

Siddha Management of *Siravatham* (Cerebral Palsy) - A Case Study

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ABSTRACT:

Siravatham, a disorder affecting the Moolai (the brain) is characterized by the inability to use both upper and lower limbs, walking difficulties, drooling of saliva, speech impediments, heightened fear and anxiety due to *vazhi* disarrangement. In the Siddha system of medicine, Cerebral Palsy is closely correlated with *Siravatham*, presenting as a neuromotor disorder in children, with an incidence of 7/1000 in India. This condition results in a permanent dependency of the child on their parents for daily activities, necessitating a holistic therapeutic approach. Excel Medical College and Research Centre is committed to providing medical service to children with this condition, attracting numerous referrals from various parts of India. Siddha, with its specialized branch in child care known as *Kuzhantthai Maruthuvam*, plays a crucial role in addressing the unique needs of these children. A single case study conducted in the outpatient department from October 2023 to December 2023 aimed to manage *Siravatham* in a nine-year-old male child. Despite previous treatments by various doctors showing no significant improvement, the parents turned to *Siddha* treatment for management. This article documents the outcomes of the *Siddha* treatment, focusing on the child's improvement in angular salivation, vocalization, postural stability and socio-behavioural changes. The findings contribute valuable insights into the effectiveness of *Siddha* therapy in managing *Siravatham*.

KEYWORDS: *Anda Thylam*, Cerebral palsy, *Siravatham*, *Siddha*, *Varmam*, *Thasa vayu*, *Thattal Murai*.

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INTRODUCTION:

Siravatham characterized by cardinal symptoms related to abnormal speech and varying degrees of intellectual behaviour, presents a distinctive clinical profile. By the

age of 2 to 3 years, the human brain attains full growth. The comprehensive understanding of *Siravatham* as a *vazhi* disease is elucidated in the renowned *Siddha* textbook

"*Mathalai Noi Maruthavam Part III*," authored by T. Mohanraj .

"*Siravatham enbathu thalainadukkam Kaium kaalum asaithidathu nadakka Siramam mulai unnathu*".

As per siddha classical text "*Mathalai Noi Maruthavam*" - *Siravatham is a functional cerebral palsy manifests as persistent but not unchanging disorder of movement and posture due to defect or lesion of the developing brain.*

The practice of varmam regarded as a divine art, finds its origins in the wisdom of Siddhars being possessing divine qualities. The Siddha system, with its rich heritage, has played an integral role in contributing to human welfare through its expansive therapeutic and restorative formulations. The texts authored by Siddhars stand as enduring testimonials, underscoring the profound impact of their teachings. A notable therapeutic intervention is the *Thasavayu Thattal Murai* which is being taught through *Asaans* in southern part of India. Disruption in the functioning of *Thasavayu* is recognized as a precursor to disease within the body. *Thasavayu* categorized into primary and secondary *vaayus*, these vital forces play distinct roles. *Primary vaayus* contribute to embryogenesis, while *secondary vaayus* govern the growth phase (organogenesis). The learnt *Asaan's* technique of *Thasavayu Thattal Murai* is administered weekly once. This unique practice is applicable not only to patients with chronic ailments but also to special children facing distinctive health challenges. The execution of *Thasavayu Thattal Murai* stands as a method to regulate the flow of *vaayu* and the intricate network of *naadis*. This holistic practice ensures the activation of the *96 thatthuvam*, contributing to overall well-being through the Siddha approach.

Siddha technique in the management of *Siravatham* :

Siddhar Varmam therapy, Siddhar Thokkanam, Kollu Podi Thimirthal, Thappalam, Internal and External siddha medication.

New advanced technique in the management of *Siravatham*:

Siravatham cannot be cured completely but the technique can be employed to provide optimum quality of life by fostering functionality ,self-care and independence. Newer advanced technique includes Autologous stem-cell therapy, Selective Dorsal Rhizotomy, Stem cell transplantation procedure, Hyper baric oxygen therapy, Botulinum toxin type A injection, Orthotic devices – AFO and Neuroplasticity.

CASE REPORT:

9 years old male child of middle class reported to the OPD on 3 October 2023 with the diagnosis of cerebral palsy -spastic quadriplegia.

Thumbangalum kaalaazhavum (complaints and duration):

Siravatham, first child, preterm 36 weeks, lower segment caesarean section -LSCS, 2.250kg weight, not cried immediately after birth (not CIAB) had lethargy and poor feeding on day 2nd of life. No neonatal seizure. Breathing difficulty present . Due to all these clinical complications, the child couldnot achieve normal growth and development.

