

A CASE STUDY ON THE MANAGEMENT OF BECKER'S MUSCULAR DYSTROPHY
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Article Received on 20/08/2021

Article Revised on 09/09/2021

Article Accepted on 30/09/2021

ABSTRACT

Muscular dystrophy, a X linked recessive disorder, presents with muscle weakness of the lower limbs, is a progressive disease where weakness become more generalized. It can be studied as *Sahaja Karshya* in *Ayurveda*.^[1] *Shodhana* treatment such as *Rajayapana basti* which is considered *Balya* is administered here followed by other *Shamana Aushadhi* which showed a marked regression in the condition. In Becker muscular dystrophy, muscles weaken because of the pathology in dystrophin (dis-TRO-fin), a protein made by muscle cells. A change in the dystrophin gene makes the protein too short. Among children with the Becker MD gene, boys are most affected with weakness in their arm and leg movements. That's because the dystrophin gene is on the X chromosome, where Boys have only one X chromosome, and girls have two. Girls can be carriers and are at risk of passing this on to their children. Girls can also have symptoms, but in general they are less severe than in boys. A child with Becker MD may have calf muscles that look bigger than normal, even though they're weaker have trouble lifting heavy loads than normal, not be able to walk quickly, run smoothly, or maintain a running pace, have trouble climbing stairs, have calf muscles that look bigger and have more difficulty with sports. Becker Muscular dystrophy affects the muscles of the hips, pelvis, thighs, and shoulders, as well as the heart. Changes in the heart muscle may happen faster than in other muscles.

KEYWORDS: Muscular Dystrophy, *Sahaja Karshya*.**INTRODUCTION**

Becker's muscular dystrophy is a less severe form of muscular dystrophy which results from allelic defect of the same gene responsible for Duchenne dystrophy where the protein dystrophin which is altered in size or is partially present. The proximal muscles especially of the lower extremities are prominently involved. Hypertrophy of muscle particularly in the calves is the early and prominent finding. Asymptomatic hyper CKemia, myalgia and myoglobinuria are presented with. According to *Ayurveda*, it can be taken as *Karshya*, where the classics explain it as the presence of *krusha bhava*, which leads to leanness. *Lakshana* of *karshya* includes *mamsa kshaya*, *meda kshaya*, *udara roga*, *swasa*, *kasa*, *pliha roga*, *Grahani* like disorders.^[2] The concept of *adibala pravrutta*, *deha bala pravrutta* and *doshabala pravrutta* depicts the concept of *sahaja karshya* where one is *krisha* from birth. *Adibala pravrutta* is said to be *dushta shukrashonita balajaata*.^[3] The *lakshana* are said to be with *shushka sphik*, engorgement of vein in *guda*, *greeva*, *krushata* of *twak* and *asthi*, *shopha* of *sandhi* and *mukha*.^[4] *Dalhana* describes it as *apatarpanatmaka vikara* as *dhatu kshaya* occurs as the disease progresses.^[5] *Atikrusha* is considered as one among *ashtouninditiya* by *acharya charaka*.^[6] According to *Bhava prakasha*, during the *shukra shonita samyoga*, if the proportion of *shukradhatu* is high and that of *medo*

dhatu is low, the person born with *krushata* but is *balavan*.^[7] Similarly, if the proportion of *shukradhatu* is less and that of *medo dhatu* is more, the person is born with *krushata* and is *abalavan*.^[8]

CASE DESCRIPTION

Patient c/o of mild weakness in the lower limbs which was progressive and finds difficulty in climbing stairs since five years.

HISTORY

A 30-year-old young male, who is not a k/c/o Diabetes mellitus or Hypertension was asymptomatic 5 years ago after which he experienced frequent fall, difficulty in climbing stairs, extreme tiredness on his daily chores, as compared to his peers which led to general anxiousness in him which led to a routine general body checkup in 2016. But he was convinced to be all normal with the satisfactory lab reports. But gradually he noticed weakness in limbs and tiredness aggravating by physical activities as well as stress. Also found difficulty in climbing stairs and on walking inclined surfaces. He further consulted allopathic physician and underwent all investigations where his CPK level was found to be raised and was diagnosed with muscular dystrophy. He was admitted in the allopathic hospital and was under steroid therapy. Later he discontinued the treatment and

consulted ayurvedic physician in SDM Hospital Udupi.

Spine- curvature-mild scoliosis

H/O PAST ILLNESS: Nothing specific.

MOTOR SYSTEM

FAMILY HISTORY: None of the family presented with similar condition according to the patient.

MUSCLE POWER	LEFT	RIGHT
UPPER LIMBS	4/5	4/5
LOWER LIMBS	4/5	4/5

TREATMENT HISTORY: On steroids for a week. Details not known.

MUSCLE BULK	RIGHT	LEFT
Mid Thigh	17.8inch	18inch
Calf	10 inch	10 inch
Biceps	31cm	31cm
Forearm	25cm	25cm
Muscle tone	Normotonic	Normotonic

LOCAL EXAMINATION

GALS

Gait-Waddling gait Arm-normal

Legs-Calf hypertrophy

Stability (vermis)	
Paralysis	Absent
Tenderness	Absent
Disturbances of movement	Difficulty in running and climbing stairs
Adventitial Movement	Fasciculation -absent
	Tremor - absent
	Chorea - Absent
	Athetosis - Absent
	Dystonic posture - Absent
	Myoclonus - Absent
	Seizure - Absent

