



AYURVEDIC MANAGEMENT OF MAMSAGATA VATA WITH SPECIAL REFERENCE TO LIMB GIRDLE MUSCULAR DYSTROPHY – A SINGLE CASE STUDY

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ABSTRACT

Background: Limb-girdle muscular dystrophy (LGMD) is a group of inherited neuromuscular disorders characterized by progressive weakness of the shoulder and pelvic girdle muscles, resulting in impaired mobility and functional limitations. No curative therapy is available and management remains supportive. In Ayurveda, its clinical presentation may be correlated with Mamsagata Vata, a condition involving vitiated Vata Dosha affecting Mamsa Dhatu, associated with Dhatukshaya.

Objective: To evaluate the clinical outcomes of an integrated Ayurvedic treatment protocol in a patient presenting with features of limb-girdle muscular dystrophy, interpreted through the Ayurvedic framework of Mamsagata Vata.

Methods (case presentation and intervention): A 61-year-old male patient with a six-year history of gradually progressive weakness of the lower back and bilateral lower limbs, difficulty in rising from a sitting position and climbing stairs, generalized fatigue, waddling gait, bilateral foot drop, and reduced muscle power (Grade 3/5) was treated with an integrated Ayurvedic regimen. The treatment included Sarvangasana, Bhujangasana, Bhastrika, and Sadyo Virechana on the first day, followed by ten days of Shashtika Shali Pinda Sweda, Pizhichil, Anuvasana Basti with Maha Masha Taila, and Niruha Basti with Mustadi Yapana Basti. Functional outcomes were assessed before and after treatment. Assessment is done before and after treatment using criteria like 10 m walking test, gait speed, time to climb 4 stairs, anthropometry, North Star Ambulatory Assessment (NSAA) score.

Results: Compared with baseline, the 10-metre walk time fell from 31 to 23 s (25.8% reduction; gait speed 0.32 to 0.43 m/s), the four-stair climb time fell from 14 to 11 s (21.4% reduction), the North Star Ambulatory Assessment (NSAA) score rose from 13 to 18 (+5 points; 38.5% relative gain), and pelvic girdle power (MRC) rose from Grade 3/5 to 4/5. Bilateral Calf muscle circumference reduced by 1cm. Rising from sitting required less support, and fatigue was reduced. No adverse effects were observed.

Conclusion: In this single patient, the integrated protocol was followed by short-term, measurable improvement in gait speed, stair climbing, ambulatory function and proximal strength, without adverse events. Because this is an uncontrolled, unblinded single-case observation with immediate post-treatment assessment only, the findings are hypothesis-generating. Controlled studies with longer follow-up are needed.

KEYWORDS: Mamsagata Vata, Limb-Girdle Muscular Dystrophy, Ayurveda, Basti, Brimhana, Pinda Sweda.

1. INTRODUCTION

Muscular dystrophy (MD) refers to a group of more than 30 genetic diseases that cause progressive weakness and degeneration of skeletal muscles used during voluntary movement. All forms of MD grow worse as muscles progressively degenerate and weaken. Many individuals eventually lose the ability to walk.

Limb-girdle MD (LGMD) refers to more than 20 inherited conditions marked by progressive loss of muscle bulk and symmetrical weakening of voluntary muscles, primarily those in the shoulders and around the hips. At least five forms of autosomal dominant limb-girdle MD (known as type 1) and 17 forms of autosomal recessive limb-girdle MD (known as

type 2) have been identified. Some autosomal recessive forms of the disorder are now known to be due to a deficiency of any of four dystrophin-glycoprotein complex proteins called the sarcoglycans. Deficiencies in dystroglycan, classically associated with congenital muscular dystrophies, may also cause LGMD.^[1]

The recessive LGMDs occur more frequently than the dominant forms, usually begin in childhood or the teenage years, and show dramatically increased levels of serum creatine kinase. The dominant LGMDs usually begin in adulthood. In general, the earlier the clinical signs appear, the more rapid the rate of disease progression. The estimated incidence of LGMD a group is approximately 1 to 6 per 100,000 population, overall population prevalence of all subtypes combined is estimated at



