white matter, chronic infarct in left parietal cortex and adjacent white matter. (Photograph-1)

Photograph 1



Diagnosis - Cervical Dystonia

Intervention: Treatment protocol 1 (TP1) and Treatment protocol 2 (TP2) as provided in Table 2 and Table 3 were initiated at Yogakshema Ayurveda Hospital, Kushalnagara, Karnataka.

Table 2: Treatment Protocol - 1 (75 days)

Date	Treatment	Medicine and dosage	Duration
5th Sept 2021 - 8th Sept 2021	Deepana, Pachana, Rukshan	Trikatu Churna - 5 gm in 1L of water as Paniya for all drinking purposes Neuliv Syrup 15-15-15 ml 45 min before food	4 days
9th Sept 2021 - 15th Sept 2021	Snehpana	Kalyanaka Ghrit, 30 to 300 ml - morning empty stomach (30-60-110-160-210-260-300 ml)	7 days
14th Sept 2021 - 17th Sept 2021	Lepa on neck and shoulder	Kottamchukkadi Churna with Kottamchukkadi oil- for 1 hour	4 days - Twice a day
18th Sept 2021	Virechan	Eranda Tail - 80 ml	1 day- 7 Vegas
19th Sept 2021	Agnikarma on Rt. Shoulder and SCM	Shalaka	1 day
18th Sept 2021 - 22nd Sept 2021	Samsarjana Karma[8]	Peya, Vilepi, Akrit Yusha, Krit Yusha.	5 days
28th Sept 2021 - 5th Oct 2021	Greeva skandh Tail Dhara Shirodhara Massage of Head and neck along with B/L Upper Limb Patrapinda Sweda at neck and shoulder region Swedana on Face Marsha Nasya Agnikarma over Right SCM Pratimarsha Nasya Shiropichu	Karpasasthyadi Tail Karpasasthyadi Tail Karpasasthyadi Tail Nirgundi (Vitex negundo) + Arka (Calotropis procera) + Eranda (Ricinus communis) + Jambir (Citrus limon) + Saindhav Lavana (Himalayan Pink salt) + Lahsun (Allium sativum) + Palandu (Allium cepa) Bala Moola Ksheera Kashaya Karpasasthyadi Taila 21 Avarthi - 8 drops to 16 drops each nostril (Increasing everyday) Honey Kalyanaka Ghrita - 6 drops twice a day afternoon night - after meal Karpasasthyadi Oil - overnight	8 days
23rd Sept 2021 - 11th Nov 2021	Oral Medications	Brihat Vaat Chintamani Ras (contain Swarna, Mukta) 2-0-2 After food Maharaja Prasarini Capsules 2-0-2 After food Prasarinyadi Kashaya 30ml-0-30ml with 50ml milk 1 Hr after food Brahmi Vati (contain Swarna, Mukta) 0-0-2 bedtime Dhanwantari Vati 2-2-2 After food	51 days

Table 3: Treatment Protocol - 2 (77 days)

Date	Treatment	Medicine and Dosage	Duration
11th Nov 2021 - 17th Nov 2021	Greeva Basti with Greeva Pichu B/L Upper Limb Massage along with Head and neck region Patrapinda Sweda at neck and shoulder region Pratimarsha Nasya Agnikarma over Right SCM Shirodhara and shiropichu	Bala Ashwagandha Lakshadi Tail Bala Ashwagandha Lakshadi Tail Nirgundi + Arka + Eranda + Jambir + Saindhav Lavana + Lahsun + Palandu Kalyanaka Ghrita - 6 drops thrice a day Honey Bala Ashwagandha Lakshadi Tail	7 days
11th Nov 2021 - 12th Dec 2021	Oral Medications	1. Vaatkulantaka Ras 2-0-2 (1hour after food) 2. Veeramuladi Kashaya 20-0-20 ml (1 hour after food) 3. Mahishadravakam 20-0-20 ml (1 hour after food)	32 days
13th Dec 2021 - 17th Dec 2021	Deepana Pachan	Agnitundi Vati 2-2-2 Before Food	5 days
18th Dec 2021 - 24th Dec 2021	Snehpana	Kalyanaka Ghrit 30 - 300ml (30-60-110-160-210-260-300 ml)	7 days
25th Dec 2021 - 26th Dec 2021	Abhyanga Sarvang	Mahamasha Tail - Twice a day	2 days
27th Dec 2021	Virechan	Eranda Tail - 100ml	1 day (6 Vegas)

