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Ayurvedic management of Limb Girdle Muscular Dystrophy - A Case Report

Chetana Mugali¹, Sanathkumar DG²

¹Post Graduate Scholar, Department of Panchakarma, KVG Ayurveda Medical College & Hospital Sullia, Karnataka, India.

²HOD & Professor, Department of Panchakarma, KVG Ayurveda Medical College & Hospital Sullia, Karnataka, India.

ABSTRACT

Limb girdle muscular dystrophy is a rare, progressive and genetically heterogeneous group of muscular dystrophies that causes weakness and wasting of muscles. LGMD primarily affects the hip and shoulder muscles. There is no specific treatment for the LGMD in the allopathic science; it is managed through only supportive care. In the present case study, the patient with LGMD was treated with *Shamana* and *Panchakarma Chikitsa* and disease is managed successfully. An *Ayurvedic* diagnosis of the condition based on the presentation of the disease can be taken as *Mamsagata Vata* (neuromuscular diseases). The patient was treated with *Balashwagandha Lakshadi Taila Abhyanga* followed by *Shashtikashali Pinda Swedana* and *Mustadi Yapana Basthi* along with *Shamanoushadhi*. There was symptomatic improvement in the patient's condition. The present case study suggests that LGMD can be satisfactorily managed with *Ayurvedic* oral and *Panchakarma* therapy

Key words: *Mamsagata Vata, Limb girdle muscular dystrophy, Ayurvedic management*

INTRODUCTION

Muscular dystrophy refers to a group of genetic disorders characterized by progressive muscle weakness and degeneration; the different types of Muscular dystrophies vary in terms of which muscles are affected. Duchenne muscular dystrophy (DMD), Becker muscular dystrophy (BMD), Emery- Dreifuss muscular dystrophy (EDMD), Limb- girdle muscular dystrophy (LGMD), Congenital muscular dystrophy (CMD), Myotonic muscular dystrophy (MMD), Fascioscapulohumeral muscular dystrophy (FSMD), Oculopharyngeal muscular dystrophy (OPMD) are

common Muscular Dystrophies.^[1] Each of these disorders differs from pattern of inheritance, defective gene/ protein, onset, severity, clinical symptoms, affecting muscle groups.^[2] LGMDs are autosomal, heterogenous neuromuscular disorders of progressive weakness in limb girdle muscles, Primarily affects pelvic and shoulder girdle muscles. LGMD is the 4th most common genetic cause of muscle weakness with an estimated prevalence in about 2 in every 100,000 individuals. Muscular Dystrophy patients are known to have mortality at younger age due to there is lack of effective managements. Present case is of autosomal recessive limb girdle muscular dystrophy in a child aged about 12 years which can be diagnosed as *Mamsagatha Vaata*^[3] which comes under the broad heading of the *Vatavyadhi* leading to progressive *Maamsa Shosha* is managed through the *Ayurvedic* line of management shows, with the help of systematic *Ayurvedic* line of treatment Muscular dystrophy can be managed successfully.

CASE REPORT

A child aged about 12 years, came with the complaints of weakness in both the lower limbs, difficulty to get up from the squatting position and to sit from the standing

Address for correspondence:

Dr. Chetana Mugali

Post Graduate Scholar, Department of Panchakarma, KVG Ayurveda Medical College & Hospital Sullia, Karnataka, India.

E-mail: mchetana270@gmail.com

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position. At the age of 6 years child's parents observed usage of hands to stand up from squatting position, difficulty in standing from sitting posture and to climb stairs with hands on the knees, Repeated fall while running or walking. The patient consulted Mazumdar Shaw Medical Center, Mysore in the year 2021. On investigation CPK level was 5134 U/L, LDH level was 947 U/L, vitamin D 21.30ng/ml and electromyography dated 13/07/2021 shows the myopathic patterns involving both proximal and distal limb muscles. She was under medication for the same complaints but didn't get relief so for better management she was admitted in inpatient of *Panchakarma* department of KVG Ayurvedic Medical Hospital Sullia.