1 in 14,500 to 1 in 123,000, with carrier frequencies of 1 in 150 to 1 in 211 for the more common recessive subtypes. Limb-girdle MD affects both males and females. Some forms of the disease progress rapidly, resulting in serious muscle damage and loss of the ability to walk, while others advance very slowly over many years and cause minimal disability, allowing a normal life expectancy. In some cases, the disorder appears to halt temporarily, but progression then resumes. curative therapy is not presently available and worldwide remains supportive-physiotherapy, orthotic support, cardio respiratory monitoring and symptomatic care.^[2]

Ayurveda describes such a presentation under *Vata Vyadhi* and, more specifically, *Mamsagata Vata*. *Vata* governs movement, sensation and neuromuscular function. When *Mamsa Dhatu* is depleted (*Dhatukshaya*), *Khavaigunya* happens in *Srotas* and vitiated *Vata* lodges in the muscle tissue, producing *Gurutha* (heaviness), *Sphurana* (twitching), *Toda* (pricking pain), *Karshya* (wasting), *Shramita* (fatigue) and *Balahani* (loss of strength).^[3]

This clinical-conceptual overlap with the proximal myopathic weakness of LGMD formed the rationale for the present study. In keeping with classical principles, treatment of *Vata Vyadhi* relies on *Snigdha*, *Guru* and *Ushna* measures, with *Basti* regarded as the principal modality, and nourishing (*Brimhana*) therapy is required where *Dhatukshaya* predominates

2. AIMS AND OBJECTIVES

- To study the etiopathogenesis of *Mamsagata Vata*
- To relating *Mamsagata Vata* to limb girdle muscular dystrophy.
- To evaluate the efficacy of *Ayurveda* treatments in the management of *Mamsagata-Vata* with special reference to limb girdle muscular dystrophy.

3. CASE REPORT

3.1 Presenting complaints and history

A 61-year-old, moderately built man, a known hypertensive on regular medication, attended the outpatient department of Sri Sri College of Ayurvedic Science and Research Hospital, Bengaluru, with weakness of the lower back and both lower limbs for six years. He had been healthy until six years earlier, when weakness developed gradually. He reported difficulty sitting down and rising without support, difficulty climbing stairs unaided, inability to lift weights and

generalised fatigue. Previous consultations and treatments had given no satisfactory relief.

3.2 Clinical Examination

General Examination

Pallor, icterus, clubbing, cyanosis and oedema were absent.

Inspection (pelvic region, hips and lower limbs):

- The skin was dry and rough, with mild hyperpigmented macules and patches present on bilateral lower limbs.
- There was wasting of the thigh muscles (pelvic girdle and proximal lower-limb involvement) with pseudohypertrophy of both calf muscles.

Gait and functional signs:

- The patient had a waddling gait, consistent with weakness of the hip abductors and extensors.
- Gowers' sign was positive, indicating proximal lower-limb weakness.
- Trendelenburg sign was positive, indicating gluteus medius weakness.

Palpation: There was no tenderness and no local warmth.

Anthropometry

- **Thigh circumference:** right 47 cm, left 45 cm (right larger by 2 cm)
- **Limb length (hip to lateral malleolus):** right 93 cm, left 95 cm (left longer by 2 cm)

Neurological examination

- Higher mental functions: normal (conscious, oriented and spoke normally)
- Cranial nerves: normal
- Muscle bulk: wasting of bilateral thighs muscles, pseudohypertrophy of bilateral calf muscles (calf circumference: right 41 cm, left 43 cm).
- Muscle tone: reduced in lower limbs, normal in upper limbs.
- Muscle power: 3/5 in both lower extremities, 5/5 in upper extremities.
- Deep tendon reflexes: biceps and triceps normal; knee jerk and ankle jerk diminished.
- Plantar response – normal
- Sensory examination - Pain, touch and temperature sensations were intact.

Table 1. *Ashtavidha and Dashavidha Pariksha*

<i>Ashtavidha Pariksha</i>		<i>Dashavidha Pariksha</i>	
<i>Nadi</i>	<i>Vata-Pitta</i>	<i>Prakriti</i>	<i>Vata-Pitta</i>
<i>Mala</i>	<i>Sama</i>	<i>Vikriti</i>	<i>Vata</i>
<i>Mutra</i>	<i>Vikruta</i>	<i>Sara / Samhanana</i>	<i>Avara / Avara</i>
<i>Jihva</i>	<i>Ruksha,</i> <i>Sweta varna</i>	<i>Pramana / Satmya /</i> <i>Satwa</i>	<i>Madhyama (all three)</i>
<i>Shabda / Drik</i>	<i>Normal / Normal</i>	<i>Ahara Shakti</i>	<i>Jarana: Avara; Abhyavaharana: Avara</i>
<i>Sparsha</i>	<i>Anushna</i>	<i>Vyayama Shakti</i>	<i>Avara</i>
<i>Akriti</i>	<i>Madhyama (wasting of</i> <i>lower limb muscles)</i>	<i>Vaya</i>	<i>Vruddha</i>