Date	Treatment	Medicine and Dosage	Duration
28th Dec 2021 - 1st Jan 2022	Samsarjana	Peya, Vilepi, Akrit Yusha, Krit Yusha.	5 days
2nd Jan 2022 - 2nd Feb 2022	Oral Medications	1. Bhadradarvadi Kashaya - 20ml with 30 ml water twice a day 1 hr after food 2. Palsinuron - 2-0-2 after food with kashaya 3. Brahmi Vati - 0-0-2 HS 4. Nirgundi Tail 5 ml twice a day 1 hr after food.	30 days

Table 4: Outcome

Parameters	Treatment Protocol- 1		Treatment Protocol- 2	
	BT (5th Sept 2021)	AT (11th Nov 2021)	BT (12th Dec 2021)	AT (3rd Feb 2022)
Torticollis Severity Scale (Maximum - 35)	24	14	7	2
Disability Scale (Maximum - 30)	27	21	15	8
Pain Scale (Maximum - 20)	17.5	12.75	7.25	5
TWSTRS Severity Score	68.5	47.75	29.25	15

Prior to TP-1, the patient experienced uncontrollable contractions and severe tremors in the neck and right shoulder muscles, very frequently causing involuntary head turning to the right. Following TP-1, neck spasms were observed only after five minutes of sitting, walking, or lying in a supine position, and these spasms were alleviated by a change in posture.

The frequency of involuntary head posture shifting to the right decreased by approximately seven-tenths. The patient also reported a reduction of three-tenths in the perceived pulling force on the head and neck. In addition, involuntary hand movements were absent, and pain levels diminished by three-fifths. After TP-2, neck spasm was significantly reduced, with no restrictions in movement. The patient was able to sit comfortably for 30–40 minutes and walk with ease for 10 minutes before experiencing minimal, non-visible neck spasms. Pain levels diminished by seven tenths.

Discussion

Vata The patient, an elderly individual with predominance and co-morbidities such as chronic hypertension, diabetes, and cardiac issues, experienced severe neck and shoulder pain, involuntary muscle contractions. Patient had previously sought treatment at major neurological hospitals, experiencing unsatisfactory outcomes with oral medications, injections, and physiotherapy.

Faced with the potential risks and uncertain outcomes of surgical interventions such as Deep Brain Stimulation or Selective Peripheral Denervation, the patient sought alternative treatment options at Yogakshema Ayurveda Hospital, Kushalanagara, Karnataka.

Management principle of *Vatavyadhi* (Disease of *Vata*) are *Snehana*, *Snigdha Sweda* (hot fomentation) *Basti*(medicated enema), and *Brimhana*(nourishing therapies).[9] Patients with CD may develop neck pain from muscle contraction and muscle strain resulting from correcting the abnormal posture. The long-term complications of CD include cervical spine degeneration leading to radicular or myopathic symptoms.[10] *Virechan*, *Brimhana Nasya*, *Patra Potli Sweda*, *Shirodhara*, *Agnikarma* are some treatments that can help in this condition. *Kalyanaka Ghrita* has multi-dimensional action, indicated in psychosomatic disorders, atrophy of brain, convulsion and seizures, mood disorders.[11] *Kottamchukkadi Churna* and *Taila* are *Teekshna*, *Ruksha*, *Ushna* medicine acting as counter-irritant and analgesic. It reduces inflammation, stiffness and pacifies *Vata-Kapha*. [12] *Karpasasthyadi Taila* is helpful in all *Vata* diseases especially *Urdhwa Jatru Vikara*, *Apabahuka*, *Ardita*, *Pakshagatha*, cervical disc disease and myelopathy because of its hot potency and nourishing action. [13],[14] *Brihat Vaat Chintamani Ras* is intense *Vata* pacifier, nourisher of *Vata* core and pacifies *Vata* in muscles. It is helpful in *Kampavata* and *Jirna Vata Vyadhi* (tremor, brachial neuralgia).[15] The ingredients of compound formulary were indicated as a stimulant, nervine, nootropic and rejuvenate which improves the acuity of mind.[16] *Maharaja Prasarini Capsule's* mode of action is *Asthi Majja Kshaya Janya Vikara*, *Sarva Dhatu Balya*, *Nadi Balya*, and Neuro Muscular Dysfunction. Formulation is also helpful in *Greevastambha* (Neck Stiffness, Pain), *Viswachi* (Brachial Neuralgia), *Sarva Vata Roga*, *Pakshaghata* (Hemiplegia), *Vatakapha Vyadhi*, cervical spondylosis, neurological disorders, myalgia and all musculo-skeletal inflammatory conditions.[17]

