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ROLE OF AYURVEDA IN SNAYUGATA VATA W.S.R. TO DMD (DUCHENE MUSCULAR DYSTROPHY) – A CASE STUDY

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ABSTRACT

Duchene muscular dystrophy is an X-linked genetic, hereditary disorder which is passed from generation to generation and the most common hereditary neuromuscular disease. Prevalence rate of DMD in India is 30 patients per 1,00,000 of population. Muscle weakness is the principal symptom of DMD. It can begin as early as age 2 or 3, first affecting the proximal muscles (those close to the core of the body) and later affecting the distal limb muscles (those close to the extremities). Usually, the lower external muscles are affected before the upper external muscles. The affected child might have difficulty jumping, running, and walking. Other symptoms include enlargement of the calves, a waddling gait, and lumbar lordosis (an inward curve of the spine). Later on, the heart and respiratory muscles are affected as well. Progressive weakness and scoliosis result in impaired pulmonary function, which can eventually cause acute respiratory failure. In Ayurveda there isn't a clear description about it, but it can be understood as *SNAYUGATVATA.* Here, we present a case of DMD, a 6-year-old male with remarkable clinical manifestations and its response to Ayurvedic treatment modalities. The conventional treatment available at present in India is corticosteroids and exon skipping which has their own side effects. While in Ayurvedic *PANCHAKARMA* THERAPY shows significant results in all signs and symptoms of this disease. Though not able to cure the disease but helps prevent hardening of the muscles and maintains the strength of the muscles.

Keywords: *Snayugatvata*, *Swedan*, Dystrophin, *Panchkarma*

INTRODUCTION

The term Duchene muscular dystrophy is hereditary disorders that leads to progressive, generalized neuro-muscular disease prompted by inadequate or missing glycoproteins in the muscle cells [1]. Generally exhibited in male population, each has its pattern of inheritance, onset period, and the rate at which muscle is lost [2]. Muscular dystrophy is a non-communicable disorder with abundant variations.

Absence of the protein named dystrophin cause different representations of this disease [3]. There is no cure for DMD, and current therapies focus on alleviating symptoms and preventing inflammation and muscle necrosis/wasting. The gold standard in DMD management consists of corticosteroid therapy, rehabilitation and assisted ventilation [4]. As per Ayurveda we understand as *SNAYUGATVATA*, as mentioned in Charak Samhita [5].

बाह्याभ्यन्तरमायामं खल्लिं कुब्जत्वमेव च | सर्वाङ्गैकाङ्गरोगांश्च कुर्यात् स्नायुगतोऽनिलः ||३५ ||

Here there is a difference of opinion, in many articles it is understood as *MAMSAGATA VATA*, but understanding it as *SNAYUGATAVATA* is more appropriate. As per the symptoms mentioned for *SNAYUGATAVATA* in Charak Samhita, a persistent pain throughout the body like body it beaten with something while in *SNAYUGATAVATA* it says When vitiated vata is located in neural tissue or tendons, it leads to Ophisthotonus or emprosthotonus, lordosis, radiculopathy, kyphosis, quadriplegia or hemiplegia. All the above symptoms related to symptoms of DMD on initial stages to quadriplegia that is complete loss of movement that happens in later stages of DMD.

A case study of 6-year-old male child detected with DMD on 15th February 2021, with CPK 27000, LDH 2400 and MLPA showing deletion of exon no. 44. By birth patients' hemoglobin was around 9 which did not improve with medicines. Symptoms of DMD in patient were.

1. Taking support while getting up from ground.
2. Could not squat.
3. Psuedohypertrophy of calf muscles
4. Tiredness and fatigue cannot walk for more than 10 minutes.
5. Flaring of rib cage was seen.
6. Hardness of calf muscles and thigh muscles.
7. Climbing the steps one by one except the above physical sign's patient had no signs of mental impairment and the milestones were timely only problem seen in early stages was waddling of the gait.

Parents of patient opted to go for Ayurveda treatment and not the conventional treatment of corticosteroids.

Treatment

1. *PATRA PINDA SWEDA* [6][7] for 7 days
2. *SHASHTIKA PINDA SWEDA* [6][7] for 7 days
3. *MUSTADI RAJAYAPANA BASTI* [8] for 7days
4. Jalauka in brahmarandra every fortnight (Anubhuta)
5. A combination of herbomineral medicines which included *SUVARNA SINDUR*, *RAJAT BHASMA*, *ABHRAKA BHASMA* etc.

Since July 2021 parents of patient were following this pattern of treatment on and off till April 2022.

Observations

With the above treatment the following improvement was seen

1. Calf muscles had become soft.
2. Patient could climb the stairs without support.
3. Patient did not need support to go down the stairs.
4. Flaring of the rib cage was reduced.
5. An abnormal pattern of respiration was observed in the child that was corrected with the medicine.

Side effects of treatment

All these treatments are *Medohara* hence, the body of patient appears very lean and thin.

A child of 6 years gets annoyed of the treatment, does not allow performing *Nadi Sweda* and *Basti*.

Consistency of Bamboo Shoots Lepa has to be taken into consideration otherwise it may lead to cold and cough to child especially in cold weather.

DISCUSSION

DMD is a difficult disease to treat. So much research is going for example micro-dystrophin gene therapy [9], development of myosin modulator to protect injury susceptible fast skeletal muscles fibers [10], enhanced exon skipping and prolonged dystrophin restoration [11], gene therapy, stem cell therapy and many more. Still there isn't any breakthrough in this field leaving the parents saddened.

At present contemporary treatment given to Indian patient of DMD is Corticosteroids and those who can afford Exon skipping are going for exon skipping which has its own limitation that it is meant for only few exons like 51[12]. Exon skipping does not offer a complete cure, but it extends DMD to BMD that too depending upon the phenotype of the restored gene [3]. As per the review of the patient in personal Indian exon skipping treatment has not shown much promising results.

In such scenario Ayurveda can help delaying the symptoms and help the child and parent to lead almost normal life in a condition where there is no mental impairment in the child. Here an attempt was made by us for maintaining the health of calf muscles, thigh muscles, and major muscles of back. We attained success in maintaining physical muscular strength. Our aim is to maintain the health of DMD child till there is any confirm FDA approved breakthrough treatment which allows a DMD child to lead a healthy life.

CONCLUSION

Ayurveda treatment helps to maintain the health of muscles. It also helps to reverse some conditions like hardening of the muscles and restores the normal functioning of that particular muscle. A further study can be proposed to understand the mode of action of *PATRA PINDA SWEDA*, *SHASHTIKA PINDA SWEDA* AND *MUSTADI RAJAYAPANA* Basti on internal structures of muscles.

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