

## A CASE REPORT – DUCHENNE MUSCULAR DYSTROPHY AN AYURVEDIC REVIEW

Dr. Monica Tararam Hume<sup>1\*</sup> and Dr. Gunvant H. Yeola<sup>2</sup>

<sup>1</sup>PG Scholar, Dept. of Kayachikitsa, Dr. D. Y. Patil College of Ayurveda and Research Centre, Pimpri, Pune, Maharashtra, India.

<sup>2</sup>Professor and Head, Dept. of Kayachikitsa, Dr. D. Y. Patil College of Ayurveda and Research Centre, Pimpri, Pune, Maharashtra, India.

Article Received on  
30 May 2018,

Revised on 20 June 2018,  
Accepted on 10 July 2018

DOI: 10.20959/wjpr201814-12931

**\*Corresponding Author**

**Dr. Monica Tararam**

**Hume**

PG Scholar, Dept. of  
Kayachikitsa, Dr. D. Y. Patil  
College of Ayurveda and  
Research Centre, Pimpri,  
Pune, Maharashtra, India.

### ABSTRACT

Muscular dystrophy is a group of disorders characterized by a progressive loss of muscle mass and consequent loss of strength may affect up to 1 in 3500 males. The most common form of muscular dystrophy is Duchenne Muscular Dystrophy (DMD)– typically affect young boys, but other variations can strike in adulthood. Other type is Becker Muscular Dystrophy (BMD) – similar symptoms to Duchenne but with a later onset and slower progression. Patient usually becomes wheelchair bound by the age of 8 to 10 years, and a proportion of patients have mental sub-normality and cardiac abnormalities. Among which some die of cardio-respiratory complications in their late teens to early twenties. Currently there is no cure for muscular dystrophy, but certain physical and medical treatments can improve symptoms

and slow the disease progression such as corticosteroids, physical therapy, respiration assistance, gene therapy and heart medication such as beta blocker.

**KEYWORDS:** Duchenne Muscular Dystrophy (DMD), Becker Muscular Dystrophy (BMD), Ayurved treatment, Shosha, Mamsagata vata.

### INTRODUCTION

**Muscular Dystrophy** – It is a group of inherited, progressive, primary diseases of muscle, with unique phenotypic and genetic features. In late stages of muscular dystrophy fat and connective tissue often replace muscle fibre.

Duchenne muscular dystrophy (DMD) is inherited disorder without involvement of nervous system, by progressive degeneration of group of muscles. Pseudohypertrophy of calf muscles takes place and Gower's manoeuvre is seen in children, they use their hands to straighten up, while getting up from the ground. There is no such curative management in modern medicine, so patients prefer to come for Ayurvedic management if any.

DMD cannot be directly co related with any single disease in Ayurveda. All major neuromuscular disorders are identified with vata dosha. In Ayurveda this pathogenesis can be clearly understood by Adi bala pravrutta vyadhi. Here the pathogenesis occurs due to Beeja bhagavayav dushti which leads to mamsa -vata dushti. Treatment mainly concentrate to increase functional and physical capabilities, minimizing disability to delay further progression of disease and to maintain the ambulation for longer time and to improve quality in the activities of daily living. Treatment includes mainly Rasayana therapy and specified Panchakarma therapies.

### **CASE REPORT**

Basic information of the patient is as following:

**Age:** 15 years

**Sex:** Male

**Religion:** Hindu

**Socioeconomic status:** Lower middle class

### **Pradhan vedana vishesh (chief complaints)**

- Ubhaya pada karmahani (Unable to walk)
- Ubhaya hasta-pada dourbalya (Weakness in both lower and upper limb)
- Aasane- uttishte kashtata (Difficulty in waking up)
- Karshyata (Thin)
- Ubhaya Janu, kurpara sandhi sthabdhata (Stiffness in both knee and elbow joint)
- Ubhaya pada kandu (Itching over both legs)

### **Vartamana vyadhi vruttanta (History of present illness)**

Since childhood patient had a history of delayed milestone. At the age of 7 years DMD had been diagnosed. Since then patient was suffering from above complaints. For this patient had taken allopathy treatment, since there is no improvement in symptoms patient came to Dr. D.

Y. Patil Ayurvedic College and Hospital for supportive treatment so as to improve the quality of life.

### **Purva vyadhi vruttanta (History of past illness)**

- **2 yrs** - Frequent falls while standing and walking, difficulty in getting up from floor and would need assistance for the same.
- **At 3 yrs** – Difficulty in climbing stairs
- **At 4 yrs** – Toe walking with waddling gait
- **At 7 yrs** - Delayed milestones, frequent falls while walking, abnormal gait and frequent cough.
- Parents get doctors advice.
- After clinical examination and investigations doctor diagnose DMD and started further treatment with physiotherapy.
- **At 9 yrs:** weight- 17.6 (8/8/11)

C/O – Difficulty in walking, can't squat/sit, get up with support

O/E – Exaggerated lumbar lordosis, Gower's sign positive, calves/ deltoid muscles hypertrophy, EMG suggestive of myopathy

- Neuro regenerative rehabilitation therapy was done which improves his condition slightly.

