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Management of Myasthenia Gravis through Herbomineral Drug - A Case Study

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ABSTRACT

Ayurveda is an oldest traditional medicine system that believes on natural and holistic approach of treatment for various diseases. It is the science of healthy life. Myasthenia gravis is a chronic autoimmune neuromuscular disease that causes weakness in the skeletal muscles, which are responsible for breathing and moving parts of the body including the arms and legs. Myasthenia gravis affects approximately 2 out of every 100000 people and can occur at any age of 18 and 25 years. In *Ayurveda*, the symptoms of myasthenia gravis closely resemble with *Vata Vyadhi*. As per *Ayurvedic* perspective, dysregulation of the immune function occurs on account of either *Ojovyapat* or *Ojovisramsa* the dearrangement or displacement of *Ojas* resulting from inherent disposition, nutritional inadequacy, digestive or eliminative, vitiation of the *Doshas* by tissues destructions and metabolic disruption, unresolved psychological trauma or protected somatic stress, or environment or *Karmic* factors may lead to develop myasthenia gravis. *Ojas* disorders still they have no satisfactory management. Myasthenia gravis is mainly due to *Srotorodha* and *Agnidusti*. *Agnidusti* leads to formation of *Samavastha* in the body which provide hinderance in the functioning of body. A case study of Myasthenia gravis was studied and managed accordingly symptomatic improvement was noted after 21 days of treatment.

Key words: Myasthenia Gravis, Ojovyapat, Ojovisramsa, Rasayana

INTRODUCTION

There are more than 100 types of immune disorders known today. Pathology of some of them is known and some are still puzzling for medical science. Myasthenia Gravis is chronic autoimmune neuromuscular disease that is characterized by antibodies directed against proteins of the neuromuscular junction. In most cases

auto antibodies against the acetylcholine receptor can be found.^[1] This is the most common cause of acutely evolving, fatigable weakness and commonly affects ocular, facial and bulbar muscles. It is usually present between the age of 15 and 50 years in which female predominance is seen in younger patients. In old age, males are more prone to myasthenia gravis. It seems to run a relapsing and remittent course.^[2] The weakness of muscles increases during repetitive use and may improve following rest. Facial weakness produces a snarling expression while smiling and difficulty in swallowing with speech may occur due to weakness of palate, tongue and pharynx. If weakness of respiratory muscles becomes so severe then the patient condition is in crisis leads to difficulty in breathing and related symptoms. The limb weakness is often proximal and may be asymmetric.^[3] Weakness of respiratory muscles represents severe MG crisis. The prevalence of MG was estimated 1 in 200,000 from

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1915 to 1934, increased to 1 per 20,000 after the introduction of anticholinesterase drugs in 1934 and rises to 1 per 17000 populations. Prevalence rate ranges from 150 to 200 cases per million and they have increased slowly over past 50 years.^[4] The factors that increases the risk of myasthenia gravis are fatigue, illness, infection, stress, pregnancy and menstruation. It is most commonly caused by antibodies to acetylcholine receptors in the post junctional membrane of the neuromuscular junction. The resultant blockage of neuromuscular transmission and inflammatory response reduces the number of acetylcholine receptors and damages the end plate. MG patients have more likely to have associated organ specific autoimmune disease.^[5] In *Ayurveda*, the exact correlation with Myasthenia gravis is not known yet. But as per signs and symptoms of myasthenia gravis, *Acharya Charaka* has mentioned the signs and symptoms in *Indriya Sthana* which are called *Arista Lakshana* and can be correlated with neurological and muscular disorders. These symptoms are similar to symptoms of myasthenia gravis as per modern science. Symptoms are like *Ati Mukta Bandhana*^[6] which means drooping of upper eyelids that may be due to weakness and fatigability of upper eyelids muscle, "*Naupaiti Kanthanaharo Jihva Kanthomepaiti*"^[7] which means difficulty in swallowing that means oropharyngeal dysphagia, shallow breathing, change in voice & speech, wasting of muscles and a pattern of weakness, etc. These are some symptoms which are similar to myasthenia gravis as *Ayurveda* classics has mentioned a lot about signs and symptoms of various diseases including the neurological and neuromuscular disorders. Some research has mentioned that in *Ayurveda*, myasthenia gravis is caused by the vitiation of *Vata* and *Kapha Dosh* with *Agni Dusti* which leads to formation of *Ama* as per sign & symptoms of myasthenia gravis, it can be correlated with *Mansagata Vata* which is caused by vitiation of *Vata Dosh* in *Mansa Dhatu*. *Vata Dosh* in this condition is vitiated by *Oja Kshaya*. *Oja* is called as *Sharira Bala* which is present in heart and the *Sara* of all seven *Dhatu*s. *Oja Kshaya* occurs due to *Nidana Sevan* like *Abhigata, Shuda, Shoka, Ati Shram* which are mentioned by *Acharya Sushruta*. *Oja Kshaya* leads to

