WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
Coden USA: WJPRAP Impact Factor 8.63
Volume 15, Issue 22, 752-759. Case Study ISSN 2277–7105

ROLE OF AYURVEDA – PANCAKARMA THERAPIES IN THE MANAGEMENT OF FRIEDREICH'S ATAXIA – A CASE REPORT

Dr. A. T. Sree Divya*[1], Dr. V. Lakshmana Prasad[2], Dr. K. Harshavardhana Appaji[3]

*[1]PG Final Year Panchakarma, Sri Venkateswara Ayurveda College TTD, Tirupati.

[2]Professor (PG), Department of Panchakarma, Sri Venkateswara Ayurveda College TTD, Tirupati, Andhra Pradesh.

[3]HOD and Professor/ PG Reader Department of Panchakarma, Sri Venkateswara Ayurveda College TTD, Tirupati, Andhra Pradesh.

Article Received on 20 Oct. 2026,
Article Revised on 10 Nov. 2026,
Article Published on 16 Nov. 2026

https://doi.org/10.5281/zenodo.24277409

***Corresponding Author**

Dr. A.T. Sree Divya

PG Final Year Panchakarma, Sri Venkateswara Ayurveda College TTD, Tirupati.

How to cite this Article: Dr. A. T. Sree Divya*[1], Dr. V. Lakshmana Prasad[2], Dr. K. Harshavardhana Appaji[3]. (2026). Role of Ayurveda - Pañcakarma Therapies In The Management of Friedreich's Ataxia - A Case Report. World Journal of Pharmaceutical Research, 15(22), 752–759.

This work is licensed under Creative Commons Attribution 4.0 International license.

ABSTRACT

Background: Friedreich's ataxia (FRDA) is a progressive hereditary neurodegenerative disorder characterized by gait ataxia, muscle weakness, and impaired coordination. Its clinical manifestations may be correlated with *Sarvāṅgavāta* based on *Āyurvedic* principles. **Case Presentation:** A 21yr old female patient presented with progressive bilateral upper and lower limb weakness and difficulty in walking for three years. Genetic testing revealed a homozygous pathogenic repeat expansion in the FXN gene, confirming Friedreich's ataxia. Clinical examination revealed a high-stepping gait, pes cavus, lower-limb hypotonia, and absent deep tendon reflexes. **Intervention and Results:** Multipronged *Āyurvedic* management comprising *Abhyaṅga, Nāḍī Sveda, Ṣaṣṭika Śāli Piṇḍa Sveda, Mātrā Vasti, Pañcaprasṛtika Kṣīra Vasti* in *Yoga Vasti* format, and *Śamana Auṣadhis* were administered according to the principles of *Vātavyādhi Cikitsā.* Following treatment, the SARA score improved from 23/40 to 15.5/40, Bilateral upper limb and lower limb muscle power improved from -4/5 to 4/5 and 3/5 to 4/5. **Conclusion:** The observed improvements suggest a potential supportive role for *Āyurvedic* management in selected functional parameters of Friedreich's ataxia. Further controlled studies are required to establish its efficacy and safety.

KEYWORDS: Friedreich's ataxia, *Sarvāṅgavāta, Pañcakarma, Vasti*, SARA scale.

INTRODUCTION

Friedreich's ataxia (FRDA) is the most common autosomal recessive hereditary ataxia, accounting for a substantial proportion of inherited ataxias. It is a progressive neurodegenerative disorder that typically manifests before 25 years of age and is characterized by gait and limb ataxia, frequent falls, dysarthria, muscle weakness and loss of proprioceptive and vibratory sensations. Neurological manifestations may be accompanied by absent deep tendon reflexes, extensor plantar responses, skeletal deformities such as pes cavus and scoliosis, and cardiac complications. Cardiomyopathy and diabetes mellitus are important systemic associations of the disease.

