Int. J. Curr. Res. Med. Sci. (2022). 8(3): 26-38

International Journal of Current Research in Medical Sciences

ISSN: 2454-5716

(A Peer Reviewed, Indexed and Open Access Journal)

www.ijcrims.com

Case Report

Volume 8, Issue 3 -2022

DOI: http://dx.doi.org/10.22192/ijcrms.2022.08.03.004

Case Report on Cerebral Palsy - with Siddha Treatment regimen

Dr. V. Gayathri B.S.M.S., M.D(s).,

[1]Dr. G. Dharshini Priya B.S.M.S., M.D(s)., Ph.D.

Govt. Siddha Medical College, Chennai,

National institute of Siddha, Tambaram Sanatorium

Abstract

Cerebral palsy is a non-progressive disorder, which arising in early stages of development of child. There are many etiology factors like antenatal, natal and postnatal factors responsible for causing cerebral palsy but exact cause is still unknown. Spasticity is the main feature of cerebral palsy. Classification of CP is too broad on the basis of physiological and topographic etc. Symptoms of spastic cerebral palsy can be correlated with sirakamba vatham in siddha. **Aim-** To improve the quality of life of child suffered from spastic CP. Place and duration of study-Study was done in Govt. Siddha medical college, Chennai. **Method-** In this case study, Siddha medicines along with Podithimirathal was given to child for first 45 days. **Results-** mild improvement in spasticity and achievement of milestones have observed. Patient got discharged from IPD of hospital due to COVID 19 pandemic. **Conclusion-** Hence, through Siddha treatment, improvement in symptoms of spastic cerebral palsy can achieve and quality of life of child can increase spontaneously.

Keywords: Cerebral palsy, Spasticity, sirakamba vatham, Siddha medicines.

Introduction

Cerebral palsy is a common cause of childhood disability. It is a group of non-progressive but often changing motor impairment syndromes secondary to lesions or anomalies of brain arising in early stages of development. There are many etiologic factors responsible for CP viz. Antenatal, natal and postnatal in which preterm birth and hypoxic condition at the time of delivery are the major cause of CP. CP is classified on the basis of physiologic as spastic, dyskinetic, ataxic, hypotonic, mixed etc. and topographic as quadriplegia, hemiplegia, diplegia, monoplegia etc. Children suffering from cerebral palsy make their parents life miserable as they can't do daily requirement work properly and walk. Prevalence rate of CP as CDC is 1-4 per 1000 live births. In spastic

cerebral palsy, there is tightness of muscles and can be corelated with sirakamba vatham in siddha.

Aim- To improve the quality of life of child suffered from spastic CP.

Objective:

- To evaluate the clinical therapeutic efficacy of experimental formulation, podithimirthal (Powder Massage) and in cerebral palsy children under the following parameters.
- Spasticity in upper and lower limb muscles, GMFCS, muscle tone, dynamic gait index and selective control assessment of joints, fine motor functions of the upper limb.
- Assessments of language and vocabulary, social and emotional skills, cognitive skills, functional and adaptive behaviour skills.
- To evaluate Siddha philosophies for the management of cerebral palsy.

Literature review:

Siddha is the first medical system to emphasis health as the perfect state of physical, psychological, social and spiritual component of human being. The condition of the human body in which various factors influence keep three humours in equilibrium is considered as healthy living. Disease is also known by other names, sickness, distemper, suffering and ailment, distress of mind, chronic disease and dreadful illness. Disease are of two kinds such as pertaining to the body, pertaining to the mind according to the variation of the three humours.

சிரக்கம்பவாதம்

"தம்பமாய் உதிரங்கண்ட நரம்பிற் புக்கித்
தலையோடு சரீரமெலாந் தாக்கிப்புக்கும்
கம்பமாய் காதிரண்டும் மிகவுங் கேளா
கையோடு காலிரண்டும் வசக் கேடாகும்
நிம்பமாய் நினைவுதான் கலங்கிக் காணும்
நெடுமூச்சுங் கொட்டாவி நித்திரை யாகும்
சிம்பமாய் தலைநடுங்கிக் கனப்பு முண்டாஞ்
சிரக்கம்ப வாத மென்றே செப்பலாமே."

