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Ayurvedic approach to Limb-Girdle Muscular Dystrophies - A Case Study

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ABSTRACT

Limb-girdle muscular dystrophies (LGMD) are a group of rare progressive genetic disorders that are characterized by wasting (atrophy) and weakness of the voluntary muscles of the hip and shoulder areas (limb-girdle area). Muscle weakness and atrophy are progressive and may spread to affect other muscles of the body. Many different subtypes have been identified based upon abnormal changes (mutations) of certain genes. The age at onset, severity, and progression of symptoms of these subtypes may vary greatly from case to case, even among individuals in the same family. Some individuals may have a mild, slowly progressive form of the disorders; other may have a rapidly progressive form of the disorder that causes severe disability. As this is a genetic disorder, we can consider it as *Adibala Pravritta Vyadhi*. In this condition, by considering the symptoms, we can correlate with *Mamsadhatu* along with *Paraspara Avarana* of the *Udanavritta Vyanavata*. To combat with this condition *Swedana*, *Abhyanga* and *Mamsarasadi Sneha Prayoga* is ideal for treatment. In this case study a 34 years female having the characteristic features of this particular condition along with raised CPK level- 51,500 IU/L, for this specific treatment schedule was planned. Along with this *Shamanoushadhi* have given better improvement in symptomatically as well as drastic changes in elevated CPK levels.

Key words: *Mamsa Dhatu, Udanavritta Vyanavata, Basti, Case Study.*

INTRODUCTION

The term limb-girdle muscular dystrophies is a general term that encompasses several disorders. These disorders can now be distinguished by genetic and protein analysis. The various forms of LGMD may be inherited as autosomal dominant or recessive traits. Although there are some common themes recognizable

in the main types of LGMD, the age at onset, severity, and progression of symptoms associated with LGMD may vary greatly from case to case, even among members of the same family. Some cases of LGMD may have onset during adulthood, mild symptoms, and slow progression; others may have onset during childhood and early severe disability such as difficulty climbing stairs and walking. Some individuals eventually require a wheelchair.^[1]

The major symptoms of LGMD are progressive wasting (atrophy) and weakness of the proximal muscles of the hip and shoulder areas. Proximal muscles are the muscles that are closest to the center of the body such as the muscles of the shoulder, pelvis, and upper arms and legs. Muscle weakness may spread from the proximal muscles to affect distal muscles. Distal muscles are those farther from the center of the body and include the muscles of the lower arms and legs and the hands and feet.

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Ayurveda this pathogenesis can be clearly understood by the concept of *Avarana*. It is a *Adibala Pravritta Vyadhi*. Here pathogenesis occurs due to the *Beeja Bhaga Avayava Dushti* which leads to *Vata Prakopa (Udanavritta Vyana)*^[2] takes *Sthana Samshraya* in *Mamsa* and *Meda Dhatu* vitiates and depletes the strength of the muscles. As *Udana Vata* is responsible factor for *Prayatna* (bodily activities), *Urja, Bala* (Strength) and *Varna* (color) of the body.^[3] *Vyana Vata* is responsible factor for *Rasadhaturhi Vikshepochitakarmanah* (Circulation of Rasa throughout the body), *Gati Prasaranakshepana Nimeshadi Karma* (All the flexion, extension and bodily movements).^[4] *Udanavritta Vyana* condition there will be *Stabdhata, Alpagni, Asweda* and *Chestahani*. In this condition *Abhyanga, Swedana* and *Snehadi Karmas* are helpful.^[5]

AIMS AND OBJECTIVES

To evaluate the effect of *Ayurvedic* treatment in a case of Muscular Dystrophy.

CASE DETAILS

Chief Complaints

A 34 years old female patient approached to the Kayachikitsa OPD of Ayurveda Mahavidyalaya Hospital Hubballi, with complaints of;

- Difficulty climbing stairs and walking.
- Unable to stand easily from sitting posture, forward bending
- Unable to lift the left hand easily
- Generalized weakness
- Blackish discoloration spots over the left arm, forearm and back region - Since 1 year

History of Present Illness

According to the patient she was asymptomatic 1 year ago, then one day while she was coming back from her children school, suddenly she felt difficulty in walking, generalized weakness and other symptom followed.

Associated Symptoms

Occasionally Mild breathlessness

There was no any history of hypertension, diabetes and thyroid disorders. Other than these she was having history of fall in home 1 ½ year back.