3.4 Investigations

Complete blood count, peripheral smear and thyroid profile were normal; ESR was 9 mm in the first hour. Serum creatine kinase was raised at 907 U/L. The lipid profile showed triglycerides 293 mg/dL, HDL 30 mg/dL, VLDL 58.6 mg/dL and LDL/HDL ratio 3.1. Vitamin D was low at 19.1 ng/mL, and the vitamin B level was 194 ng/mL.

3.5 Nidana Panchaka

- **Nidana:** As the disorder is genetic, *Beeja Dosha* is the principal cause. *Vata*-aggravating *Ahara* and *Vihara*, *Manasika Hetu* such as work stress, and *Kalaja Hetu* may act as triggering factors.
- **Purvarupa:** Early fatiguability, occasional heaviness of the limbs and mild unsteadiness on rising from sitting.
- **Rupa:** Progressive weakness of the pelvic girdle, difficulty rising from a low seat or the floor, waddling gait and calf pseudohypertrophy.

- **Upashaya / Anupashaya:** Relief from fatigue and lightness followed *Snehana* and *Swedana*; stiffness and weakness worsened with *Ruksha Ahara*, cold exposure and excessive exertion.
- **Samprapti:** Constitutional and age-related *Dhatukshaya* of *Mamsa Dhatu* produces *Khavaigunya* in *Mamsavaha Srotas*. This draws vitiated *Vata* into *Mamsa Dhatu*, impairing its nourishment (*Poshana*) and function (*Cheshta*) and giving rise to *Karshya*, *Sada*, *Sphurana* and *Bala-hani*, the picture of *Mamsagata Vata* that corresponds to proximal myopathic weakness.

4. THERAPEUTIC INTERVENTION

The strategy combined *Snehana*, *Swedana*, mild *Shodhana* (*Sadyo Virechana*) and sustained *Brimhana-Vata Shamana* therapy through external (*Bahya*) and internal (*Abhyantara*) routes. The protocol was delivered over eleven days, from 14 to 24 July 2026.

Table 2. Treatment protocol administered

No.	Procedure	Medicine / material	Duration
1	<i>Sarvanga Abhyanga</i>	<i>Maha Masha Taila</i>	Day 1 (14/07/2026)
2	<i>Sarvanga Bhaspha Sweda</i>	<i>Dashamoola Kashaya</i>	Day 1 (14/07/2026)
3	<i>Sadyo Virechana</i>	<i>Gandharvahastadi Eranda Taila</i> 40 mL with 200 mL milk and <i>Shunti Swarasa</i> 15 ml	Day 1 (14/07/2026)
4	<i>Shashtika Shali Pinda Sweda</i>	<i>Abhyanga</i> with <i>Maha Masha Taila</i> , followed by <i>Shashtika Shali Pinda Sweda</i> (in morning session)	For 10 days (15/07/2026 to 24/07/2026)
5	<i>Pizhichil</i>	<i>Maha Masha Taila</i> (in afternoon session)	For 10 days (15/07/2026 to 24/07/2026)
6	<i>Anuvasana Basti</i>	<i>Maha Masha Taila</i> 72 mL	10 days (15/07/2026 to 24/07/2026)
7	<i>Niruha Basti</i>	<i>Mustadi Yapana Basti</i>	6 days (16/07/2026 to 21/07/2026)

Discharge Medication

Sl no.	Medicine	Route	Dose and <i>Anupana</i>	Meal relation
1.	Cap – <i>Dhanwantaram</i> 101	Oral	2 BD with warm water	Before food
2.	Cap – <i>Nuro- XT</i>	Oral	1-0-1 with warm water	After food
3.	<i>Mahamasha Taila</i>	External application	Twice daily	

5. ASSESSMENT CRITERIA

Outcomes were assessed at baseline (before treatment, 13 July 2026) and again after completion of the protocol (24 July 2026). The following criteria were used.