– பொதுமருத்துவம் (ப.எண்-599)

சிரவாதம்

"தலைக்கு நாள் பனியுண்டாகி தன்முகம் பாதிகோணி
உலைக்கு நல்சிரசு சென்னி உச்சியும் உளைந்தும் வீங்கும்
பிலக்கவே கையும் காலும் பருக்கவே அசைந்திடாது நிலக்கவே
நடக்கொட்டாது நினைவுடன் முலையுண்ணாது."

Analogy between siddha text and quoting from modern text

Siddha literature	Modern literature
உதிரங்கண்ட நரம்பிற்புக்கித்	Insult in the cerebral hemisphere
தலையோடு சரீரமெலாந் தாக்கிப்புக்கும்	Neurological reflect all over the body.
கம்பமாய் காதிரண்டும் மிகவுங் கேளா	Auditory loss
கையோடு காலிரண்டும் வசக் கேடாகும்	Difficulty in use both upper and lower limb.
நிம்பமாய் நினைவுதான் கலங்கிக் காணும்	loss of orientation and memory
நெடுமூச்சுங் கொட்டாவி நித்திரை யாகும	lethargic and sluggishness
தலைக்கு நாள் பனியுண்டாக	loss of head control
தன்முகம் பாதிகோண	Difficulty in direct gaze.
நல்சிரசு சென்னி உச்சியும் உளைந்தும	Difficulty in head position.
கையும் காலும் அசைந்திடாத	Spastic changes in both limbs
நிலக்கவே நடக்கொட்டாத	Difficulty in walking
நினைவுடன் முளையுண்ணாத	Feeding Difficulties.

Materials and Methods

- Raw drugs to prepare the experimental formulation were purchased from the market and fresh plants were collected from wild sources. Care was taken to select healthy plants for normal organs. The specimens would be authenticated with the standard specimens kept in the Department of pharmacology and medicinal botany in the GSMC. Authenticated raw drugs were preserved for sample used to prepare Experimental Formulation,

- The present study was a prospective, open label, non-randomized, outpatient and inpatient based, single centred drug trial conducted in the department of Kuzhanthai Maruthuvam, GSMC, Chennai.

- Single batches of Brahmi Nei and podithimirthal were prepared for the entire study. Children of either sex between the age group of 1 to 9 yrs, who were diagnosed with spastic cerebral palsy, were identified to include the study. The first 50 children with spastic cerebral palsy were screened in the study period. 25 children satisfied the inclusion criteria and were willing to participate in the study. They were given the opportunity and time to decide whether or not to participate in the trial and to inquire about details of the trial and any question regarding the study was answered.

- The children who were enrolled was informed about the study, trial drug, possible outcomes and the objectives of the study in the language and terms understandable for them.

- The prevalence of the disease among Sex, Age, Economic status, Nilam (Habitat) Kalam (Season) and Thegi (body constitution) was observed on enrolled patient. Then the detailed medical history, general physical and eight fold Siddha examinations were recorded.

- General examination such as Body weight, Height, Body temperature, Pulse rate, Heart rate, Respiratory rate, Blood pressure, Pallor, Icterus, Clubbing, Cyanosis, Lymph node enlargement, Pedal Oedema and examination of vital organs were carried out on before and after treatment.

- Spasticity were assessed before and after treatment using modified Ashworth scale.

Dose and procedure:

S. no	Medicine/ methodology	Dose	Procedure
1	Amukkara chooranam	3yrs - 5yrs -500mg/ bds 6yrs - 9yrs - 1gm/bds	Oral administration
2	Brahmi Nei	3yrs-5 yrs - 8ml 6yrs -9yrs –10 ml 10 yrs -12 yrs - 12 ml	Oral administration
3	Kollu podi (*Macrotyloma uniflorum*)	As required	Procedure as per siddha literature

1) Amukkara chooranam:

Amukkara chooranam was prepared as described as in the sasthric Siddha literature. The all ingredients measurement levels are taken as by the text. All are purified and make into a fine powder.