Then, for above symptoms she referred many allopathic hospitals, but couldn't get any results.

General Examinations

Vitals - Normal

CVS - S₁, S₂ Heard normal, no added sounds.

RVS - Bilaterally equal air entry

CNS - Conscious, oriented

Motor System

1. Tropical Changes - Darkening and roughness of the skin
2. Fasciculation - Absent
3. Muscle tone - Hypotonic
4. Muscle Bulk - Hypertrophic
5. Muscle Power - Grade 3/5 - Upperlimb
Grade 3/5 - Lowerlimb
6. Involuntary movements - Absent
7. Co-Ordination - Finger - Nose test - Possible in both side.
8. Posture and Gait - Waddling Gait

Sensory System - Normal

Reflexes

1. Visceral Reflexes - Bowel and Bladder Under control
2. Superficial Glabellar tap - Negative
Babinsky sign - Plantar flexion
3. Deep Tendon Reflex - diminished

Investigations

Serum CPK - 51,500 IU/L

Muscle Biopsy - Normal

Treatment Protocol

- *Abhyanga* and *Nadi Swedana* for 7 days
- *Dhanyamla Pariseka* for 7 days
- *Shashtika Shali Pinda Sweda* for 7 days
- *Basti* as per the *Kala Basti* schedule

Shamanoushadhi

- *Tab. Brihatvata Chintamani Rasa* twice a day with *Ushnodaka*
- *Mashabaladi Kwatha* 15ml-0-15ml along with *Ushnodaka*
- *Elakanadi Kashaya* 10ml-0-10ml

RESULTS

A marked improvement in the symptoms of the patient, those were;

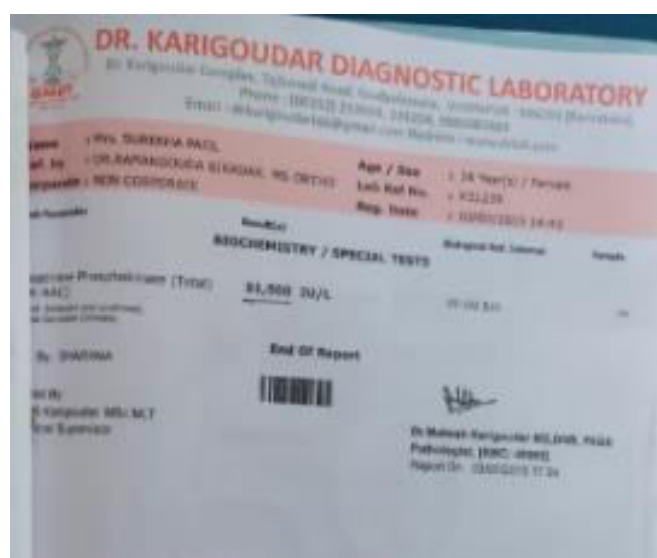
She can stand up from sitting posture easily, improvement in the gait, walk bit faster than earlier, generalized weakness reduced.

Objectives

There is marked changes in the Serum CPK Level observed.

Before Treatment - 51,500 IU/L - 03/07/2019

After Treatment - 9611 IU/L - 26/11/2019

Before Treatment**After Treatment****DISCUSSION**

As it is *Adibala Pravritta Vyadhi*. We can also consider the concept of *Avarana* in the manifestation of the condition by observing the present symptoms. Here *Prakupita Vata (Udanavritta Vyana Vata)* shows its *Laxanas* in *Mamsa Dhatu* as *Dushya*. So, it shows *Stabdha, Alpagni, Asweda, Cheshta Hani* in the *Sharira*. The treatment *Abhyanga*^[6] followed by *Nadi Sweda*, as the *Ushna Guna* of *Swedana Karma* leads to stimulate the sympathetic nervous system and produces Vasodilatation. It also increases the circulation of the *Rasa* and *Rakta* in the Body, due to the effect of *Sara* and *Sukshma Guna* of *Swedana*^[7] *Dravya* the *Leena Dosh* are liquefied from body and comes out through the micro pores presenting over the skin resulting more excretion of liquefied vitiated *Dosha* from the body.

Dhanyamla Pariseka

Dhanyamla^[8] is having *Amla Rasa, Laghu, Snigdha, Teekshna, Sheeta, Amla Vipaka, Ushna Virya, and Vata - Kaphaghna*.