Friedreich's ataxia is primarily caused by an expanded GAA trinucleotide repeat in the first intron of the FXN gene located on chromosome 9q21.11, resulting in reduced expression of frataxin, a mitochondrial protein essential for iron-sulphur cluster biogenesis and mitochondrial function. Frataxin deficiency disrupts mitochondrial iron homeostasis, impairs cellular energy metabolism, and promotes oxidative stress, ultimately contributing to progressive neuronal and myocardial injury. The principal pathological changes involve the dorsal root ganglia, posterior columns, spinocerebellar tracts, corticospinal tracts and peripheral nerves. Although Friedreich's ataxia is primarily a genetic disorder, its clinical presentation and severity may vary according to the underlying genetic alterations.[1]

According to the classical *Āyurvedic* description, *Ācārya Caraka* described *Sarvāṅgavāta*[2] under the spectrum of *Vāta vyādhi*, wherein aggravated *Vāta* affects the entire body, leading to impairment of movement and functions of multiple body parts. In the present study, Friedreich's ataxia (FRDA), characterised by progressive gait and limb ataxia, impaired coordination and muscle weakness, has been clinically correlated with *Sarvāṅgavāta* based on the distribution of its manifestations.

Since *Vāta* is the principal *doṣa* implicated in this proposed correlation, management may be planned according to the general principles of *Vāta Vyādhi Cikitsā*, with appropriate *Vātahara* and *Bṛṃhaṇa* measures selected according to the patient's clinical presentation, strength and disease stage.

CASE REPORT

Chief Complaints: A 21yr old female patient complained of weakness in both upper and lower limbs for the past 3 years, associated with difficulty in walking and an inability to walk without support.

History of Present Illness: The patient was apparently asymptomatic three years before presentation, following which she gradually developed weakness involving both upper and lower limbs. The weakness was progressive in nature and was accompanied by increasing difficulty in walking. Approximately two years before presentation, she experienced a fall, and her mobility subsequently deteriorated further. Over time, the progressive motor impairment interfered with her ability to perform routine activities of daily living and eventually made walking without external support difficult.

She subsequently underwent evaluation at an allopathic hospital, where investigations reportedly suggested a cerebellar disorder. Further genetic analysis identified a homozygous expanded allele in the FXN gene, supporting the diagnosis of Friedreich's ataxia. The patient later presented to the Department of Panchakarma for *Āyurvedic* management.

Past Medical History: No Significant past Medical / Surgical history.

Family History: Patient brother had a history of similar condition, suggesting a possible familial occurrence of the disease.

Personal History

Ahara – Mixed	Micturition – Normal
Appetite – Good	Sleep - Normal
Bowel - Once per day	Habits – Nothing Specific

Investigation

Hb% - 8.5 gms%	FBS – 72 mgs / dl	
WBC – 3,600 cells/cumm	PPBS – 126 mgs / dl	
ESR – 36 mm/ 1st hour	Urine -	
RBC – 4.66 millions/cumm	Albumin – Nil	M/E – Pus cells – 2-4/ HPF
Platelet count – 3.37 Lakhs/cumm	Sugar – Nil	Epithelial cells – 8-10/HPF

Roga Parīkṣā

Nidāna– Ruksha, Seeta & Katu Ahara, Ratrijagarana, Vegadharana.

Pūrvarūpa – Avyakta

Rūpa– Weakness of B/L Upper & Lower limbs, Difficulty in walking

Upaśaya – Vātahara Cikitsā

Samprāpti –

Doṣa –Vāta (Vyāna) Pradhana

Dūṣya – Sira, Snāyu

Srotas – Mamsavaha, Asthivaha, Majjavaha

Udbhava Sthāna – Pakvāśaya

Vyakta Sthāna – Sarva Śarīra

Vyādhi Viniścaya – Sarvāṅgavāta

Cikitsā Sūtra

स्नेहस्वेदास्थापनानुवासननस्तः कर्म भोजनाभ्यङ्गोत्सादनपरिषेकादिभिर्वातहरैर्मात्रां कालं च प्रमाणीकृत्य; तत्रास्थापनानुवासनं तु खलु सर्वत्रोपक्रमेभ्यो वाते प्रधानतमं मन्यन्ते भिषजः(ca.su.20/13)

Impression

MRI Brain with Whole Spine Screening – Mild Cerebellar Volume Loss with lower thoracic scoliosis to right side. Vertebral bodies are normal.

