ISSN: 2322 - 0902 (P)
ISSN: 2322 - 0910 (O)

International Journal of Ayurveda and Pharma Research

Case Study

ROLE OF PANCHAKARMA IN MYASTHENIA GRAVIS– A CASE STUDY

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ABSTRACT

Myasthenia Gravis (MG) is a long-term neuromuscular disease that leads to varying degrees of skeletal muscle weakness. The underlying defect is a decrease in the number of available acetylcholine receptors (AChRs) at neuromuscular junctions due to an antibody mediated autoimmune attack. The most commonly affected muscles are those of the eyes, face and swallowing. The cause of this disease can be understood in view of *Upahata Dhatu Ushma, Srotas* and *Marutha* respectively. The present observation was conducted with an objective to find out the efficacy of Ayurvedic management in Myasthenia gravis. Here is a case of 50years old Hindu female who was diagnosed as myasthenia gravis (MG) reported with complaining of slurred speech, low pitch of voice, difficulty to open the mouth and to swallow food and weakness in the both upper limbs since 4months was registered in OPD of SKAMCH&RC, Bengaluru. Considering the signs and symptoms patient was treated on the line of *Ardita Vata chikitsa, Sarvanga Abhyanga* with *Moorchita tila taila*, *Nasya* with *Yashtimadhu taila, Gandusha* with *Erimedadi taila, Jihwa nirlekhana* with *Vacha churna* were done. Treatment shows significant improvement in the symptoms without any side effects.

KEYWORDS: Myasthenia gravis (MG), *Nasyakarma, Ardita Vatachikitsa.*

INTRODUCTION

Myasthenia Gravis is a neuro muscular disorder characterized by weakness and fatigability of skeletal muscles. The underlying defect is a decrease in the number of available acetylcholine receptors (AChRs) at neuromuscular junctions due to an antibody mediated autoimmune attack1.[1] The word is from the Greek MYS-"muscle" and ASTHENEIA-"weakness", and the Latin: GRAVIS - "Serious".[2] Myasthenia Gravis is caused by an error in the transmission of nerve impulses to muscles. It occurs when normal communication between the nerve and muscle is interrupted at the neuromuscular junction - the place where nerve cells connect with the muscles they control. [3]

MG affects 50 to 200 per million people. It is newly diagnosed in three to 30 per million people each year. Diagnosis is becoming more common due to increased awareness. It most commonly occurs in women under the age of 40 and in men over the age of 60. It is uncommon in children. [2]

The hallmark of Myasthenia Gravis is muscle weakness that worsens after periods of activity and improves after periods of rest. Certain muscles such as those that control eye and eyelid movement, facial expression, chewing, talking and swallowing are often (but not always) involved in the disorder. The muscles that control breathing and neck and limb movements may also be affected. [3]

In Ayurveda, most of the diseases of the *Vata* are essentially the conditions of diseases of the nervous system. The pathogenesis of this disease can be understood in view of *Upahata dhatu ushma, Srotas* and *Marutha* respectively. Considering the signs and symptoms patient was treated on the line of *Ardita vata chikitsa.* By considering the symptomatology of the disease as well as the limitations of its treatment in the modern science, an effective& safe modalities of Ayurvedic treatments were adopted in the present observation with the intention to reduce the progression of the disease as well as to provide symptomatic relief.

Case Report

The present case was a 55year old female patient who was diagnosed as Myasthenia Gravis presenting with the complaints of Slurred speech, difficulty in swallowing since one month, weakness in both hands and legs since 15days. History of the patient revealed that before one year, patient c/o difficulty in closure of left eyelid and blurriness of vision, for the same she had consulted ophthalmologist they advised for refractive correction glasses. After few days she further had

difficulty in walking due to blurriness of vision for which again she had consulted same doctor and was advised for New glasses for right eye as her power had increased. few months later she observed weakness in both hands and legs and she did not take any treatment although she was advised to get admitted in hospital. one day at work her colleagues observed change in her talking and told her about the change in her speech activities on the same day she had consulted neurologist and she underwent relevant investigation which reveals as follow's MRI S/o Normal study, immunology report Acetyl choline Receptor antibody test was raised and RNS report S/0 neuromuscular junction dysfunction. Later she was advised to take T-Gravitor-60 (1TID) & T-omnocort-10 (1OD) for one month but patient has not get relief. Hence came to SKAMCH & RC for better management.

Past history: No H/o DM/HTN/TRAUMA or any other major medical illness.