Vernacular/Tamil name	Botanical name	Parts used	Part
Amukkra kizhangu	*Withania somnifera*	Rhizome	64 grms
Chukku	*Zingiber officinale*	Rhizome	32 grms
Thiphili	*Piper longum*	Dry fruit	16 grms
Milagu	*Piper cubeba*	Dry fruit	8 grms
Ellam	*Elettaria cardamom*	Seed	4 grms
Cirunagapoo	*Mesua ferrea*	Flower	2 grms
Lavangam	*Eugenia cryophyllus*	Dried flower	1 grm

2) Brahmi Nei:

Brahmi Nei was prepared as described as in the sasthric Siddha literature. *Zingiber officinale* Linn. (Dried Rhizome), *Piper longum* Linn. (Dry fruit), *Phyllanthus emblica* Linn. (Dry fruit), *Operculina turpethum* Linn. (Dried root), *Feronia elephantum* Linn.(seed), Induppu, *Caryyota urens* Linn. (Palm jaggery), *Curcuma aromatic* Linn. (Rhizome) each are finely powdered and ground with cow's milk to get a texture of paste. The paste is added to the juice of freshly prepared *Bacopa monniera, Acorus calamus, Alpenia galanga* Linn., Cow's milk and Cow's Ghee, in the vessel. Above mixture was heated and filtered after obtaining in the texture of ghee. In this way, Brahmi Nei was prepared.

Vernacular/ Tamil name	Botanical name	Part used	Part
Brahmi	*Bacopa monnieri* Linn.	Fresh juice	5.44 kg
Pasu nei	Cow's Ghee	-	2.72 kg
Vasambu	*Acorus calamus.* Linn	Fresh juice	1.36 kg
Perarathai	*Alpinia galanga* Linn.	Fresh juice	1 36 kg
Pasum paal	Cow's milk	-	5.44 kg
Chukku	*Zingiber officinalae* Linn.	Dried Rhizome	14 gms
Thippili	*Piper longum* Linn.	Dry fruit	14 gms
Sitrrathai	*Alpinia officinarum* Linn.	Dried Rhizome	14 gms
Vila	*Feronia elephantum* Linn.	Seed	14 gms
Rock salt	Induppu	-	14 gms
Panai	*Caryyota urens* Linn.	Palm jaggery	14 gms
Kasturi manjal	*Gurkuma aromatic* Linn.	Rhizome	14 gms

3) Kollu podi :

Podi thimirthal is one of the 32 types of external therapies in Siddha literature. This type of external treatment involves the rubbing of certain medicated powders either separately or after mixing it with camphor or leaf juice. Substances like horse gram flour, turmeric powder etc are used.

"குலத்தங் கபத்தினைக் கூற்றெனத் துரத்தும்"

கொள்ளு சிலேஷ்மங்களைப் போகச் செய்யும்.

Criteria for Assessment

Assessment of spasticity

Modified as worth scale

The modified Ashworth Scale measures resistance during passive soft tissue stretching is quick and easy measures that can help assess the efficacy of treatment.

MAS is performed in the supine position (this will garner the most accurate and the lowest score as any tension anywhere in the body will increase spasticity)

Because spasticity is "velocity dependent" (the faster limb is moved, the more spasticity is encountered) the MAS is performed while moving the limb at the "speed of gravity" this is defined as the same speed at which a non –spastic limb would naturally drop(fairly fast).

The test is performed a maximum of three times for each joint; if more than three times the short term of a stretch can influence the score.

The MAS is performed prior to goniometric testing provides a stretch and the short – term effect of a stretch can influence the score.