Genetic Testing – Presence of homozygous pathogenic repeat expansion in FXN gene confirms the genetic diagnosis of Friedreich's ataxia.

CLINICAL EXAMINATION

General Examination – The patient was conscious and moderate built. No Pallor, Icterus, Cyanosis, Clubbing, Edema or Lymphadenopathy.

CVS/RS/PA – Within Normal Limits

Musculo Skeletal system

Gait – High Stepping gait	Curvature of Spine – Scoliosis
Pes Cavus – Present	Pes Equino Varus – Present

Central Nervous System Examination

Higher Mental Function – Intact, Conscious and well oriented with person, time & place

Sensory System – Touch, Pain, Pressure – Intact

Parameter		**Right**	**Left**
Reflexes	Biceps	Areflexia	Areflexia
	Triceps	Areflexia	Areflexia
	Knee	Areflexia	Areflexia
	Ankle	Areflexia	Areflexia
	Plantar	Extensor	Extensor
Muscle Tone	Upper Limb	Normotonic	Normotonic
	Lower Limb	Hypotonia	Hypotonia

Limb	**Movement assessed**	**Right (BT)**	**Right (AT)**	**Left (BT)**	**Left (AT)**
Upper Limb	Shoulder abduction	-4/5	4/5	-4/5	4/5
	Elbow flexion	-4/5	4/5	-4/5	4/5
	Elbow extension	-4/5	4/5	-4/5	4/5
	Wrist extension	-4/5	4/5	-4/5	4/5
	Finger flexion	-4/5	4/5	-4/5	4/5
Lower Limb	Hip extension	3/5	4/5	3/5	4/5
	Knee flexion	3/5	4/5	3/5	4/5
	Knee extension	3/5	4/5	3/5	4/5
	Ankle dorsiflexion	3/5	4/5	3/5	4/5
	Ankle plantarflexion	3/5	4/5	3/5	4/5

SARA SCALE

S.No	**Parameter**	**Before R_x**	**After R_x**
1	Gait	6	6
2	Stance	6	4
3	Sitting	3	1
4	Speech disturbance	0	0
5	Finger chase	2	1
6	Nose Finger test	2	1
7	Fast alternating hand movements	1	0.5
8	Heel shin slide	3	2
9	Total Score	**23/40**	**15.5/40**

Treatment Protocol

S.No	**Treatment given**	**No. of. Days**
1.	*Abhyaṅga with Bala Tailam + Nāḍī Sweda (Vātahara Dravyas)*	3
2.	*Ṣaṣṭika Śāli Piṇḍa Sveda + Mātrā Vasti with Bala Tailam*	7
3.	*Pañcaprasṛtika Kṣīra Nirūha Vasti with – Yoga Vasti Bala Taila Anuvāsana Vasti*	8

Samana Aaushadis

1. Cap. *Mahārāja Prasāriṇī* 21A 600 mg 1- 0 -1
2. Cap. Palsynorm 1- 0 -1

3. DISCUSSION

Considering the progressive neurodegenerative nature of Friedreich's ataxia and the absence of a definitive cure, management was based on the general principles of *Vātavyādhi Cikitsā*, employing multimodal *Ā*yurvedic interventions and *Śamana Auṣadhis* for complementary therapeutic effects. *Sarvāṅga Abhyaṅga* with *Bala Taila* was administered as *Pūrva Karma*, wherein its *Snigdha Guṇa* may counteract the *Rūkṣa Guṇa* of aggravated *Vāta* and support nourishment and ease of movement. Subsequently, *Nāḍī Sveda* with *Vātahara Dravyas* was performed to complement oleation and prepare the body for subsequent procedures.