Prasaranyadi Kashayam acts on Myelopathy, *Apabahuka*, *Vata Vikara*, *Balya*, *Brumhana*. It has traditionally been used to treat cervical spondylosis and frozen shoulder.[18] *Brahmi Vati* is helpful in *Apatantraka*, *Akshepa*, *Mano Roga*, *Stress*, *Convulsion*, *Mental Fatigue*, *Dhatu* and *Nadi Balya*, *Rasayana*, *Masthishka Raksha Krit*. [19] *Dhanwantari Vati* is helpful in *Vata Vikara*, *Vatanulomana*, *Naadi Vaishamya Hara*, *Prabhava Karma* (exceptional quality). [20] *Vaatkulantaka Ras* is helpful in *Akshepayukta Vata Roga*, *Dhanurvata*, *Mana Prasadana*, control *Chalatva* of *Vata*, *Prabhava Karma*. [21] *Erand Tail*- Castor oil is sweet and heavy and is highly curative of *Vata*. [22] It improves the memory, complexion, and intellect, subdues the bodily *Vayu* and *Kapha*, and cleanses the system from all injurious principles by inducing purgation. [23] *Bhadradarvi Kashaya* - indicated in *Akshepak Vata* - involuntary movements, inflammation and joint pains. [24] *Veeramuladi Kashaya* is also helpful in *Akshepak Vata*. [25] *Bala Ashwagandha Lakshadi Tailam* - Indicated in fever, *Unmad*, various types of *Vata* disorders. [26] *Mahish Dravakam* : has key ingredients *Dashmool* and Buffalo Meat and is indicated in all *Vata Vyadis*, *Majja Gata Roga*, *Sira-Snayu Gata Vata*, *Ardita*, *Kampavata*, *Angamarda*. Given the patient's condition, a safe, easily tolerable, and effective treatment approach was urgently needed. A comprehensive Ayurvedic approach, incorporating various internal medicines and external treatment modalities, was implemented between September 9th and December 12th, 2021. The patient is currently under follow-up since 2021 and remains asymptomatic.

Conclusion

In conclusion, this case study demonstrates the significant potential of Ayurvedic therapies in managing complex neurological conditions like cervical dystonia, even in the presence of multiple comorbidities. A holistic combination of treatments, including *Virechan*, *Nasya*, *Abhyang*, *Lepa*, localized *Dhara*, *Agnikarma*, and oral medications, contributed to a remarkable improvement, with the TWSTRS score decreasing from 68.5 to 15. This underscores Ayurveda's ability to enhance the quality of life through individualized care. Further research with larger sample sizes is recommended to explore the broader applicability and address potential limitations in such treatments.

Patient consent

Written consent for publication of this case has been obtained from the patient.

References

1. Prell T, Peschel T, Köhler B, et al. Structural brain abnormalities in cervical dystonia. *BMC Neurosci*. 2013;14:123. doi:10.1186/1471-2202-14-123 [Crossref][PubMed][Google Scholar]
2. Jankovic J. Epidemiology and clinical features of cervical dystonia. *Mov Disord*. 2008;23(Suppl 3):S409-13. [Crossref][PubMed][Google Scholar]
3. National Organization for Rare Disorders (NORD). Cervical dystonia [Internet]. United States; 2019. Available from: <https://www.rarediseases.org/> [Last accessed on 2025 Feb 26] [Crossref][PubMed][Google Scholar]
4. Prarthana T. Management of cervical dystonia through Ayurveda - a case report. *AYU Int Q J Res Ayurveda*. 2023 Apr-Jun;44(2):53-8. doi:10.4103/ayu.ayu_248_21 [Crossref][PubMed][Google Scholar]
5. Kodwakare P, Bhat N. Vataroga Chikitsa Manjiri. Varanasi: Abhyudara Power Press; 2013. p. 9-25 [Crossref][PubMed][Google Scholar]
6. Mangalasseri P. Vata vyadhi Chikitsa Adhyaya. In: Ojha SN, Deole YS, Basisht G, editors. *Charak Samhita New Edition. 1st ed. Jamnagar: CSRTSDC; 2020*. Available from: [Accessed 2025 Mar 14] [Article][Crossref][PubMed][Google Scholar]
7. Movement Disorders Society. Toronto Western Spasmodic Torticollis Rating Scale and Psychiatric Screening Tool [Internet]. Available from: <https://www.movementdisorders.org/MDS/MDS-Clinical-Outcome-Assessment/Toronto-Western-Spasmodic-Torticollis-Rating-Scale-and-Psychiatric-Screening-Tool.htm> [Accessed 2025 Mar 12] [Crossref][PubMed][Google Scholar]
8. Nayaka HV, Kanthi M, Rao N. Review on Samsarjana Krama in diseases. *J Ayu Int Med Sci*. 2023;8(2):141-5. Available from: [Article][Crossref][PubMed][Google Scholar]
9. Sharma RK, Bhagwan DV. Charaka Samhita of Agnivesha. Chikitsa Sthana. Vol. 5. Varanasi: Chaukhamba Krishnadas Academy; 2010. Ch. 28, Ver. 104-5. p. 52 [Crossref][PubMed][Google Scholar]