Due to its *Ushna Guna* and *Ushna Veerya*, *Dhanyamla* acts as *Kapha - Vatahara* and antagonistic to *Ama*, removes the blocks in the cell and channels of transportation and nutrition. Due to *Amla Rasa* of *Dhanyamla* it acts as *Deepana* and gets rid of *Ama* also corrects metabolism. By possessing these

properties, it does the action of *Deha Sthairya*, *Agni Sthairya*, *Pustikara* and *Sroto Shodhana*.

After this, when the condition become *Nirupastambha*, *Shashtika Shali Pinda Sweda*^[9] is done. It works as *Brimhana* and provide *Dhatu Poshana* (Nourishment).

Basti is the prime treatment for *Kevala Nirupastambita Vatavyadhi*.^[10] It corrects the *Dhatuparinama Prakriya* by correcting the *Dhatwagni*.

Ingredients - *Makshika* + *Lavana*, *Sneha* – *Dhanwantara Ghrita*^[11] and *Brihat Chagaladi Ghrita*,^[12] *Kalka* - *Musta Churna*, *Mamsarohini Churna*^[13] and *Shatahwa Churna*, *Kashaya* - *Vidaryadi Kashaya*^[14] and *Bhadradarvyadi Kashaya*^[15], along with *Ksheera*.

Dhanwantara Ghrita explained in *Astanga Hridaya Prameha Chikitsa*, it contains *Dashamoola*, *Danti*, *Devadaru*, *Punarnava*, *Yava*, *Kulattha* and many other drugs which effect on *Kapha* and *Pitta*, which corrects the *Agni*. By this, it acts on *Agni* of *Mamsa Dhatu*, corrects the metabolic activity.

Chagaladhya Ghrita explained in *Bhaishajya Ratnavali*, *Vatavyadhi Rogadhikara*, - *Ajamamsa*, *Dashamoola*, *Shatavari* are the main *Kwatha Dravya* in this *Ghrita* preparation. Along with this *Jeevaniya Mahakashaya Dravya*, *Goghrita*, *Godugdha* are used. This is indicated in *Khanja*, *Pangu*, *Apatanaka* and other *Vatavyadhis*. So, we can consider that this act as *Balya* and *Brimhana* in this particular condition.

Vidaryadi Kashaya described in *Astanga Hridaya Shodhanadi Gana Sangraha Adhyaya*, containing *Vidari*, *Eranda*, *Mudgaparni*, *Mashaparni*, *Jeevana* / *Laghu Panchamoola Dravyas*. These are *Brimhana* and act as *Vata-Pittanashaka*. Which is mainly *Hridhya*; Act on *Rasa*, *Rakta*.

Bhadradarvyadi Kashaya which contains *Devadaru*, *Tagara*, *Kushta*, *Bala*, *Atibala* and *Dashamula* Which acts on *Vata*.

In this particular pathogenesis these *Balya* and *Brimhana Dravyas* acts on *Rikta Sthana*, by *Snehadi* qualities it diminishes the *Vatavyadhi*.

Along with *Shamanoushadhis* *Tab. Brihatvata Chintamani Rasa*,^[16] *Mashabaladi Kwatha*,^[17] *Elakanadi Kashaya*^[18] are *Vata-Pittaghna*, acts as *Rasayana*^[19] as well. This, whole treatment protocol overcome the condition of *Mamsadhatu* associated state of *Udanavritta Vyana* conditions.

CONCLUSION

LGMD is a genetic disorder that is inherited as either an autosomal recessive or dominant trait. The autosomal recessive forms are estimated to account for 90% of cases. In this case, it is considered as *Adibala Pravritta Janya Vyadhi*. Based on present symptomatic illness it can be correlated with *Mamsadhatu* associated with *Udanavritta Vyana*. No cure exists for any form of LGMD. Treatment is aimed at the specific symptoms present in each individual. Specific treatment options may include physical and occupational therapy to improve muscle strength and prevent contractures; The *Swedana*, *Dhanyamla Pariseka*, *Shastika Shali Pinda Sweda* followed by *Kala Basti* act as excellent sequential treatment for the LGMD. And the *Shamanoushadhis* act as prophylaxis acting as *Vataghna* and *Rasayana*.

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