Family history: No history of same illness in any of the family members.

General Examination: (On the day of admission)

The patient found to be well built, moderately nourished, afebrile, normotensive, other parameters like pallor, cyanosis, icterus, lymphadenopathy was absent.

Systemic Examination

CVS: S1, S2 Heard, no murmur

RS: Normal vesicular breathing, no added sounds.

P/A: soft, no tenderness, no organomegaly.

CNS: all cranial nerves are intact except CN VII

Motor system	**Left U/L**	**Right U/L**
Muscle wasting	Absent	Absent
	Left L\L	**Right L/L**
	Absent	Absent
Muscle tone	**Left U/L**	**Right U/L**
	Mild hypotonia	Mild hyptonia
	Left L\L	**Right L/L**
	Normal	Normal
Muscle power	**Left U/L**	**Right U/L**
Elbow	3/5	3/5
Wrist	3/5	3/5
Palmar grip	Moderate	Moderate
Pincer grip	Moderate	Moderate
	Left L\L	**Right L\L**
Hip	Adduction – 5/5	Adduction – 5/5
Knee	Abduction-5/5	Abduction-5/5
Ankle	Flexion-5/5	Flexion-5/5
	Extension-5/5	Extension-5/5
Knee	Flexion-5/5	Flexion-5/5
	Extension-5/5	Extension-5/5
Ankle	Dorsi flexion-5/5	Dorsi flexion-5/5
	Plantar flexion-5/5	Plantar flexion-5/5
Sensory system	Intact	Intact

Co-Ordination Test: finger nose test	**Altered**
Gait	**Normal**

Ashta Vidha Pariksha

1. *Nadi* : 80 b/ min
2. *Mala*: once daily, complete evacuation
3. *Mutra* : 5- 6 times
4. *Jiwha* : *Alipta*
5. *Shabda* : slurred, low pitch of voice

6. *Sparsha* : *Anushna Sheeta*
7. *Druk* : *Avishesha*
8. *Akriti* : *Sthoola*

DIAGNOSIS

The case had been diagnosed as myasthenia gravis as it fulfills the clinical features of this disease as follows:

- Difficulty In Swallowing
- Difficulty To Open The Mouth
- Low Pitch Of Voice
- Impaired Speech (Dysarthria)
- Weakness In The Arms, Hands, Fingers And Neck. Difficulty To Lift The Objects.

Intervention

Days	**Treatment**	**Duration**
Day-1	*Sarvanga Abhyanga* with *Moorchita tila taila* *Sarvanga Bashpa Sweda.* *Nasya Karma* with *Yashtimadhu taila* -12 drops each nostril. *Kavala Graha* with *Erimedadi taila*-for 10 minutes.	12 days
Day-9	*Vacha churna Jihwa Nirlekahana*	Contd…

OBSERVATION (on 12th day)

Motor system	**Left U/L**	**Right U/L**
Muscle wasting	Absent	Absent
	Left L\L	**Right L/L**
	Absent	Absent
Muscle tone	**Left U/L**	**Right U/L**
	Normal tone	Normal tone
	Left L\L	**Right L/L**
	Normal	Normal
Muscle power	**Left U/L**	**Right U/L**
Elbow	5/5	5/5
Wrist	5/5	5/5
Palmar grip	Normal	Normal
Pincer grip	Normal	Normal
	Left L\L	**Right L\L**
Hip	Adduction – 5/5	Adduction – 5/5
Knee	Abduction-5/5	Abduction-5/5
Ankle	Flexion-5/5	Flexion-5/5
	Extension-5/5	Extension-5/5
Knee	Flexion-5/5	Flexion-5/5
	Extension-5/5	Extension-5/5
Ankle	Dorsi flexion-5/5	Dorsi flexion-5/5
	Plantar flexion-5/5	Plantar flexion-5/5
Sensory system	Intact	Intact

Co-Ordination Test: finger nose test	**Normal**
Gait	**Normal**

There was a significant reduction in the symptoms after treatment in swallowing, voice, speech and improvement seen in lifting objects, weakness in both upper limbs got reduced.