Tharpothaiya noiyyin varalaru (history of present illness):

Not standing alone, not walking alone, unable to sit in chair, angular salivation, speech impediment, heightened fear and anxiety, scissoring gait present. Since from birth of child, the parents started treatment going to many doctors without any significant improvement. At the chronological child's age of 9, they approached us for further management.

Munthaiya noyin varalaru (Birth antenatal/ natal/past history):

Mothers' delivery age: 25 years

Mode of conception : Spontaneous

Gestational age : Preterm (36 weeks)

Mode of delivery : LSCS (Not CIAB)

Birth weight (Baby) : 2.250kg

NICU Admission : Yes (baby admitted in NICU for one week)

Pazhaka vazhakangal (food habits) :

Conjee unavugal, Paal.

Kudumba varalaru (family history) :

Maternal uncle had history of cerebral palsy with seizure. Kuduma vara laru uzhatu. (Thaaimamanpaathippu).

Thadupoosi potta varazharu (immunization history):

Muraiyana thadupoosi potta varalaru.

Siddha maruthuva noi kanippu murai :

In this patient with *Siravatham*, *vazhi* predominates, affecting *iyam -santhigam* and *kelathagam*. In *Envagai thervu*, *vazhi* increases subsequently leading to an increase in the other *two kutrams*, *azhal*, and *iyam*. The patient experience impairment in speech (*Mozhi*) along with the presence of drooling saliva and difficulty in speaking. *Malakattu* occurs at a frequency of 2 days/once. In *Neerkuri*, the urine appears straw yellow, accompanied by a decreased frequency of *siruneer*. The characteristic pattern of *Neikuri* is described as "*Aravana Neendathu aagthe vazhi*". Within the realm of *vazhi*, *viyanan*, *Abanan*, *Samanan* and *udanan* are affected. In the context of *Azhal*, *AnarAzhal* and *saadbaga Azhal* are influenced.

General symptoms of the patient:

Mental generals: heightened fear and anxiety present. Couldnot comprehend family members meaningfully. Physical generals: Craving for pungent food,meat and salt. Urination frequency normal,constipation

present (voiding stools 2 days once).He sleeps well at night.

In physical examination: No pallor,no icteric,no cyanosis,no clubbing,no lymphadenopathy and no oedema.In systemic examination, gait-scissoring gait .Muscle tone- hypertonia(spasticity).The patient had reduced stability and had difficulty in controlling posture.Higher mental function: conscious but poor orientation to place,time and person,no reply to asked questions ,utter some noise.On Cranial nerve examination: olfaction-normal,vision- normal.Motor system examination-the patient was diagnosed to have hypertonia(spasticity),hyperflexia which indicates upper motor lesion.This is the hallmark of cerebral palsy.Meningeal signs were absent.Pulse-78/min.Sensory examination: position sense-affected.

Investigation Report:

MRI Brain reveals oxygen deprivation evidence of brain damage in form of hypoxic ischemic lesion (HIE)- periventricular white matter injury (PWMI) .

Maruthuva valimuraigal (Treatment protocol)

Total duration of treatment: Ninety days - October 2023 to December 2023.

Medicated Anda Thylam-preparation:

Ingredient:*Kozhi Muttaiyin Manjal Karu*-Gallus domesticus-boiled egg yellow yolk.

Method of preparation: As per *AnubhavaVaidhya Navaneedham* literature evidence.

Dosage:2 drops Indication: *Andathylam* applied over the tongue and is given in disease of the children like *Sanni* (delirium),*Maandham* (fever with sluggishness),*Kuzhandhaigalin valippugal* (convulsion of children)and *Pakka vadham (paralysis)*.