SCORING:

0-Normal tone, no increase in tone.

1-Slight increase in muscle tone, manifested by a catch and release or minimal resistance at the end of the range of motion (ROM) when the affected part(s) is moved in flexion or extension.

1+-Slight increase in muscle tone, manifested by a catch, followed by minimal resistance throughout the remainder (less than half) of the ROM.

2-More marked increase in muscle tone through most of the ROM, but affected part(s) easily moved.

3-Considerable increase in muscle tone passive movement difficult.

4-Affected part(s) right in flexion or extension.

Case Series

Case 1: 3year /male child

Complaints:

Not able to walk alone, tip toe walking present since 2 years.

Anti natal history:

Premature delivery
Amniotic membrane ruptured.

Natal history:

Birth weight: 1.8 kg
Respiratory distress after birth.

Developmental history:

Social smile: 5 month
Head control: 7 month
Rolling over : 8 month
Sitting without support: 1 year
Standing without support: not attained.

Family history:

No family history.

Finding:

No abnormal changes present in MRI report.

General examination:

Consciousness: alert
Posture: normal
Decubitus: normal lying
Anemia: No
Clubbing: No
Lymph adenopathy: No
Pedal edema: No
Cyanosis : No

Anthropometry:

Weight: 12 kg
Height: 90 cm
Head circumference: 47 cm
Chest circumference: 51 cm
Mid arm circumference: 17 cm

Vital signs:

Temperature: 98.60f
Heart rate: 72/min
Pulse rate: 70/min
Respiratory rate: 19/min

Central nervous system:

Nutrition of muscle:
Upper limb: Normal
Lower limb: Normal

Tone:

Upper limb right: Normal
Upper limb left: Normal
Lower limb right: Hypertonic
Lower limb left: Hypertonic

Power:

Upper limb right: Normal
Upper limb left: Normal
Lower limb right: Grade 3 (Movement against gravity ,but not against resistance)
Lower limb left: Grade 3 (Movement against gravity, but not against resistance)

Superficial reflex:

Corneal reflex: Normal
Conjunctival reflex: Normal
Abdominal reflex: Normal
Plantar reflex: Babinski sign positive in both legs.

Deep tendon reflex :

	Right	Left
Biceps	+	+
Triceps	+	+
Supinator	+	+
Knee	+++	+++
Ankle	++	++

Diagnosis: Diplegia

Case 2: 4 years/ Female child

Complaints:

Difficult in using right hand and right leg since 3 years.

Anti natal history:

G1,P1,L1,A0.

Natal history:

Birth weight-1.8kg.

Developmental history:

All development milestones are delayed.

Family history:

No family history.

Finding:

No abnormality seen in CT.

General examination:

Consciousness: Alert
Posture: Normal
Decubitus: Normal
Anemia: -
Clubbing: -
Lymphadenopathy: -
Pedal edema: -
Cyanosis : -

Anthropometry:

Weight: 12 kg
Height: 130 cm
Head circumference: 54cm
Chest circumference: 52cm
Mid arm circumference: 20cm

Vital signs:

Temperature: 98.60f
Heart rate: 80/min
Pulse rate: 75/min
Respiratory rate: 19/min

Central nervous system:

Nutrition of muscle:
Upper limb:Normal
Lower limb: Normal

Tone:

Upper limb right: Hypertonic
Upper limb left: Normal
Lower limb right: Hypertonic
Lower limb left: Normal

Power:

Upper limb right: Grade 4 (Movement against resistance with less strength)
Upper limb left: Normal
Lower limb right: Grade 4
Lower limb left: Normal

Reflex:

Superficial reflex:
Corneal reflex: Normal
Conjunctival reflex: Normal
Abdominal reflex: Normal
Plantar reflex: Babinski sign present.

Deep tendon reflex:

	Right	Left
Biceps	+	+
Triceps	+	+
Supinator	+	+
Knee	+++	++
Ankle	++	+

Diagnosis: Hemiplegia

Case 3: 1 ½ years / male child

Complaints:

Unable to stand without support since 6 months.