- Physiotherapy was done for 1 year.

- **At 10 yrs** – Was admitted in NeuroGen hospital for 5 days

(27/7/13) - Had same complaints

- Neurologically – hypotonic, hyporeflexic, fair voluntary control in B/L upper extremities, B/L flexor tightness, good sitting balance with kyphotic posture in sitting

-Dependant for transfer and mobility; independent for eating, grooming and dressing

- **At 11 yrs** – wt – 20.90 kg (20/12/12)

c/o – Weakness, breathlessness since few months

- Doctors suggested cardiac evaluation

- **At 12 yrs** – wt – 24 kg (21/3/13)

c/o – loss of ambulation, can't sit well, increasing scoliosis

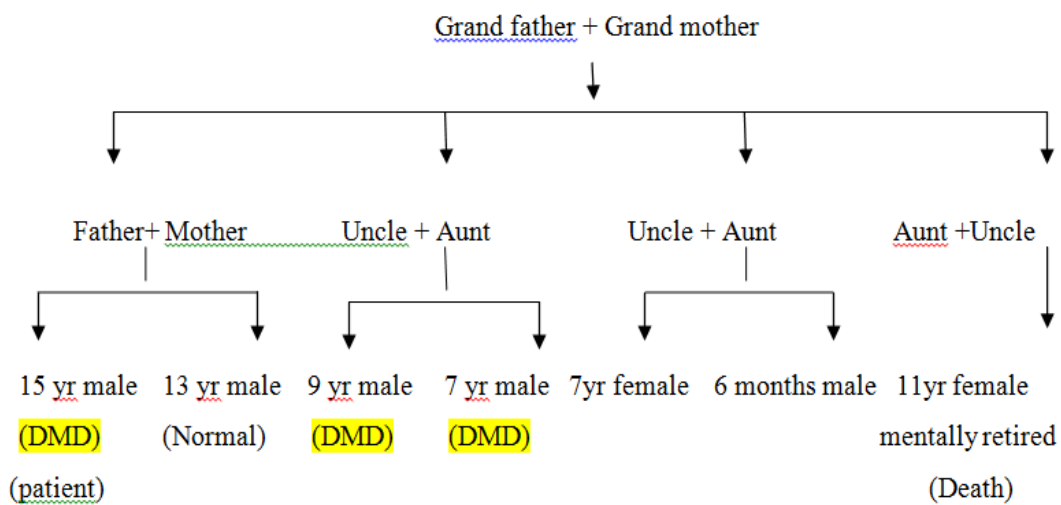
- **At 13 yrs** – Seizure disorder started. (25/12/16)

- Patient started taking Ayurvedic treatment since december 2016 on and off, now admitted in male Kayachikitsa ward on 21-2-18 of Dr. D.Y. Patil Ayurvedic College and Hospital, Pimpri, Pune.

**Table no. 1: Chikitsa vruttanta (Treatment history).**

1	Syp. Calcimax	5ml-----5ml
2	Syp. Maximin forte	5 ml-----5ml
3	Tb. Omnacortil 10 mg	1 and half OD
4	Tb. Shelcal	1 OD
5	Syp. Gelusil	1 tsf -----1 tsf
6	Polybion	0-----5 ml ----- 0
7	Syp. zincovit	0-----5 ml -----0
8	Tb. Vit C 500 mg	0 -----1-----0
9	Tb. Co Q energizer 100 mg	0-----1-----0 (alternate day)
10	Tb. levera (250 mg)	1-----1

**Kulaja vruttanta (Family history)**



**Examination**

**Dashavidha pariksha**

- Prakriti : Sharir –Vata-kaphaj
- Manas- Satvik
- Vikriti : Tridoshaj
- Sara : Avara
- Samhanana : Avara
- Pramana : Avara
- Satva : Madhyam
- Satmya : Avara
- Ahara : Madhyam
- Vyayamshakti: Heen
- Vaya : Avara

**Ashtavidha pariksha**

1. Nadi: Gati – Manduk gati (vata kaphaj)
2. Mutra: Samyak
3. Mala: Samyak
4. Jivha: Saam
5. Shabda: Spasta
6. Sparsha: Samshitoshna
7. Druka: Avishesh
8. Akrti: Krush