Table 1: Showing the Clinical findings in the patient with limb girdle muscular dystrophy

General examination

Nadi - 84/min	Pallor - Absent
Mala - Once a day	Icterus - Absent
Moothra - 3-4 times/ day	Lymph Nodes - Not Palpable
Jihva - Aliptha	Clubbing - Absent
Shabdha - Prakruta	Edema - Absent
Sparsha - Prakruta	
Druk - Prakruta	
Akruthi - Madhyama	
Saara - Madhyama	
Sathva - Madhyama	
Samhanana - Madhyama	
Ahaara Shakthi - Avara	
Vyayama Shakthi - Avara	

Systemic examination

CNS	Conscious and well oriented Higher mental functions - intact Cranial nerves - intact Involuntary movements - absent
CVS	S1S2 heard, no murmurs
RS	Normal vesicular breath sounds heard
P/A	No tenderness, soft, no organomegaly
Musculoskeletal system	Inspection - Calf muscle pseudo hypertrophy

Waddling gait
No involuntary movements noted
Palpation - No pain or tenderness in calf muscles
Muscle power - 4
Muscle tone - hypertonia
Reflexes - Deep tendon reflexes diminished
Gower sign - Positive

Treatment plan

The management was focused on providing symptomatic relief. General management of *Vatavyadhi*^[4] is adopted.

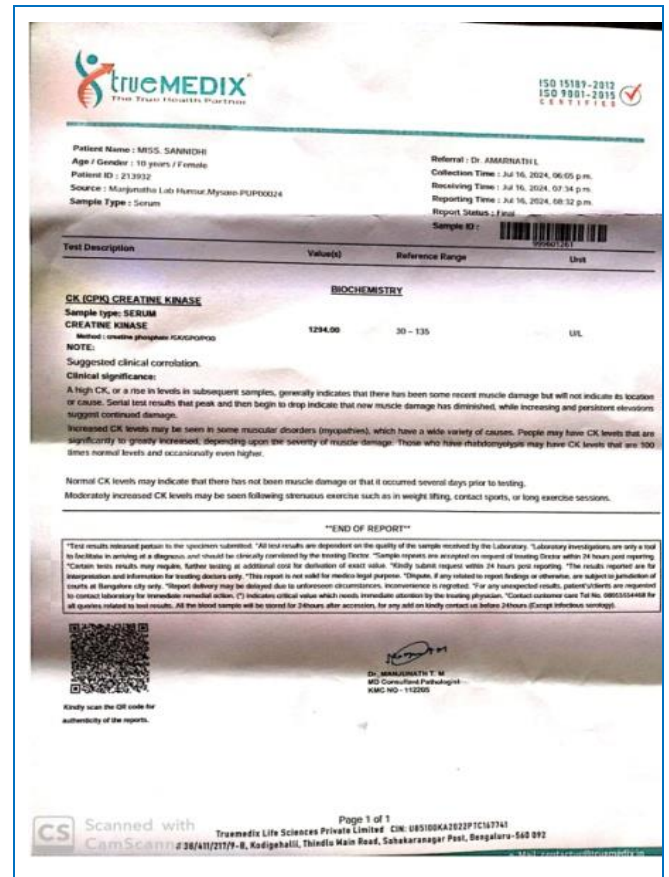
Table 2: Showing the Oral Medications Prescribed.

Name of the medicine	Anupana and dose	Days
Balarishta with Dashamoolarishta	10ml-0-10ml after food with equal quantity of hot water	08.12.2023 to 30/6/2024
Ashwagandha Choorna	1/2tsp-0-1/2 tsp with honey	08.12.2023 to 02.01.2024
Tab. Ekangaveera Rasa (150 mg)	1-0-1 after food	08.12.2023 to 02.01.2024 29.04.2024 to 30.06.2024
Tab. Mahayogaraja Guggulu (250mg)	1-0-1 after food	08.12.2023 to 02.01.2024
Ashwagandha Avalehya	1tsp-0-1tsp with warm milk	02.01.2024 to 30.06.2024