Anti natal history:

Forceps delivery

Natal history:

Seizure present at the age of 6 months (under modern medication taken for 1 year.)

Developmental history:

All developmental milestones are delayed

Family history:

No family history

Finding:

Minimal caput succedanea present in the left parietal region.

General examination:

Consciousness: Alert
Posture: Normal
Decubitus: Normal
Anemia: -
Clubbing: -
Lymphadenopathy: -
Pedal edema: -

Anthropometry:

Weight: 7kg
Height: 80cm
Head circumference: 45 cm
Chest circumference:48 cm
Mid arm circumference: 13 cm

Vital signs:

Temperature: 98.60f
Heart rate: 72/min
Pulse rate: 72/min
Respiratory rate: 18/min

Central nervous system:

Nutrition of muscle:
Upper limb: Normal
Lower limb: Normal

Tone:

Upper limb right: Normal
Upper limb left: Normal
Lower limb right: Hypertonic
Lower limb left: Hypertonic

Power:

Upper limb right: Normal
Upper limb left: Normal
Lower limb right: Grade 3
Lower limb left: Grade 3

Reflex:

Superficial reflex:
Corneal reflex: Normal
Conjunctival reflex: Normal
Abdominal reflex: Normal
Plantar reflex: Babinski sign present.

Deep tendon reflex:

	Right	Left
Biceps	+	+
Triceps	+	+
Supinator	+	+
Knee	+++	+++
Ankle	++	++

Diagnosis: spastic diplegia

Case 4: 3 years/male child

Complaints:

Difficult to walk since 2 years

Anti natal history:

G2,P2

Natal history:

LSCS,
Birth asphyxia.

Developmental history:

Development milestones are delayed.

Past history:

No past history.

Family history:

No family history.

Finding:

Cystic encephalomalacia.

General examination:

Consciousness: Alert
Posture: Normal
Decubitus: Normal
Anemia: -
Clubbing: -
Lymphadenopathy: -
Pedal edema: -
Cyanosis : -

Anthropometry:

Weight: 19 kg
Height: 125cm
Head circumference: 52 cm
Chest circumference: 58 cm
Mid arm circumference: 18 cm

Vital signs:

Temperature: 98.60f
Heart rate: 78/min
Pulse rate: 75/min
Respiratory rate: 19 cm

Central nervous system:

Nutrition of muscle:
Upper limb: Normal
Lower limb: Normal

Tone:

Upper limb right: Normal
Upper limb left: Normal
Lower limb right: Hypertonic
Lower limb left: Hypertonic

Power:

Upper limb right: Normal
Upper limb left: Normal

Lower limb right: Grade 2
Lower limb left: Grade 2

Reflex:

Superficial reflex:

Corneal reflex: Normal
Conjunctival reflex: Normal
Abdominal reflex: Normal
Plantar reflex: Babinski sign positive in both legs.

Deep tendon reflex:

	Right	Left
Biceps	+	+
Triceps	+	+
Supinator	+	+
Knee	+++	+++
Ankle	++	++

Diagnosis: Diplegia

Case 5: 8 years/ male child

Complaints:
Unable to walk alone & difficulty in Speech since 7 years.

Anti natal history:

Malarial fever present at 7th month of gestational period.
Oligohydramnios

Natal history:

Seizure occurs after 3rd day of birth.

Developmental history:

All developmental milestones are delay

Past history:

No past history present.

Family history:

No family history.

Finding:

No abnormal changes present in MRI.