vitiation of *Vata Dosh* which further accumulates in *Mansa Dhatu* results in symptoms which are similar to Myasthenia gravis. *Oja Kshaya* occurs in three stages: *Visransa, Vyapat* and *Kshaya* in which first stage is *Visransa* causes looseness of joints, weakness of the body, displacement of *Doshas* and hinderance to all movements. The second stage *Oja Vyapat* show symptoms like stiffness & heaviness of body, oedema caused by *Vata*, discolouration, stupor, etc and the last *Oja Kshaya* leads to loss and decrease of muscles, delirium and death.^[8]

CASE HISTORY

A 60 years old male patient came to the OPD of *Kayachikitsa* in Government Ayurvedic College and Hospital with complaint of bipedal edema with difficulty in standing, severe difficulty in breathing, severe fatigue with tiredness, already diagnosed with Gullain Barre syndrome. During treatment patient has severe shortness of breath, unable to sleep and fatigue of limb muscles with bipedal edema not able to even stand came on wheel chair with mild difficulty in swallowing and speech, proximal muscle weakness, and incomplete eye closure.

Examination

On physical examination, the patient has drooping of eyelids, downward lip corners with depress face, extreme proximal limb muscles weakness, shallow breathing. On laboratory examination, IgE was found increase to 1166 IU/mL and on lungs examination, limitation of diaphragmatic excursions and bilateral lower chest dullness with absent breath sounds are found.

Diagnosis

Diagnosis was done on the basis of classical symptoms of myasthenia gravis like drooping of eyelids, acute respiratory distress, difficulty in swallowing and extreme limb weakness with edema present bilaterally, unable to stand and complete symptoms of *Oja Kshaya*.

Assessment Criteria

Osserman classification system for myasthenia gravis^[9]

Class	Symptoms
I	Only ocular involvement
IIa	Generalized muscle involvement without pulmonary involvement
IIb	Bulbar manifestation
III	Rapid progression of generalized bulbar disease and weakness in respiratory muscles
IV	Class 1 or 2 patients presenting progressive symptoms within 2 years

Treatment Plan

Formulations	Days of treatment administration	Total duration of treatment
<i>Purnchandrodya Rasa</i> 65mg <i>Shwasakasachintamani Rasa</i> 65mg <i>Sameerpannag Rasa</i> 65mg <i>Sitopladi Churna</i> 3gm BD (with honey)	14 days	14 days
<i>Satavari Churna</i> 2gm <i>Ashwagandh Churna</i> 2gm BD (with milk)	14 days	14 days
<i>Balarishta</i> 20ml + 20ml water BD	14 days	14 days
<i>Jivantyadi Ghrita</i> 15ml BD	14 days	14 days
<i>Mashabaladi Khwath</i> 20ml <i>Vidaryadi Khwath</i> 20ml BD	14 days	14 days

Assessment of symptoms Before & After treatment

Before treatment, the patient came to OPD with Class III myasthenia gravis and after the treatment the Class

Grade is reduced to Class IIa based on signs and symptoms according to Osserman classification system of myasthenia gravis.

DISCUSSION

It is a well-known fact that MG is an autoimmune disorder and there is no established line of treatment available to cure patient fully. In this scenario, the role of Ayurveda becomes important. Ayurveda has said that it is not essential to give name of each and every disease to treat them. Considering the state of *Dosha* and *Dushya*, treatment can be planned for any disease.

***Purnchandrodya Rasa*^[10]**

It is an *Ayurvedic* herbo mineral formulation contains *Shudha Hartal, Lauh, Abhrak, Talispatra, Shunthi, Lavang*, etc which act as a whole as best *Rasayana*. It helps to boost the body's immune response and balances the *Tridoshas- Vata, Pitta and Kapha*. It is used to rejuvenate the body and used for convalescent therapy to get better immunity.