- **10-metre walk time:** time taken, in seconds, to walk 10 m at the patient's usual pace. Gait speed (m/s) was derived as 10 divided by the time taken.
- **Four-stair climb time:** time taken, in seconds, to climb four stairs.
- **North Star Ambulatory Assessment (NSAA):** a graded functional scale of ambulatory activities, with higher scores indicating better function.

- **Muscle power:** Medical Research Council (MRC) scale, Grade 0 to 5, of the pelvic girdle muscles.
- **Rising from sitting or floor:** observed level of support required, including the Gowers' manoeuvre.
- **Fatigue and exercise tolerance:** patient-reported.

6. OBSERVATIONS AND RESULTS

Every criterion improved after the eleven-day protocol (Table 3). Absolute and relative changes were calculated from the recorded values.

Table 3. Before-and-after comparison of assessment criteria

Assessment criterion	Before treatment	After treatment	Absolute change	Relative change
Time to walk 10 m (s)	31	23	-8 s (faster)	25.8% reduction
Gait speed (m/s)	0.32	0.43	+0.11 m/s	34.8% increase
Time to climb 4 stairs (s)	14	11	-3 s (faster)	21.4% reduction
NSAA score	13/54	18/54	+5 points	38.5% increase



Pelvic girdle muscle power (MRC)	Grade 3/5	Grade 4/5	+1 grade	–
Rising from sitting / floor	Needed support (Gowers'-type manoeuvre)	Done with less support	Improved	–
Fatigue / exercise tolerance	Marked fatiguability	Reduced fatigue, better endurance	Improved	–
Calf muscle circumference	Right- 41cm Left - 43	Right – 40 cm Left – 42 cm	-1cm	2.4% reduction (in right) 2.3% reduction (in left)

Relative change = (after – before) / before × 100. Gait speed = 10 m ÷ walk time. Qualitative items are described as recorded at assessment.

The patient tolerated all procedures well and no adverse effects occurred. He reported greater ease in daily activities such as rising from a chair, walking short distances and climbing stairs.

7. DISCUSSION

The clinical picture in this 61-year-old male insidious, progressive, proximal-predominant muscle weakness with preserved sensation and reflexes, a waddling gait and a positive Gowers'-type sign is characteristic of Limb Girdle Muscular Dystrophy, a condition modern medicine can support symptomatically but not reverse the condition. The same picture maps closely onto the classical description of *Mamsagata Vata*, in which *Dhatukshaya* of *Mamsa Dhatu* invites vitiated *Vata* into the depleted tissue, producing *Karshya*, *Sada*, *Sphurana* and progressive *Balahani*.

Rationale and probable mode of action of the intervention:

Sadyo Virechana was administered on Day 1 using *Gandharvahastadi Eranda Taila* with 200 mL of *Payasa* (milk) as a brief and controlled measure to facilitate *Vata-Anulomana* and promote *Srotoshodhana* before initiating *Brimhana* therapy.^[4] This approach is consistent with the classical Ayurvedic principle of administering *Shodhana* before *Brimhana* when *Srotorodha* is suspected. Following the administration, six *Vegas* (bouts of purgation) were observed.

Because the *Samprapti* in this case is *Dhatukshaya*-driven rather than purely *Dosha*-driven, *Vata Shamana* alone would be insufficient — the *Mamsa Dhatu* itself required active *Brimhana* (nourishing therapy). This is reflected in the choice of *Maha Masha Taila* as the *Sneha Dravya* throughout (*Abhyanga*, *Pizhichil*, *Anuvasana Basti*), since *Masha* is specifically documented as *Mamsa-Vardhaka* and *Balya* in addition to being *Vata-Shamaka*. *Shashtika Shali Pinda Sweda* was selected for the same reason — *Shashtika* rice cooked in *Bala Moola Kwatha* and milk is among the strongest classical *Brimhana-Sweda* combinations available for *Mamsakshaya* conditions, delivering sustained, deeply penetrating nourishment to wasted musculature while its warmth simultaneously pacifies local *Vata*.^[5] *Pizhichil* with *Mahamasha Taila*^[6] over the entire body, combines prolonged *Snehana* with gentle massage like stimulation, improving peripheral circulation, softening and strengthening musculature, and exerting *Vata Shamaka* action.