General examination:

Consciousness: Alert
Posture: Normal
Decubitus: Normal
Anemia: -
Clubbing: -
Lymphadenopathy: -
Pedal edema: -
Cyanosis : -

Anthropometry:

Weight: 28kg
Height: 140 cm
Head circumference: 52 cm
Chest circumference: 63 cm
Mid arm circumference: 14 cm

Vital signs:

Temperature: 98.60f
Heart rate: 75/min
Pulse rate: 70/min
Respiratory rate: 19/min

Central nervous system:

Nutrition of muscle:
Upper limb: Normal
Lower limb: Normal

Tone:

Upper limb right: Normal
Upper limb left: Normal
Lower limb right: Hypertonic
Lower limb left: Hypertonic

Power:

Upper limb right: Normal

Upper limb left: Normal
Lower limb right: Grade 3
Lower limb left: Grade 3

Reflex:

Superficial reflex:
Corneal reflex: Normal
Conjunctival reflex: Normal
Abdominal reflex: Normal
Plantar reflex: Babinski sign positive.

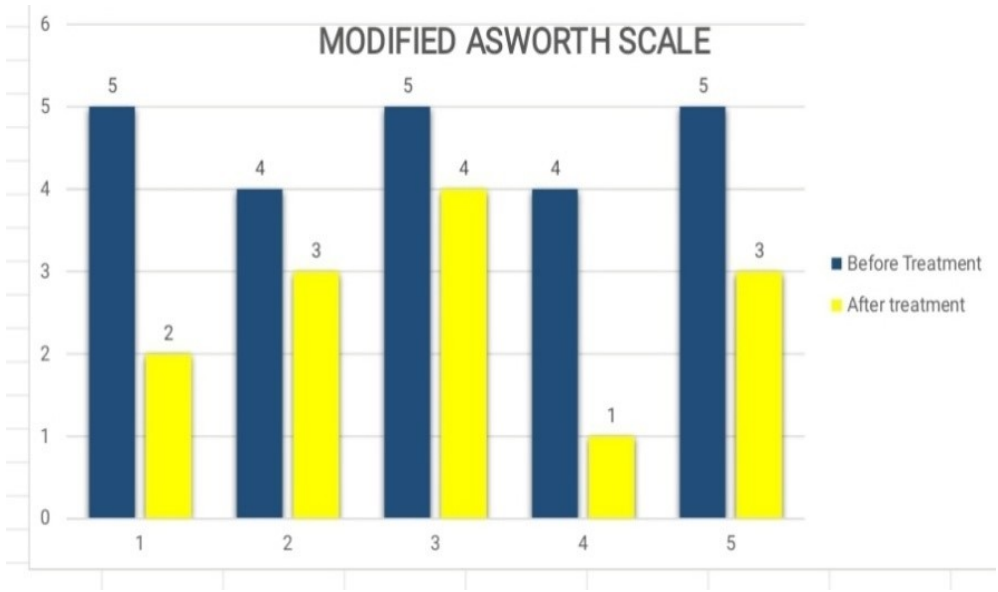
Deep tendon reflex:

	Right	Left
Biceps	+	+
Triceps	+	+
Supinator	+	+
Knee	+++	+++
Ankle	++	++

Diagnosis: Spastic diplegia

Patients detail with clinical assessment:

S.no	Op/ IP no	Age/sex	Before treatment		After treatment	
1	286	3/ Mc	G4	5	G1+	2
2	1279	4/Fc	G3	4	G2	3
3	498	11/2/Mc	G4	5	G3	4
4	2371	3 / Mc	G3	4	G1	1
5	56	8/Mc	G4	5	G2	3



Results

10 CP children were screened with age ranges from 1 years to 9 years. 5 children those meeting the inclusion criteria were include in this study and given treatment for 90 days. All the patients were treated with Siddha internal medicine (Amukkara chooranam + Brami Nei), external therapy (Podithimirthal). The outcome of this external therapy procedure obtained by comparing the before and after treatment clinical assessment scoring. Clinical assessment were recorded on 0th day and followed by every 30th days by using MAS. The results was observed that all the 5 patients had improvement in spasticity and gait.

Among 5 patients, at the end of the study on 90th day, out of 3 patients (who scored grade 3, 4 in MAS scale) the spasticity reduced in 2 patients (grade 2 0r 1). 3 patients showed improvements (grade 2 to 1).

