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Case Report

Duchenne Muscular

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Ayurveda and Duchenne Muscular Dystrophy - A Holistic approach to enhancing Quality of Life

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Duchenne muscular dystrophy is a severe inherited disorder marked by progressive muscle weakness due to dystrophin deficiency. For a year, a three-and-a-half-year-old kid struggled to climb stairs and squat. Four sessions of Ayurvedic Panchakarma therapy were interspersed with oral Ayurvedic drugs. The therapy's objective was to increase muscle strength and function. After therapy, there was a discernible clinical improvement and a considerable drop in the child's blood creatine phosphokinase levels. This case shows how Ayurvedic treatments may improve the quality of life and assist in controlling Duchenne muscular dystrophy when used in conjunction with conventional therapy.

Keywords: Mansagata Vata, Ayurveda, Panchakarma, Duchenne Muscular Dystrophy (DMD), Case Report

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Introduction

Mutations in the DMD gene, located at Xp21.1, cause DMD, a severe X-linked recessive illness.**[1]** In this instance, there is no dystrophin protein. This prevalent genetic neuromuscular illness affects around one in every 3,500 live male newborns.**[2]** Progressive weakness, calf muscle pseudohypertrophy, contractures, scoliosis, cardiomyopathy, mental impairment, and respiratory failure are all hallmarks of DMD. The symptoms worsen with time and often manifest between the ages of three and five.**[3]** The diagnosis is based on clinical presentation, genetic testing, and elevated creatine phosphokinase (CPK) values, which often exceed hundreds of IU/L.**[4]** Despite advances in modern medicine, there is currently no authorized therapy for DMD. In order to slow the condition's development, current treatment options include corticosteroids, physical therapy, orthopedic procedures, and assisted breathing. However, these therapies can have serious long-term side effects. **[5,6]** *Ayurveda* is another method that might provide further therapy options. *Ayurvedic* principles state that DMD is associated with *Bheejabagahaavyava Dusti* and *Dhatukshayaj Vata*, which causes *Mamsa* and *Medo Dhatu* to degenerate.**[6,8]** In this case report, a 3.5-year-old child with DMD saw a notable clinical improvement as a consequence of *Shamana Aushadha* and *Panchakarma* treatment.

Case Report

A male child, 3 years and 6 months old, was brought to the Kaumarbhritya OPD at IASR on 08/02/2023 with complaints that, over the previous year, his mother claimed he had increasingly experienced difficulties mounting stairs. Up to the age of two and a half, the youngster had no serious concerns. The mother then noticed that he was progressive decline in activity.

On examination and after reviewing the case history in detail, clinical suspicion of Duchenne Muscular Dystrophy (DMD) was raised. The parents had previously visited a private hospital, where investigations including serum CPK were carried out. Elevated levels were found, and on 31-01-2023, a working diagnosis of DMD was suggested. A hemizygous deletion affecting exons 8 to 43 in the DMD gene was later validated by genetic testing (MLPA) conducted at PGI, Chandigarh (report dated 10/02/2023). The child had been on allopathic treatment for 1.5 months and again came to us for *Ayurvedic* management.

The child, second-born of a non-consanguineous marriage, was delivered full-term via normal vaginal delivery with an immediate cry and a birth weight of 2.8 kg. His antenatal, perinatal, and postnatal history was unremarkable, with complete immunization and normal diet, appetite, sleep, and excretory functions.

Developmental milestones showed mild gross motor delay, with difficulty in climbing stairs and running from early childhood, while other milestones were age-appropriate. Clinical examination revealed bilateral calf muscle hypertrophy, positive Gower's sign, and reduced lower limb strength (4/5), with normal reflexes and sensory functions. *Ayurvedic Panchakarma* and *Shamana Aushadha* were considered to manage symptoms and enhance the quality of life.

Therapeutic Intervention

The treatment included four inpatient (IPD) stays at IASR Hospital, where the patient received Panchakarma therapies along with oral medications. Follow-ups were scheduled to monitor improvements in motor function and biochemical parameters. By the follow-ups, the parents reported an improvement in the child's ability to move his legs and climb stairs; the child's physical growth and development showed further progress, and a CKMB test was advised.