According to classical Ayurvedic principles, *Basti Dravya* reaches the *Pakvashaya* and, through its *Veerya*, facilitates the elimination of morbid *Doshas* from the body, from *Pada* (feet) to *Shiras* (head).^[7] *Anuvasana Basti* with *Maha Masha Taila* and *Niruha Basti* with *Mustadi Yapana*

Basti^[8] were selected to regulate *Vata Dosha* at its principal site, the *Pakvashaya*, in accordance with the classical emphasis on *Basti* as the foremost treatment for *Vata Vyadhi*. The use of *Yapana Basti* is particularly relevant in chronic, *Kshaya*-predominant conditions, as it is traditionally associated with *Bala*, *Varna*, and *Rasayana* effects while supporting *Dhatu Poshana*.^[9] Thus, this combination aims to alleviate aggravated *Vata Dosha*, promote tissue nourishment, and support functional recovery.

DISCUSSION ON RESULTS

Walking speed and gait. The 10-metre walk time fell from 31 to 23 seconds, corresponding to a rise in gait speed from 0.32 to 0.43 m/s. In community-dwelling older adults, a change of about 0.10 m/s in usual gait speed has been described as a substantial meaningful change.^[10] The present change of 0.11 m/s lies in that range. The improvement suggests better proximal drive during stance and swing, consistent with the improved pelvic girdle power.

Stair climbing. Climbing four stairs was 3secs faster (21.4% reduction). Climbing Stair put heavy demands on the hip extensors and quadriceps, which are the proximal groups affected in LGMD. The improvement may indicate a potential gain in functional performance of the pelvic girdle muscles and is consistent with the observed improvement in gait speed.

North Star Ambulatory Assessment. The NSAA score rose by 5 points (38.5% relative to baseline). it provides a composite, task-based measure of ambulatory function. The rise from 13 to 18 indicates that the improvement was spread across several functional tasks and was not confined to a single timed test.

Muscle power and rising from sitting. The MRC grade of the pelvic girdle rose from 3/5 to 4/5. A one-grade change on the MRC scale is a coarse measure, but the transition from antigravity strength only to movement against some resistance is functionally important. It agrees with the reduced need for support when rising from sitting or the floor and with a less pronounced Gowers' manoeuvre.

Fatigue and exercise tolerance. Reduced fatigue and better endurance were reported, matching the faster walking and stair performance. This criterion was subjective and carries the greatest risk of expectation bias.

Taken together, the concordant direction of change across timed, scored, graded and patient-reported criteria strengthens the internal consistency of the finding. LGMD is nevertheless genetically determined and ultimately progressive, and nothing in this report suggests that the underlying disease process was altered. A more plausible reading is that nourishing



and *Vata*-pacifying therapies improved the functional reserve of the residual muscle and the patient's mobility in the short term, as an adjunct to supportive care.

8. CONCLUSION

Limb-girdle muscular dystrophy has a coherent *Ayurvedic* correlate in *Mamsagata Vata*, a *Dhatukshaya*-driven *Vata Vyadhi* of *Mamsa Dhatu*. In this 61-year-old man, an eleven-day integrated protocol of *Sarvanga Abhyanga*, *Bhaspha Sweda* and *Sadyo Virechana*, followed by *Shashtika Shali Pinda Sweda*, *Pizhichil*, *Anuvasana Basti* with *Maha Masha Taila* and *Niruha Basti* with *Mustadi Yapana Basti*, was associated with improvement on every assessment criterion:

- 10-metre walk time reduced by 8 s (31 to 23 s), a 25.8% reduction, with gait speed rising from 0.32 to 0.43 m/s;
- four-stair climb time reduced by 3 s (14 to 11 s), a 21.4% reduction;
- NSAA score increased by 5 points (13 to 18);
- pelvic girdle muscle power improved from MRC Grade 3/5 to 4/5, with less support needed to rise and reduced fatigue; and
- Bilateral Calf muscle circumference reduced by 1cm.
- no adverse effects were recorded.

The combined *Brimhana–Vata Shamana* approach appears to be a safe and well-tolerated adjunct to the supportive management of LGMD, with short-term functional benefit. Because of the single-case design and the absence of follow-up, no claim of efficacy can be made. Larger controlled series with blinded assessors, validated outcome measures, creatine kinase monitoring and genetic characterisation are warranted.

9. PATIENT CONSENT

Written informed consent for publication of this case study had been obtained from the patient.

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