Discussion

In Siddha literature CP is under the Vadha disease therefore, the therapeutic management is considered to be internal medicine, (Amukkra choornam + Brahmi Nei) . Amukkra choornam is used for nerves tonic, it restore the energy, and effective treatment in physical stress. Brahmi Nei is used to calm the mind, relieve weakness and nervous exhaustion, memory enhancing, and promote healthy sleep . Massage with Kollupodi which soothe the sensory nerve endings, they produce a hyperaemic effect causing the arterioles dilate in musculature, and reduce stiffness. Massage is considered to enhance muscle relaxation, Reduce muscle tension and soreness, and post- sequently, improve performance. Massage is also thought to provide a soothing, sedative, invigorating feeling and can give the comfort. Among 5 patients, at the end of the study on 90th day, out of 2 patients (who scored grade 3, 4 in MAS scale) the spasticity reduced in 2 patients (grade 2 0r 1). 3 patients showed improvements (grade 2 to grade 1).

Conclusion

Finally it can be concluded that Amukkara chooranam + Brahmi Nei along with podithimirthal massage has a definitive action as well as clinically efficacy on spasticity in cerebral palsy child in contrast to that seen in regular IPD treatment. Thus, Siddha protocol of management can provide some benefit by giving possible improvement in the present condition and minimize the disability of those innocent children and improve their quality of life and give active and self supporting happy life.

References

1. Kuppusami Mudhaliar, K.N. HPIM, Podhu maruthuvam, Publishes by Directorate of Indian medicine and Homeopathy Chennai, Year of publication 1936, p.g.no: 587, 588,599.
2. Mohanraj, Mathalai noi maruthuvam part III, published by Directorate of Indian medicine and Homeopathy Chennai, Year of publication 2009,p.g.no:115.
3. Vinod K Paul MD, Phd, FAMS,FIAP,OP GHAI Essential Paediatrics, Published by CBS, 8th edition 2013, p.g.no:559.
4. Shalini. B. Arulmozhi. P. Suresh.K. Meenakshi Sundaram. M.Banumathi.V., The Effect of Siddha Medicine and External Therapy in the management of Siravatham (Spastic Cerebral Palsy)-A Cerebral Series Int. J. Curr .Res. Chem. Pharm. Sci. (2018). 5(4):42-45.
5. Uthamarayan. K.R.H.P.I.M. , Siddhar aruvai maruthuvam, publishes by Indian medicine and Homeopathy, Year of publication 1968,p.g.no:29.
6. Deva Asirvatham samuvel MD(s), Marunthu sei iyalum kalayum , publishes by Indian medicine and Homeopathy, Year of publication 1992,p.g.no:161.
7. Uthrapathi, Loganathan, Muthukumar. Banumathi. K.J. Development of standard operative procedure for specialised. Siddha external therapy –Thokkanam , published in International Journal of Current Research in Medical Sciences , 2017.

8. Umesan, Mohamed Ajmal, A.P. Uma, A Standard of conduct for Thokkanam (Massage) Techniques in siddha system of Medicine, International Journal of Comprehensive Research in Biological Sciences , 2018.
9. Sundarajan. A., Pillaipini Maruthuvam – II, p.g.no: 520.
10. Thiyagarajan.R. L.I.M Gunapadam Thaadhu seeva vagupu II and III, Publishes by Directorate of Indian medicine and Homeopathy Chennai, Year of publication 1952, p.g.no:747.

Access this Article in Online	
Quick Response Code	Website: www.ijcrims.com
	Subject: Siddha Medicine

How to cite this article:
V. Gayathri, G. Dharshini Priya. (2022). Case Report on Cerebral Palsy - with Siddha Treatment regimen. Int. J. Curr. Res. Med. Sci. 8(3): 26-38.
DOI: http://dx.doi.org/10.22192/ijcrms.2022.08.03.004