IV Reflexes

① Tendon reflexes

biceps (C5, C6)	Rt ++; Left ++
triceps (C7, C8)	Rt ++; Left ++
Brachioradialis (C5, C6)	Rt ++; Left ++
Finger flexor (C7, C8)	Rt+; Left+
Adductor (L2, L3, L4)	Rt +; Left + (Tapping the tendon above the medial condyle of femur elicits the adductor reflex)
knee (L2, L3, L4)	Rt ++; Left ++
Patellar clonus	absent – RT / LT
Posterior tibial (L5)	Rt +; Left +
ankle (S1)	Rt +; Left +
Foot clonus	Absent

0=absent reflex, no response; +=diminished, low normal (brought out with reinforcement = Jendrassik maneuver); ++=normal, average; +++=brisker than average, possibly but not necessarily indicative of disease; ++++=hyperactive with clonus

② Superficial reflexes

abdominal (T6–T12)	Normal Rt / Lt
Cremasteric (L1–L2)	Not elicited
Anal (S3–S5)	Present
Bulbocavernosus (S3– S5)	Not elicited

③ Corticospinal tract signs

Babinski sign	Flexion of toes; extension /dorsiflexion of great toe; fanning of the other toes
Gordon sign	negative

V. Sensory system	
Protopathic sensation	
Light touch	Symmetrical, Normal
Pain	Absent
Temperature	Normal, symmetrical
Epicritic sensation	
Pressure	Intact
2-point discrimination	ability to detect two sharp stimuli that are presented simultaneously at decreasing distance on the skin present
Proprioception	big toe RT - Intact; big toe LT – Intact
	Thumb RT - Intact; Thumb LT – Intact
Pallesthesia	Intact
	ankle – intact
	knuckle – intact
Integrative sensation	
Stereognosis	Able to recognize objects by touch Rt and Lt-present
Graphesthesia	able to recognize letters
Double simultaneous stimulation	Able to detect two stimuli applied simultaneously to opposite sides of the body
Constructional ability	copying simple and complex forms, drawing a clock
Romberg test	Can maintain an upright posture with eyes open.

VI. Coordination	
Limb Coordination	
Finger-to-Nose Test	Negative
Heel-to-Shin Test	Negative
Walk backward,	Smooth
Hop on one foot at a time	Smooth
Diadochokinetic	Possible

INVESTIGATION

CPK Level Evaluation

April 2016	641.5U/L
September 2016	603 U/L
January 2017	325 U/L
May 2017	377 U/L
August 2017	367U/L
January 2020	373.8U/L
June 2020	274 U/L

SAMPRAPTI GHATAKA

Dosha: Vata vridhi

Dooshya: Rasakshaya leading to uttarottara dhatu kshaya especially mamsa, meda

Agni: Manda, Vishama

Ama: Jataragni janya, dhatwagni janya ama

Srotas: Rasavaha, mamsavaha, medovaha etc

Dushti prakara: Beeja dushti, Sanga

Sanchara sthana: Sarva shareera

Adhishthana: Rasavaha srotas

Vyakta sthana: Sarva shareera

Vyadhi prakara: Chirakari

Roga marga: Abhyantara rogamarga

CHIKITSA

Chikitsa which could be adopted to counteract the progressive dhatu kshaya and bala hinata are.

Nidana parivarjana Shamana aushadhi

Basti

RAJAYAPANA BASTI

It has vatahara and rasayana properties which according to Acharya charaka mentions it as Sadyobalajana. Yapana kind of basti can be administered at any time. It includes *musta, usira, bala, aragvada, rasna, manjishta, katuka, rohini, trayamana, punarnava, vibhitaki, g uduchi, salaparni, bruhati, kaakari, gokshura* to be cut into small pieces. To this, eight fruits of *madana* should be added. It should then be washed well and cooked by adding one *adhaka* of water till one fourth of water remains. To this two *prastha* of cow's milk should be added and boiled again till two *prastha* of liquid remains. To this liquid, half *prastha* of the soup of *maamsa* of animals inhabiting in *jangala pradesha* with *ghrita* and *madhu* in unequal quantity and the *kalka* of *shatapushpa, madhuka, fruit of kutaja, rasanjana, priyangu* as well as a pinch of *saindhava* should be added.^[9] It is called *yapana basti* as it prolongs the span of life.

Therapeutic benefits

It is *balya, vrushya, maamsa balajana*, cures *kshata ksheena, kasa, gulma, udavarta*.

Poorvakarma

The patient who is administered with *abhyanga*, who is devoid of *Vega*, who has slept well is made to lie on his left side with head slightly low, flex his right leg keeping his left leg straight.

Pradhana karma

The *guda pradesha* is made *snigda* by application of *taila*, the lubricated *basti* should be inserted without shaking. And then after retaining, bowel is cleared off.

DIFFERENTIAL DIAGNOSIS

GB Syndrome

Spino cerebellar ataxia Duschene muscular dystrophy

Beckers muscular dystrophy *Asthi majja gata vata*

Pangu

Mamsa kshaya Sahaja karshya

TREATMENT

Rajayapana basti

Balamoola capsule 2-2-2

MODE OF ACTION OF SHODHANA

Shodhana helps in elimination of vitiated *doshas*, *mala*, increases *bala*, *ayu* and *varna*.

PROBABLE MODE OF ACTION OF BASTI

When the drug is administered through the anal route, it gets absorbed through the intestinal mucosa by absorption. The *aushadha* as mentioned before which is *balya* and *mamsajanana*, is said to regress the pathology of muscle destruction in this condition.

CONCLUSION

Marked regression and the decline in the CPK level with in a span of four years depicts the benefit of *Rajayapana basti* in this condition.

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