Ṣaṣṭika Śāli Piṇḍa Sveda (SSPS), a form of *Sāgni Sveda* classified under *Saṅkara Sveda*, was employed for its traditional *Balya* and *Bṛṃhaṇa* effects. As *Sparśanendriya* is the *Sthāna* of *Vāta, SSPS* may support *Vāta* management through its properties and therapeutic warmth. *Ṣaṣṭika Śāli* possesses *Madhura, Laghu, Snigdha, Mṛdu, Balada* and *Pathya* properties, while *Kṣīra is Ājanma Sātmya, Jīvaniya, Bṛṃhaṇīya and Pathya,* with *Madhura Rasa*, *Guru*, *Snigdha* and *Śīta Guṇas* and *Madhura Vipāka. Balamūla* is traditionally *Vāta-śāmaka*. According to *Ayurveda, Bhrajaka Pitta* in the *Tvak* facilitates the processing of externally applied substances, supporting *Bāhya* and *Abhyantara Poṣaṇa* and *Santarpaṇa*; These properties provide an *Āyurvedic* rationale for supporting muscle strength and tissue nourishment; thus, SSPS may serve as a supportive therapy to improve limb function, mobility and overall well-being in Friedreich's ataxia. Physiologically, local heat may induce vasodilation, increase blood flow, stimulate cutaneous receptors, influence sensory and neuromuscular responses, facilitate muscle relaxation and tissue extensibility, and alter nerve conduction and muscle spindle activity. Thus, *SSPS* was incorporated in Friedreich's ataxia (FRDA) as a supportive intervention to promote muscle function and mobility.

Mātrā Vasti with *Bala Taila* was administered to provide sustained *Snehana, Vātahara, Bṛṃhaṇa* and *Balya* effects.[3] As *Pakvāśaya* is considered the principal *Sthāna* of *Vāta*, administration of *Bala Taila* through the *vasti* route may help regulate *vāta* according to classical *Āyurvedic* principles. The *Snigdha* and nourishing properties of *Bala Taila* may

provide *Snehana* and *Balya* support, while its *Bṛṃhaṇa* effect is intended to support muscle strength and functional capacity in FRDA.

Vasti is regarded as *Ardhachikitsā*[4] due to its superior efficacy in *Vāta* disorders, supporting *Dhātu* nourishment, strength and physiological homeostasis through *Vāta* regulation. *Pañcaprasṛtika Vasti*[5] is traditionally acclaimed for its *Vātaghna, Balya* and *Varṇakara* properties, as denoted by its *Phalaśruti*, indicating its role in the management of *Vāta* disorders and promotion of *Bala* and *Varṇa.* In the present case, *Pañcaprasṛtika Kṣīra Vasti* comprising *Madhu*, *Go-Ghṛta, Bala Taila* and *Go-Kṣīra* was administered. *Go-Kṣīra* possesses *Vāta-Pitta Śamana, Bṛṃhaṇa, Balya* and *Rasāyana* properties, supporting *Dhātu Poṣaṇa* and strength. *Go-Ghṛta*, described as *Pitta-Anila Hara* and beneficial to *Rasa* and *Ojas*, may support tissue nourishment and maintenance. Its effects on *Rasa Dhātu* may be interpreted through *Tarpaṇa, Jīvana* and *Dhāraṇa* functions, providing an *Āyurvedic* rationale for nourishment. *Bala Taila* contributes *Snehana, Vātahara, Bṛṃhaṇa* and *Balya* effects, as discussed earlier, to support strength and functional capacity.