Table 3: Showing the Panchakarma procedures

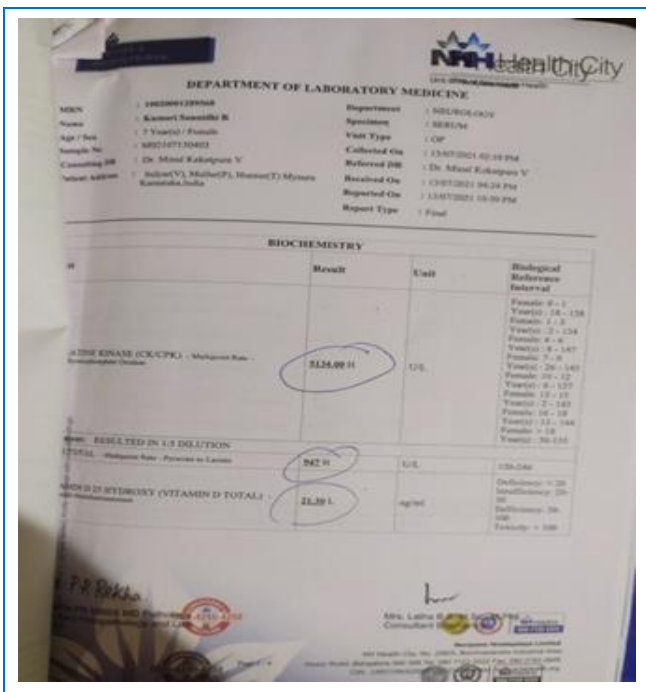
Name of the procedure	Drugs used	Days of treatment
Abhyanga	Balashwagandha Lakshadi Taila	08.12.2023 to 18.12.2023 02.01.2024 to 11.01.2024 29.04.2024 to 07.05.2024
Swedana	Shashtika Shali Pinda Sweda	08.12.2023 to 18.12.2023 02.01.2024 to 11.01.2024 29.04.2024 to 07.05.2024
Basthi Karma	Matra Basthi with	08.12.2023 to 18.12.2023

	Mahanarayana Taila -20ml	02.01.2024 to 11.01.2024 29.04.2024 to 07.05.2024
	Mustadi Rajayapana Basthi <ul style="list-style-type: none"> ▪ Madhu - 15ml ▪ Saindhava - Pinch ▪ Jeevantyadi Ghrita -15ml ▪ Kalka - 10gm ▪ Mustadi Ksheerapaka - 60ml ▪ Mamsarasa - 20ml 	02.01.2024 to 11.01.2024 29.04.2024 to 07.05.2024
Shiro Pichu	Mahanarayana Taila	08.12.2023 to 18.12.2023



Outcome

- Mild improvement was observed from parents and patient in waddling gait.
- Difficulty to stand and to sit reduced.
- Difficulty to walk and climbing up stairs reduced.
- Walking ability of the patient increased.
- Before treatment CPK was 5134 U/L, after treatment it reduced to 1294 U/L



DISCUSSION

Limb girdle muscular dystrophy is the autosomal recessive heterogeneous hereditary disorder. The genes associated with LGMD normally encode protein that play vital roles in muscle function, regulation, and repair. When one of these genes contains a mutation, cells cannot produce the proteins needed for healthy muscles. In the present case the Creatine phosphokinase is valued about 5134 U/L and the normal range in females aged 7 to 9 years, ranges from 26 to 145 U/L. Considering the symptoms in Children with DMD, it may be due to *Bheejabhagavayava Dushti* due to *Adibala Pravrutta* cause.^[5] This *Bheejabhagavayava Dushti* further leads to *Tridosha Dushti*. The vitiated *Vata* vitiates the *Mamsa Dhatu* and causes *Mamsa Kshaya* leading to this disease. There is no definite treatment protocol for the diseases which are caused due to *Beeja Dosha*, but the present condition can be treated symptomatically by treating the *Vata Dosha* to increase the quality of life. Even though it is an *Adibala Pravrutta Vyadhi* it can be taken as *Mamsagata Vata* based on the presentation of the

disease. *Mamsagata Vata* is a type of *Vatavyadhi* so in the present case *Samanya Vatavyadhi Chikitsa* is adopted.

Abhyanga with Balashwagandha Lakshadi Taila^[6]

This *Taila* contains:

Kashaya - Bala, Ashwagandha, Laksha

Kalka - Rasna, Chandana, Manjista, Durva, Yastimadhu, Choraka, Sariva, Ushira, Musta, Kushta, Agar, Devadaru, Haridra, Kumuda, Harenuka, Shatapushpa, Padmakeshara.

Tila Taila

This *Taila* is used in different types of *Vatavyadhi* and this *Taila* is considered as *Atyanta Pustikar*, in the present study the patient is having *Vata Vruddi* and *Mamsa Kshaya* so this *Taila* is used for the *Abhyanga* to regain the strength by doing *Vata Shamana*.

Swedana with Shastika Shali Pinda Swedana

Shastika Shali Pinda Sweda is a form of *Sankara Sweda* where the ingredients like *Shastika Shali* (*Tridosahara*, *Balya*, *Pushtikara*), *Bala Mula Kwatha* (*Brumhana*), *Ksheera* (*Balya*) are used. Over all *Shastika Shali* is a type of *Swedana* which also gives *Snigdghata* to the body and increases the *Bala* by controlling the vitiated *Vata Dosha*.