Table- 1: Probable Siddha Pathophysiology:

96 Thathuvam Adipadai	Noi nilaigal (paathippu)
<i>UyirbathukalVazhi</i>	<i>Samaanam .udaanan,abaanan,naagan,girikaran.</i>
<i>Azhal</i>	<i>Anar pitham,saadbagapitham</i>
<i>Iyyam</i>	<i>santhigam and kilathagam</i>
<i>EnvagaiThervu</i>	<i>Sparism is warmth, stiffness of upper and lower limb. Mozhi affected. Neikuri -vazhi.Neerkuri- vazhi neer.Malam-paathipu (malakattu) 2 natkalarumurai.</i>
<i>Kosangal</i>	<i>Annamaya kosam-seriyamai(indigestion)</i>
	<i>Pranamaya kosam-paathippu</i>
	<i>Manomaya kosam-paathippu</i>
	<i>Viynanamaya kosam-paathippu</i>
<i>Udal thathukal</i>	<i>Saram,seneer,oon,kolupu,yenbu -paathippu.</i>
<i>Kanmaenthiriyangal</i>	<i>Kai,kaal- paathippu, vaai-paathippu, mozhi- paathippu ,yaruvaai-paathippu.</i>
<i>Nayana enthiriyangal</i>	<i>Mei-warmth,vaai-paathippu (angular salivation).</i>
<i>Naadi</i>	<i>Iyya vazhi</i>
<i>Neikuri</i>	<i>Aravana Neendathu aagthe vazhi</i>

Table- 2: Developmental milestones of the child

Domains	Milestone	Attained at	Normal
Gross motor	Head control	4 months	3 months
	Sitting with support	1.2 years	6 months
	Rest	Not attained	-
Fine motor	Bidextrous grasp	11 months	4 months
	Unidextrous grasp	1.5 year	6 months
	Reaches for object	2 years	6 months
	Rest	Not attained	-
Language	Turns head to sound	9 months	1 month
	Cooing	2 years	3 months
	Rest	Not attained	-
Personal and social	Social smile	11 months	2 months
	Recognizes mother	1 year	3 months

Table- 3: Treatment protocol

Condition	Treatment Protocol
Scissoring gait	<i>Mudbichu-4,Andakaalam - given weekly thrice</i>
To reduce fear and anxiety	<i>Adappakalam- given weekly thrice</i>
Improve speech	<i>Kondaikolli,Pidarivarmam,Ottuvarmam.- given weekly thrice</i>
To boost up body energy	<i>Kondaikolli,Thumbikalalam,Thosumugavarmam,Annakalam,Kallidaikalalam-given weekly thrice.</i>
<i>Mukutra samani</i>	<i>Thasavayu Thattal Murai given weekly once</i>
<i>Vazhi samani</i>	<i>Anda Thylam applied over the tongue recommended twice daily for speech</i>

Table -4 : Time line and Follow up:

Date	Follow Up	Siddha Treatment
3/10/2023	Profuse angular salivation, speech impediment, fear and anxiety, Spasticity, Not standing alone, not walking alone, unable to sit in chair, scissoring gait persists. difficulty in controlling posture.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
5/10/2023	Spasticity persists as same.	<i>ThasavayuThattal Murai</i> given. The protocol varmam points given. Anda thylam-2 drops applied twice over the tongue.
7/10/2023	Spasticity persists as same.	Anda thylam-2 drops applied twice over the tongue.. The protocol varmam points given.
10/10/2023	Spasticity persists as same.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
12/10/2023	Spasticity persists as same.	<i>ThasavayuThattal Murai</i> weekly once given. Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
14/10/2023	Spasticity persists as same.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
17/10/2023	Spasticity persists as same.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
19/10/2023	Spasticity persists as same.	<i>ThasavayuThattal Murai</i> weekly once given. Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
21/10/2023	Spasticity persists as same.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
24/10/2023	Spasticity persists as same.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
26/10/2023	Spasticity persists as same.	<i>ThasavayuThattal Murai</i> weekly once given. Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
28/10/2023	Spasticity persists as same.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
31/10/2023	Hyperflexiaand hypertonia moderately reduced.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
02/11/2023	Able to maintain posture and control stability for 3 mins.	<i>ThasavayuThattal Murai</i> weekly once given. Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
04/11/2023	Able to stand without support for 7 mins and control posture.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.