Mahārāja Prasāriṇī 21 *Āvarti,* by virtue of its predominantly *Vāta-Kapha Śāmaka, Bṛṃhaṇa, Balya* and Rasāyana properties, helps pacify aggravated *Vāta* and promote *Dhātu Puṣṭi*. The synergistic action of *Prasāriṇī, Sahacara, Aśvagandhā, Balā* and other drugs facilitates *Vāta Anulomana, Bṛṃhaṇa* and *Balya karma*. Thus, it may help alleviate *Sarvāṅga Vāta Lakṣaṇas* by supporting Snāyu, Māṃsa Dhātu and *Bāla*, thereby improving motor functions.

Palsynorm comprises important *Rasaushadhis*, namely *Ekāṅgavīra Rasa, Mahāvātavidhvaṃsana Rasa, Samīrapannaga Rasa, Sūtashekhara Rasa* and *Rajata Bhasma*, along with *Aśvagandhā, Brahmī, Rasnā, Eranda, Lajjālu, Ajwain* and *Arjuna*. These *Rasaushadhis* predominantly contribute *Vāta-Kapha Śāmaka, Vedanāśāmaka, Dīpana-Pācana* and *Rasāyana* Karmas. *Aśvagandhā* and *Brahmī* provide *Balya, Bṛṃhaṇa* and *Medhya* effects, while *Rasnā* and *Eranda* facilitate *Vāta Anulomana* and *Vāta Śamana*. The combined pharmacodynamic actions may promote *Snāyu Bala* and *Māṃsa Dhātu Puṣṭi*. Thus, the formulation may help alleviate *Sarvāṅga Vāta Lakṣaṇas* and support motor coordination and functional mobility in Friedreich's Ataxia.

CONCLUSION

Multipronged *Āyurvedic* management was associated with a reduction in SARA score from 23/40 to 15.5/40 and improvement in bilateral upper limb and lower limb muscle power improved from -4/5 to 4/5 and 3/5 to 4/5 in Friedreich's ataxia. These findings suggest a

potential supportive role for *Ayurvedic* interventions in improving ataxia-related functional parameters. Further controlled studies with larger samples and long-term follow-up are warranted to establish their efficacy and safety.

REFERENCES

1. Longo DL, Fauci AS, Kasper DL, Hauser SL, Jameson JL, Loscalzo J, editors. Harrison's principles of internal medicine. 18th ed. New York: McGraw-Hill, 2012; 3338–3344.
2. Agniveśa. Caraka Saṃhitā: Text with English Translation and Critical Exposition Based on Cakrapāṇi Datta’s Āyurveda Dīpikā. Sharma RK, Dash B, translators. Vol. 5. Varanasi: Chowkhamba Sanskrit Series Office, 2018; 35.
3. Agniveśa. Caraka Saṃhitā: Text with English Translation and Critical Exposition Based on Cakrapāṇi Datta's Āyurveda Dīpikā. Sharma RK, Dash VB, editors. Vol. 6 (Kalpa and Siddhi Sthāna). Varanasi: Chowkhamba Sanskrit Series Office, 2018; Siddhi Sthāna, Chapter 4, verses 52–54, 247.
4. Agniveśa. Caraka Saṃhitā: Text with English Translation and Critical Exposition Based on Cakrapāṇi Datta's Āyurveda Dīpikā. Sharma RK, Dash VB, editors. Vol. 6 (Kalpa and Siddhi Sthāna). Varanasi: Chowkhamba Sanskrit Series Office, 2018; Siddhi Sthāna, Chapter 1, verses 38–39, 163.
5. Agniveśa. Caraka Saṃhitā: Text with English Translation and Critical Exposition Based on Cakrapāṇi Datta's Āyurveda Dīpikā. Sharma RK, Dash VB, editors. Reprint ed. Vol. 6 (Kalpa and Siddhi Sthāna). Varanasi: Chowkhamba Sanskrit Series Office, 2018; Siddhi Sthāna, Chapter 8, 310.