Table 1: Timeline of treatment

OPD	DOA	DOD	Panchakarma Therapies	Medication Name	Dose	Frequency
08/02/2023			Ksheerabala Taila Nasya	Vidangarishta	5 ml	TDS
				Bilvaadi Gutika	125 mg	TDS
				Vasakasava	5 ml	BD
15/03/2023				Vidangarishta	5 ml	TDS
				Bilvaadi Gutika	125 mg	TDS
				Indukant Kashaya	10 ml	BD
-	29/03/2023	20/04/2023	Snehana, Swedana, Shashti Shali Pinda Sweda	Ashwagandhaaristha	10 ml	BD

OPD	DOA	DOD	Panchakarma Therapies	Medication Name	Dose	Frequency
On discharge for 16 days				Ashwagandhaaristha	10 ml	BD
	07/05/2023	17/05/2023	Shashti Shali Pinda Sweda	Aampachani Vati	125 mg	BD
				Balaaristha	10 ml	BD
				Ashwagandhaaristha	10 ml	BD
On discharge for 16 days				Bilvaadi Gutika	125 mg	TDS
				Kumarkalyana Rasa + Godanti Bhasma	60mg + 125mg	BD
				Ashtvarga Kashayam	10 ml	BD
				Balaaristha	10 ml	BD
				Ashwagandhaaristha	10 ml	BD
Follow-up 03/06/2023 & 05/07/23				Bilvaadi Gutika	125 mg	TDS
				Balaaristha	10 ml	BD
				Ashwagandhaaristha	10 ml	BD
Follow-up 22/07/2023			Ksheerabala Taila Nasya	Bilvaadi Gutika	125 mg	TDS
				Vidangarishta	5 ml	TDS
				Khadiraristha	5 ml	BD
Follow-up 16/08/2023				Chitrakaadi Vati	125mg	TDS
				Indukant Kashaya	2 tsp	BD
				Balaaristha	10 ml	BD
				Ashwagandhaaristha	10 ml	BD
	13/09/2023	12/10/2023	Shashti Shali Pinda Sweda,	Chitrakaadi Vati	—	TDS
			Matra Basti with Ksheerabala Taila	Indukant Kashaya	2 tsp	BD
				Balaaristha	10 ml	BD
				Ashwagandhaaristha	10 ml	BD
On Discharge for 21 days				Balaaristha	10 ml	BD
				Ashwagandhaaristha	10 ml	BD
	04/11/2023	20/11/2023	Mridu Abhyanga, Nadi Swedana, Shashti Shali Pinda Sweda	Bilvaadi Gutika	125 mg	TDS
				Balaaristha	10 ml	BD
				Ashwagandhaaristha	10 ml	BD
				Asthvarga Kashaya	10ml	BD

Outcomes

Over time, significant symptomatic improvements were reported, particularly in physical activities such as climbing stairs and riding tricycle. The treatment protocol did not result in any complications, and no adverse reactions were observed. A significant reduction in CKMB levels was observed.

Table 2

Parameters	Before Treatment	After Treatment
CKMB	615.57 ng/mL	298.69 ng/mL

Discussion

DMD is a progressive, incurable condition where therapeutic goals shift to slowing progression and enhancing quality of life. In *Ayurveda*, such disorders are classified under *Adibala Pravritta Vyadhi* due to *Beeja Dushti*, causing *Srotorodha*, *Dhatukshaya*, and *Vata Prakopa*.**[9,10,11]** This leads to improper *Mamsa Dhatu* formation, initially hypertrophied and later degenerated. Therapies such as *Pindasweda* and *Matra Basti* address *Mamsagata Vata* by enhancing circulation, relieving stiffness, and nourishing *Dhatus*. Internal medicines like *Ashwagandharishta* and *Balaarishta* restore *Dhatvagni*, ensuring better tissue nutrition and stability.**[12]** Reduction in CKMB indicates decreased muscular degeneration and improved metabolic clearance, aligning with Ayurvedic concept of *Ama Pachana* and *Visha Nirharana*.**[13,14,15]** *Bilvaadi Gutika*, key part of protocol, helped combat endogenous toxicity and supported renal function, addressing potential complications of raised muscle enzymes.**[16]** This integrative approach provided functional improvements and biochemical benefits, emphasizing Ayurveda's potential as supportive system in managing genetic muscular disorders.

Conclusion

This case highlights the potential role of Ayurvedic interventions in improving the quality of life in patients with Duchenne Muscular Dystrophy. The combination of *Panchakarma* therapies and oral medications contributed to symptomatic relief, better muscle function, and a reduction in CKMB levels. While further studies and long-term follow-ups are needed, this integrative approach may complement conventional treatments for neuromuscular disorders.

Informed Consent

Written informed consent was obtained from the patient's parents for documentation and publication.

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