- **Dosha:** Vayu – Saman vayu, vyan vayu

Kapha – Shleshak kapha

- **Dushya:** Mamsa dhatu
- **Strotasa:** Mamsavaha strotasa
- **Strotas dusti:** Mamsavaha strotasa dushti
- **Agni:** Jatharagni mandya, Dhatvagni mandata (Mamsadhatvagni mandya)
- **Adhishtana:** Mamsa dhatu

**Central nervous system examination****Higher functions**

- Consciousness : Well conscious
- Behaviour : Obeys verbal command
- Intelligence : Normal
- Memory : Past and present – Normal
- Oriented for time, place and person
- Speech : Normal

**Cranial nerves:** Normal

**Motor system**

- Nutrition : Wasting of muscles of lower and upper limb specially calf muscles
- Tone : Hypotonic
- Power : Both upper limb – 2/5

Both lower limb – 1/5

- Coordination :

Finger nose test - Negative

Knee heel test – Positive

Dysdiadochokinesia - Negative

- Involuntary movement : Absent

### Sensory system

- Superficial sensation : Touch, temperature and pain – Normal
- Calf tenderness : Absent
- Calf wasting -Present

### Table no. 2: Deep Reflexes – Absent.

	BJ	SJ	TJ	KJ	AJ
RIGHT	--	--	--	--	--
LEFT	--	--	--	--	--

**Treatment protocol:** Regarding the weakness of muscles and atrophy in muscles this case was correlated with Shosha vyadhi (Mamsashosha) and also Mamsagata vata.

**Total duration:** 30 days

### Table no. 3: Internal medicines.

Sr.no.	Tablet	Dose
1.	Cap. Rasayana (500 mg)	1-----0-----1
2.	Tab. Ashwagandha (250mg)	2-----0-----2
3.	Tab. Mahavatavidhvansa rasa (125mg)	2-----0-----2
4.	Mahamanjistadi kadha	4 tsf-----4tsf with leukewarm water BD After food
5.	Gandhakadi malahara	For local application
6.	Bala-ashwagandhadi oil	For local application on all joints

### Table no 4: Panchakarma therapy.

1.	Sthanik snehan (both hands and foot)	Kshirabala oil
2.	Sthanik swedana (both hands and foot)	Shashti shalik Pinda sweda
3.	Bhruhan basti	Ashwagandha+shatavari+vidari = kshirapaka (150 ml) + mamsarasa 50 ml + jivantyadi yamak sneha 20 ml = total 220 ml

### RESULT

Symptomatic relief occurred after ten days and gradually patient felt better.

**Table no 5: Symptomatic relief.**

Symptoms before treatment	Symptoms after treatment
Karshya (Weight loss)	Weight gain with mamsabalavruddhi at both upper and lower extremities
Stiffness in knee and elbow joint	Stiffness was decreased and patient was able to move knee joint
Agnimandya (Lowering appetite)	Agnivruddhi (Appetite increase)

**Table no. 6: Change in muscle thickness.**

Changes in muscle thickness	At the time of admission		After 30 days	
	Right	Left	Right	Left
Knee joint	30 cm	34 cm	34 cm	34.5 cm
Above knee joint	32 cm	33 cm	32 cm	33.5 cm
Below knee joint	24 cm	26 cm	28.5 cm	28 cm
Elbow joint	22 cm	22 cm	22 cm	22.5 cm
Above elbow joint	21 cm	19 cm	21 cm	19.5 cm
Below elbow joint	17 cm	18 cm	17 cm	18 cm

After the treatment patient was able to move his stiffed joint freely, his appetite was increased, patient gain weight. Concentration in study was better. As poor family condition we didn't refer for CPK level but patient improves symptomatically.

## DISCUSSION

### Action of drug and other procedure in management of muscular dystrophy

- 1) **Cap. Rasayana:** It contains all balya drugs like amalaki, guduchi and gokshura which improves the thickness of muscles and acts as a rasayana.
- 2) **Tab. Ashwagandha:** It is balya, bruhaniya, kapha vata shamak therefore it is used in the diseases induced by kapha and vata. It acts on mamsa, meda (as do nourishmnet) and majja vaha strotasa.
- 3) **Tab. Mahavatavidhwansa rasa:** It acts on vitiated vata and gives strength to mamsa and asthi dhatu as well as it contains abhraka bhasma which acts as balya (which gives strength)
- 4) **Mahamanjishtadi kadha:** It was given for raktashuddhi (blood purification), as patient having complaints of itching on both legs. It contains manjistha which is best tonic as blood purifier.
- 5) **Gandhakadi malahara:** It was given for local application on both the legs as the patient was complaining of itching. Improvement in itching was in the next day.
- 6) **Bala ashwagandhadi oil:** It was given for local application as it contains bala and ashwagandha which gives strength to muscles and subsides the vitiated vata.