***Shwasakasachintamani Rasa*^[11]**

It is the best *Ayurvedic* Medicine for imparting strength to respiratory system. It contains *Swarna Bhasma, Moti Bhasma, Lauh, Abhrak Bhasma, Shudh Parad and Gandhak* which together act as a Good combination to correct chronic respiratory diseases. It should be taken with *Pipli churna* and honey that act as adjuvant and increase its effect.

***Sameerpannag Rasa*^[12]**

It is one of the most effective mineral formulation as it contains *Parada, Gandhak, Hartala, Manashila, Gouripashan*, and *Trimalla* is used which is very effective in *Kaphavrita Vatavyadhi*. It has *Ushna Virya* and *Sara Guna* with *Tulsi Swarasa* as *Bhavna Dravya* act as *Kaphahara*. It is used in the management of *Tamak shwasa, Sandhivata, Amavata*, etc. It works over the channel of respiratory and musculoskeleton system.

***Sitopladi Churna*^[13]**

It is the popular polyherbal formulation that is used as *Anupana* antitussive, analgesic and anti-pyretic. It

contains *Sitopladi, Vanshlochana, Pipli, Twak, Ela*, etc which helps loosen and expel mucus, clear chest congestion. Its antitussive activity have ability to effect the Central nervous system and suppress the cough. It should be taken with honey as adjuvant.

Shatavari Churna^[14]

It is the main *Rasayana* and used in nervine disorders and act as anti inflammatory churna. It has anti stress, antihepatotoxic, immunomodulator, anti-oxidant and anti-inflammatory activity. It helps to maintain immunity and prevent from further infection. *Shatavari* is mentioned as *Balya* means a strength promoter. It is described as *Medhya*, the plant which increases intelligence and promote learning ability.

Ashwagandha Churna^[15]

It is a *Rasayana* Herbal formulation that has a real potent regenerative tonic having several properties like neuroprotective, anti-stress, anti-arthritis, anti-tumour, analgesic and anti-inflammatory. *Ashwagandha* act as a immunomodulator that helps to delay hypersensitivity reactions and protect the body against automimmune responses as well. It should be taken with milk as adjuvant.

Balarishta^[16]

It is polyherbal Ayurvedic alcoholic preparation act as a prime tool to cure arthritis, rheumatism and other autoimmune disorders. As it contains *Bala, Ashwagandha, Dhataki, Rasna, Ela, Prasarani, Devapuspa*, etc together act as a restorative for gastric disorders. It provide relief from pain and stiffness due to its antioxidant properties and balance the *Tridoshas-Vata, Pitta and Kapha*.

Jivantyadi Ghrita^[17]

It is a combination of *Jivanti, Yashtimadhu, Kutaj, Kachora, Kantari, Gokhshur, Bala, Nilkamal, Dhamasa, Pipli, Ghee*, etc having properties such as *Agnideepana, Amapachan, Strotovishodan, Rasayanguna, Brimhana, Balya and Dhatuposhaka*. It has anti inflammatory, anti-microbial and immune stimulating activity which reduces future recurrence of diseases.

Mashabaladi Khwath^[18]

It is a multi herb decoction having *Tridoshaghana* action mainly *Vata-Kaphasamaka, Nadibalya, Dhatuvaradhaka Pustivardhaka*, along with *Rasayana Guna*. As it is anti inflammatory provide relaxation to muscles stiffness and strength to body tissues and nerves. It is made up of *Masha, Bala, Rasna, Ashwagandha, Urubaka, Saindhav*, etc which in together act as a boon for neuromuscular disorders.

Vidaryadi Khwath^[19]

It is a polyherbal Ayurvedic formulation contains *Vidari, Eranda, Punarnava, Mashaparni, Mudagaparni, Abheeru, Jeevaka, Prishnaparni, Shalaparni, Kantakari*, etc which provide strength and nourishment to muscles and bones. It provide support to respiratory system and helps in *Vata Pitta Dosha* balance. It has antioxidant and immunomodulator activity that protect the immune system from recurrent infections and helps in strengthening the muscles weakness.

CONCLUSION

Although, the management of Myasthenia gravis is done in above case was very effective and patient responded in three weeks treatment but above mentioned drug treatment can't be applied in each and every case or myasthenia gravis on the basis of previous study. A large scale study with larger sample is needed to establish this drug treatment as line of treatment. On this basis, concept can be concluded that *Rasayana* therapy can open new dimension of drug treatment in Myasthenia gravis.

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