10. Camfield L, Ben-Shlomo Y, Warner TT. Impact of cervical dystonia on quality of life. *Mov Disord.* 2002;17:838-41. [Crossref][PubMed][Google Scholar]
 11. Tripathi B, editor. Ashtanga Hridayam of Shrimad Vagbhat. Varanasi: Chaukhamba Sanskrit Pratisthan; 2003. Uttartantra, Ch. 6. p. 924 [Crossref][PubMed][Google Scholar]
 12. Nishteshwar K, Vaidyanath R, editors. Sahasra Yoga: A text with English translation. Varanasi: Chaukhamba Sanskrit Series Office; 2023. Parishishta Prakarana Taila, Ch. 11. p. 405 [Crossref][PubMed][Google Scholar]
 13. Panditarao DV, editor. Sahasra Yoga: Sanskrit-Hindi Anuvadha. New Delhi: Vangmaya Anusandhana Ekaka, Kendriya Ayurved Evam Siddha Anusandhana Parishad; 1990. p. 252 [Crossref][PubMed][Google Scholar]
 14. Sharma R, Sharma S. Sahasrayogam. Varanasi: Chaukhamba Sanskrit Pratisthan; 2007. p. 80 [Crossref][PubMed][Google Scholar]
 15. Sen G. Bhaishajya Ratnavali. Edited by Mishra SN. 1st ed. *Varanasi: Chaukhamba Sanskrit Pratisthan; 2005. Vatavyadhi Roga Adhikar, Ch. 23. p. 530. Ver. 141-144* [Crossref][PubMed][Google Scholar]
 16. Forestier J. Rheumatoid arthritis and its treatment with gold salts - results of six years experience. *J Lab Clin Med.* 1935;20:827-40. [Crossref][PubMed][Google Scholar]
 17. Sen G. Bhaishajya Ratnavali. Edited by Mishra SN. 1st ed. *Varanasi: Chaukhamba Sanskrit Pratisthan; 2005. Vatavyadhi Roga Adhikar, Ch. 23. p. 555. Ver. 409-419* [Crossref][PubMed][Google Scholar]
 18. Sharma P, Dhakad PK. Standardization of Prasaranyadi Kashayam – a classical Ayurvedic polyherbal formulation. *J Appl Biol Biotech.* 2024;12(6):281-3. doi:10.7324/JABB.2024.1715945317 [Crossref][PubMed][Google Scholar]
 19. Sen G. Bhaishajya Ratnavali. Edited by Mishra SN. 1st ed. *Varanasi: Chaukhamba Sanskrit Pratisthan; 2005. Jwaraadhikar, Ch. 5. p. 172. Ver. 933-952* [Crossref][PubMed][Google Scholar]
 20. Sharma R, Sharma S. Sahasrayogam. Varanasi: Chaukhamba Sanskrit Pratisthan; 2007. p. 247 [Crossref][PubMed][Google Scholar]
 21. Sen G. Bhaishajya Ratnavali. Edited by Mishra SN. 1st ed. *Varanasi: Chaukhamba Sanskrit Pratisthan; 2005. Apasmararogaadhikaar, Ch. 25. p. 514. Ver. 23-29* [Crossref][PubMed][Google Scholar]
 22. Shastri PK, Chaturvedi GN, editors. Charaka Samhita. Vidhyotini Hindi Commentary. Vol. 1. *Varanasi: Chaukhamba Bharati Sansthan; 2016. Annapana Vidhi Adhyaya, Ch. 27. Ver. 289. p. 560* [Crossref][PubMed][Google Scholar]
 23. Shastri KA, editor. Sushruta Samhita. Ayurveda Tattva Sandipika Hindi Commentary. Part 1. *Varanasi: Chaukhamba Sanskrit Sansthan; 2016. Dravadravya Vidhi Adhyaya, Ch. 45. Ver. 114. p. 230* [Crossref][PubMed][Google Scholar]
 24. Tripathi B, editor. Ashtanga Hridayam of Shrimad Vagbhat. Varanasi: Chaukhamba Sanskrit Pratisthan; 2003. Sutrasthan, Ch. 15. p. 198. Ver. 5 [Crossref][PubMed][Google Scholar]
 25. Kodwakare P, Bhat N. Vataroga Chikitsa Manjiri. Varanasi: Abhyudara Power Press; 2013. p. 91 [Crossref][PubMed][Google Scholar]
 26. Sharma R, Sharma S. Sahasrayogam. Varanasi: Chaukhamba Sanskrit Pratisthan; 2007. p. 79 [Crossref][PubMed][Google Scholar]
- Disclaimer / Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of Journals and/or the editor(s). Journals and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.