### 7) Panchakarma Therapy

- **Snehana** – It gives strength, enhance enzymes responsible for digestion and metabolism, plumpness of the body is achieved. Snehana is given by kshirabala oil which subside the vitiated vata and gives strength to the stiffed joints.
- **Swedana** – It suppresses any type of ache, contraction, stiffness of body, pricking and tingling sensation. We have given shashti shali pinda sweda. Twaka (skin) is having mamsadhara kala, so bruhan (nutrition) to mamsa dhatu can be best achieved with shashti shali pinda sweda, as well as it subside the vitiated vata dosha.
- **Basti** – It is called as ardha chikitsa. Whatever is to be nourished can be best achieved with basti. According to samanya vishesh sidhhanta if we have to increase muscle mass, we have to provide the same via any other route. We have given bruhan basti which includes mamsarasa which helps as Vata shamak (subside vata dosha) and Mamsa bruhan (nourishment of muscles).

### CONCLUSION

There are many diseases which are not described in ancient treatises and also not possible for us to give any specific name. But it is mentioned that on the basis of Dosha- Dushya karya karanbhava, we can diagnose as well as treat the patient by keeping basic principles of chikitsa (treatment), and it is possible for us to treat successfully.

The absence of specific treatment for muscular dystrophy in modern medicine demands the role of contemporary and alternative approaches especially Ayurved treatment. Administration of Rasayana group of Herbo-mineral composition with Panchakarma treatment and use of Suvarnakalpa will definitely show protective influence.

### REFERENCES

1. API Textbook of medicine, volume 2; Siddharth N. Shah; 2009; pp 1265.
2. Harrison's Principle of Internal Medicine volume 2; Eugene Braunwald, Stephen L. Hauser; 2001; pp 2523.
3. Charak samhita 1<sup>st</sup> part; Vaidya Harishchandra Kushawah; Chaukhambha Orientalia; 2009; pp 803.
4. Sushruta Samhita Ayurvedtatva Sandipika hindi commetery, Uttartantra; Dr. Ambikadutta Shastri; Chaukhambha Sanskrut Sansthan, Varanasi; 2011; pp 310.



5. Sushruta Samhita 2<sup>nd</sup> volume; P. V. Sharma; Chaukhambha Vishwabharati Oriental Publisher; 2000; pp 220.
6. Charak Samhita 2<sup>nd</sup> part; Vaidya Harischandra Kushavaha; Chaukhambha Orientalia Prakashan, Varanasi; 2009; pp 734.
7. Ayurvediya Aushadhigunadharmashastra; Vaidyapanchanan Gangadharshastri Gune; 2008; pp 436.
8. Charak Samhita 2<sup>nd</sup> part; Vaidya Harischandra Kushavaha; Chaukhambha orientalia Prakashan, Varanasi; 2009; pp 745.
9. Ayurvediya Panchakarma Vidnyan; Vaidya Haridas Kasture; Shri Baidyanath Ayurved Bhavan Private Limited.; 2010; pp 168.
10. Charak Samhita; Vaidya Ya. Go. Joshi; Vaidyamitra Prakashana; 2013; pp 786.
11. Charaka Samhita along with Vaidyamanorama Hindi Commentary; Acharya Vidyadhar Shukla, Prof. Ravi Dutt Tripathi; Chaukhambha Sanskrit Pratisthan, Delhi; 2010; pp 13.
12. Sharangadhar samhita annotated with Dipika Hindi Commentary; Dr. Brahmanand Tripathi; Chaukhambha Surbharti Prakashan, Varanasi; 2012; pp. 364.
13. Charak Samhita 2<sup>nd</sup> part; Vaidya Harischandra Kushavaha; Chaukhambha Orientalia Prakashan, Varanasi; 2009; pp 220.
14. Bhaishajya Ratnavali of Govind Dasaji Bhisagratna Volume 2; Dr. Kanjiv Lochan; Chaukhambha Sanskrit Sansthan, Varanasi; 2009; pp 127, 164.
15. Astang Samgraha Induvirachit Shashilekkha Vyakhya Samnvit; Dr. Jyotirmitra Acharrya; Chaukhambha Sankrut Series Office, Varanasi; 2008; pp 414.
16. Astang Samgraha of Vagbhat Volume 2; Prof. K. R. Shrikantha Murthy; Chaukhambha Orientalia, Varanasi; 2012; pp 521.
17. Savill's System of Clinical Medicine; E. C. Warner; 2005; pp 1268.