07/11/2023	scissoring gait moderately reduced.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
09/11/2023	Angular salivation moderately reduced.	<i>ThasavayuThattal Murai</i> weekly once given The protocol varmam points given.
11/11/2023	Able to stand without support for 11 mins and control posture.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
14/11/2023	Responses to questions by making noises.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
16/11/2023	Malakatturelieved.(voiding on regular basis).	<i>ThasavayuThattal Murai</i> weekly once given. Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
18/11/2023	Stand without support for 17 minutes.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
21/11/2023	Hyperflexia,hypertonia of limbs moderately reduced. Able to sit in chair with support.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
23/11/2023	scissoring gait moderately reduced.	<i>ThasavayuThattal Murai</i> weekly once given. Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
25/11/2023	Angular salivation occurs only during excitement..Able to stand alone for 25 minutes.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
28/11/2023	Able to sit in chair partially with support..	Anda thylam-2 drops applied twice over the tongue.
30/11/2023	Easily sit without support.	<i>ThasavayuThattal Murai</i> weekly once given. Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
02/12/2023	Fear and anxiety reduced.	Anda thylam-2 drops applied twice over the tongue.
05/12/2023	Utter meaningful words like amma,appa.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
07/12/2023	Able to stand alone for 30 mins.	<i>ThasavayuThattal Murai</i> weekly once given. Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
09/12/2023	Aggressive behaviour reduced.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
12/12/2023	Able to stand alone for 45 minutes	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
14/12/2023	Angular salivation reduced.	<i>Thasavayu Thattal Murai</i> weekly once given. Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.

16/12/2023	Walk few steps alone for 7 mins.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
19/12/2023	Walk few steps alone for 11 mins	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
21/12/2023	Walk few steps without support for 13 mins.	<i>Thasavayuthattal Murai</i> weekly once given. Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
23/12/2023	Walk without support for 15 mins.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given. The protocol varmam points given.
26/12/2023	Able to climb stairs with finger point support for 3 mins.	Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.
28/12/2023	Scissoring gait absent. Able to climb stairs without support for 5 mins.	<i>Thasavayuthattal Murai</i> weekly once given. Anda thylam-2 drops applied twice over the tongue. The protocol varmam points given.

Table-5: Result on sign and symptoms:

Signs and symptoms	Before treatment	After treatment
Scissoring gait	Present	Absent
Sitting	Unable	Easily sit
Standing	With support	With out support for 45 mins
Walking	With support	Without support for 15 mins
Speech	Absent	Vocalized few meaningful words like Amma.
Appetite	<i>Pasi inmai</i>	<i>Iyalbu</i>
Stool	<i>Malakattu 2days/once</i>	<i>Iyalbu</i>
Aggressive behaviour	Present	Absent
Angular salivation	Present	Absent
Muscle tone	Hypertonicity	Improvement
Forward bending	For 110 degree	For 160 degree
Climbing stair	Absent	Able to climb stairs without support for 7 mins
<i>Neikuri</i>	<i>Vazbineer</i>	<i>Azhalneer</i>
<i>Neerkuri</i>	<i>Vazbineer</i>	<i>Azhalneer</i>
<i>Naadi</i>	<i>Iyyavazhi</i>	<i>Azhalvazhi</i>

Table-6: Result on objective parameters:

Anthropometric measurement	Before treatment	After treatment
Weight (kg)	23 kg	24 kg
Height(cm)	127 cm	128 cm
Head circumference(cm)	52	53
Chest circumference(cm)	62	64