DISCUSSION

Myasthenia Gravis is caused by a defect in the transmission of nerve impulses to muscles. It occurs when normal communication between the nerve and muscle is interrupted at the neuromuscular junction - the place where nerve cells connect with the muscles they control. Normally when impulses travel down the nerve, the nerve endings release a neuro-transmitter substance called acetylcholine. Acetylcholine travels from the neuromuscular junction and binds to acetylcholine receptors which are activated and generate a muscle contraction. In Myasthenia Gravis, antibodies block, alter, or destroy the receptors for acetylcholine at the neuromuscular junction, which prevents the muscle contraction from occurring. These antibodies are produced by the body's own immune system. Myasthenia Gravis is an autoimmune disease because the immune system - which normally protects the body from foreign organisms- mistakenly attacks itself.[3] The patho-physiology of this disease MG can be understand in Ayurveda on the basis of *Upahata dhatu ushma*, *Srotas* and *Marutha* respectively. The homeostasis of synthesis, secretion and action of hormone are all under the control of *Vata* (*Vyana vata*) which is the *Chalanatmaka dravya* in the *Sharira*. If the *Gati* of *Vata* is obstructed due to *Saama dhatu*, *Rasa rakthadi paribrhamana* will hampered hence proper *Dhatuposhana* does not happen (This can be understand as antibodies in MG attack a normal human protein, the nicotinic acetylcholine receptor, or a related protein called Musk a muscle-specific kinase this leads to impairment in the neuro muscular junction). [3]

Chakrapani says *Dhatu* themselves are nutrient for the other *Dhatu* and the *Urja* of *Sharir-dhatu* depends upon *Anupahatadhatushma* (synthesis), *Anupahatamarutha* (secretion), *Anupa-hatasrotas* (action of hormone) and *Dhatuposhak rasavahi vyana vata* (circulation) and *Dhatuposhak rasavaha srotasas* explained in *Vividhaashieetha pithiya adhyaya* of Charaka Samhita.[4] if any impairment seen in these factors leads to "*kha vaigunya*" in specific *Sthanas* and leading to manifestation of disease.

Considering the *Vyadhivruttnata, Lakshanas* presented are same as the symptoms of *Ardita Vata* i.e., deviation of face, tongue, nose, variation in the curvature of eyebrow, eyes and mandible, difficulty in swallowing of food, variation in the voice, distorted speech, pain in the foot, hand and eyes,[5] hence patient was treated on the line of *Ardita vata Chikitsa*. *Sarvanga Abhyanga* with *Moorchita tila taila, Nasya* with *Yashtimadhu taila*as it is having the properties of *Chakshushya, Swarya, Gandusha* with *Erimedadi taila, Jihwa Nirlekhana* with *Vacha Churna* were done. treatment Shows Significant improvement in the Symptoms without any Side effects.

Discussion On Treatment

Myasthenia Gravies is an auto immune neuromuscular disorder, patient will be having varying degrees of weakness of the skeletal (voluntary) muscles of the body, So *Sarvanga abhyanga* was adopted with *Moorchita tila taila* which helps in the nourishment of the *Dhatu* and increases their strength and helps in promotion and regulation of the proper functioning of *Vata*.

Swedana in the form of *Bashpa sweda* was done, *Swedana* helps in reliving *Sthamba, Gaurava* And Shula, it offers more oxygen, nutrients, more polymorphs and more endorphins to the affected area which is beneficial for healing of the local pathology as well as nourishing the body. [6]

As *Dosha Dushyasamurchana* has occurred mainly in *Mukha* and *Kantagata* i.e., *Urdhwa-jathurgata*. Based on symptoms presented in this case *Ardita vata chikitsa* was adopted i.e., *Nasya* karma with *Yashti Madhu Taila* helps in pacifying *Vata*, improves voice (*Swarya*) quality, soothes throat (*Kantya*) and it nourishes the Dhatu thus helps in reliving the symptoms. [7]

Kavala graha was done with *Erimedaditaila* and *Vacha Churna Jihwa Nirlekhana* was done as both are effective in managing speech disorder.

CONCLUSION

The analysis of Myasthenia gravies in terms of Ayurveda concludes that the MG is a symptom complex where we can't correlate particular Ayurvedic term, but based on the symptoms here we have taken as *Ardita Vata* and treated accordingly. The treatment methods explained in classics is helpful in giving significant relief in signs and symptoms of the disease MG, thereby improving quality of daily life of the person who is suffering.

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Cite this article as:
Ashwini H.A, Kiran. M. Goud, Lolashri S J. Role of Panchakarma in Myasthenia Gravis– A Case Study. International Journal of Ayurveda and Pharma Research. 2018;6(3):61-65.

Conflict of interest: None Declared

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