Mathra Basthi with Mahanarayana Taila

Kashaya Dravya - Shatavari, Shalaparni, Prushnaparni, Shati, Triphala, Erandamula, Brahati Phala, Kantakari Mula, Pootika Mula, Gavedhuka, Sahachara

Tila taila, *Go Dugdha* and *Aja Dugdha*

Kalka Dravya - Punarnava, Vacha, Devadaru, Shatapushpa, Chandana, Agar, Shaileya, Tagara, Kushta, Ela, Jatamamsi, Shalaparni, Bala, Ashwagandha, Saindhava, Rasna .

This *Taila* is considered as *Sarva Vata Nivaraka*. *Basti* is a prime line of treatment for *Vata* by considering the age factor in the present case *Matrabasthi* was adopted.

Basti Karma - Mustadi Yapana Basthi^[7]

Mustadi Yapana Basthi is a *Sarvakala Deya Basthi*. This *Basthi* helps to increase *Mamsa* and *Bala* and gives

Rasayana effect. So, in the present case this *Basthi* was adopted

Oral Medications

Balarishta with Dashamoolarishta

Balarishta: Bala, Ashwagandha, Dhataki, Guda, Payasya, Eranda, Rasna, Prasarini, Lavanga, Usheera, Gokshura. This *Arishta* is used in *Vataja Vikara* this balances *Vata* and improves strength of nerves, muscles and bones. It is a *Balavardhaka*, *Pushtivardhaka*, and *Agnivardhaka*. This *Arishta* along with *Dashamoolarishta* was selected to control the *Vata Dosha* and to improve *Bala*.^[8]

Dashamoolarishta: This *Arishta* contains ingredients like *Dashamoola*, *Chitraka*, *Pushkaramoola*, *Lodhra*, *Guduchi*, *Amalaki*, *Durlabha*, *Bijasara*, *Khadira*, *Pathya*, *Kushta*, *Manjishta*, *Devadaru*, *Vidanga*, *Madhuka*, *Bharangi*, *Kapittha*, *Bhibhitaki*, *Punarnava*, *Chavya*, *Jatamamsi*, *Priyangu*, *Sariva*, *Krishnajeeraka*, *Trivrut*, *Nirgundi*, *Rasna*, *Pippali*, *Puga*, *Shati*, *Haridra*, *Shatapushpa*, *Padmaka*, *Nagakeshara*, *Mustha*, *Indrayava* etc.^[9] This combination helps in all kinds of *Vatavyadhi* by controlling *Vata*, used in *Dhatukshaya* to increase the strength.

Ekangaveera Rasa

Shuddha Gandhaka, *Rasa Sindhura*, *Triphala Kwatha*, *Kantaloha Bhasma*, *Trikatu Kwatha*, *Vanga Bhasma*, *Nirgundi Kwatha*. This helps to pacify *Vata Dosha*, rejuvenate the body and helps in overall wellbeing.

Mahayogaraja Guggulu Sharangadhara Samhita Madhyama 7/56-69

Shunthi, *Pippali*, *Chavya*, *Pippali Moola*, *Chitraka Moola*, *Hingu*, *Jeeraka*, *Krishna Jeeraka*, *Ajamoda*, *Sarshapa*, *Shweta Jeeraka*, *Renuka*, *Indrayava*, *Patha*, *Vidanga*, *Gajapippali*, *Katuki*, *Ativisha*, *Bharangi*, *Vacha*, *Murva*, *Triphala*, *Guggulu*, *Vanga Bhasma*, *Roupya Bhasma*, *Naga Bhasma*, *Loha Bhasma*, *Abraka Bhasma*, *Mandura Bhasma*, *Rasasindhura* this combination is used to control the *Vata* and to improve strength.

Ashwagandhadhi Avalehya

Ajamamsa, *Ashwagandha*, *Tavaksheeri*, *Munjathaka*, *Atmagupta*, *Yatimadhu*, *Ela*, *Twak*. This combination helps in increasing strength, improves muscle power.

CONCLUSION

In the present case the symptoms are managed successfully through *Ayurvedic* line of management. *Ayurvedic* principles give clarity and confidence in managing and providing a better quality of life to the child and parents inclusively.

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