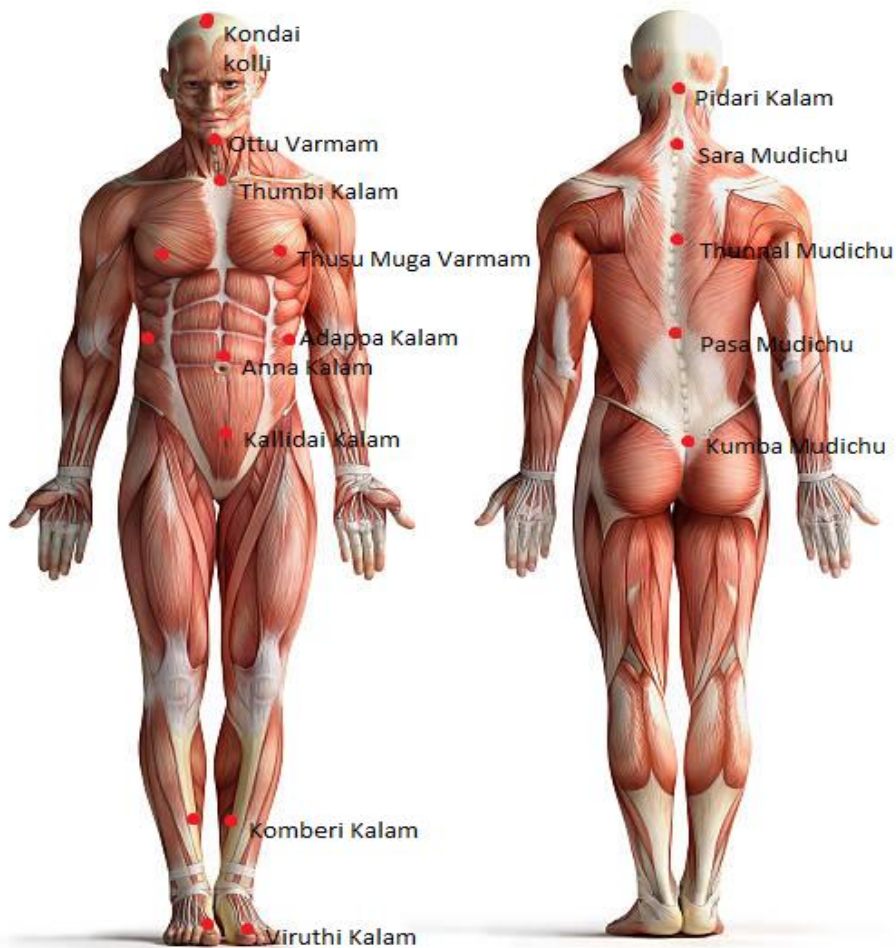


Fig-1: Treatment protocol points

Development in the patient during treatment



Fig-2: Standing with support



Fig-3: walking with support of two persons



Fig-4: Standing without support for 45 minutes.



Fig-5: walking on ground without support for 15 minutes and climb stairs without support for 7 minutes.



Fig-6: Sitting on chair without support



Fig-7: Tricycling independently

DISCUSSION:

The stimulation of *udaananvayu* and the application of *Anda thylam* over the tongue resulted in improved vocalization in the child. The child demonstrated vocalization of IAI, IEI, and a few meaningful words such as "Amma," along with meaningful comprehension of family members. Growth improvement may be attributed to the nourishment of *udal kattukal*, and the increase in height could be linked to the reduction in joint contractures.

Thasavayu encompasses various functions: *pranan*- the basic life force, *udaanan*- assisting in speech, *samanan*-stimulating appetite, *abaanan* -primarily responsible for muscle function and relieving constipation. *vyaanan* -functioning from the heart's center and regulating all varmam points, *koorman* -energizing the eyes, *naagan*-

responsible for weight gain, *girikaran*-energizing bone joints, *devadhatthan*-functioning from intestine-related varmam point and *dhananjeyan* significantly aiding life functions. The execution of *Thasavayu Thattal Murai* regulates *vayu* flow, activating the functioning of the 96 *thatuvam* through this stimulation. *Varmam therapy* directly addresses disrupted *vazhi*, restoring it to normalcy. The assessment criteria for observing the therapy's effect encompassed parameters of growth, goniometric evolution for range of motion (ROM), the Ashworth scale for spasticity, the spasm scale for spasm intensity and the manual ability classification system for evaluating upper limb function. The Ashworth scale exhibited a 49% improvement in spasticity due to the beneficial effects of *ThasavayuThattal Murai* in reducing vitiated *vazhi*. The spasm scale

showed a 46% improvement owing to the balancing effect of *samanan vaayu*. The manual ability classification system demonstrated a 57% improvement, indicating a reduction in spasticity and enhancement in ROM.

CONCLUSION:

This study concludes that while *Siravatham* is incurable, the selected Siddha treatment protocol effectively reduces disability and improves the quality of life (QOL) in affected children. Significant enhancements were observed in maintaining postural stability, gait and reducing drooling of saliva. The child exhibited improved ability to utter monosyllable and bisyllable words and meaningful comprehension of family members, with an overall effect ranging between 45-53%. The concept of Neuroplasticity, emphasizing the central nervous system's ability to repair damaged neurons through axonal sprouting, aligns with the positive effects of varmam therapy and its management in *Siravatham*. Early detection and intervention, following the recommendations of the Spastic Society of Tamilnadu, with Siddha medication and varmam therapy, are crucial for improving the QOL of affected children.

Limitation of the study:

The main limitations are related to the fact that this is a study of only one patient. So more controlled trials are needed in this area to prove effect of *Siddha* in *Siravatham*-cerebral palsy.

Patient consent:

Informed consent has been taken from patient's mother for treatment as well as for publication of this case study.

Conflict of interest: Author declares that there is no conflict of interest.

Guarantor: Corresponding author is guarantor of this article and its contents.

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