

A case report on Spastic quadriplegia cerebral palsy managed with Homoeopathic medicines as an adjuvant to physiotherapy

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Abstract:

Spastic quadriplegia/quadriplegia is the most severe form of cerebral palsy and is often associated with moderate-to-severe intellectual disability and it is caused by widespread damages to the brain or significant brain malformations. This group of patients will be unable to live independently during adulthood and need ongoing long-term care. Here we are discussing a case which got marked improvement in quality of life and motor activities with the help of Calcarea Phosphorica 1M along with Physiotherapy. CPQOL (Cerebral palsy Quality of Life) primary care giver questionnaire was filled at the baseline and the last visit by her mother. At the end of the intervention the score was raised from the baseline score. Marked improvement in vision of the patient is declared by the ophthalmologist. The effect of Calcarea phosphorica in the management of developmental disorders has been previously reported in different studies. More controlled trials are needed in this area to prove effect of Homoeopathy in cerebral palsy.

Key Words: Homoeopathy, Calcarea Phosphorica, Spastic Quadriplegia.

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Introduction:

Cerebral palsy can result from brain injury occurring during the prenatal, perinatal, or postnatal periods because brain development continues during the first two years of life.^[1] Patient may be classified according to the type of motor abnormality as spastic, dyskinetic (dystonic/athetoid), ataxic or hypotonic. The clinical picture is rarely clear cut. Patients are sub classified according to distribution of motor abnormality- in diplegia (legs are involved more than the arms), in quadriplegia (all four limbs are affected), in hemiplegia- one side of body is involved. It is important to use this classification for research and management because different types of Cerebral Palsy tend to have distinct causes, different associated deficits and different prognosis. The prognosis is best in hemiplegia and worst for quadriplegia. Survival rate have been about 90% in all types.^[2] Spastic quadriplegia/quadripareisis is the most severe form of cerebral palsy and is often associated with moderate-to-severe intellectual disability and it is caused by widespread damage to the brain or significant brain malformations.¹ Population-based studies from around the world report that the prevalence estimates of CP range from 1.5 to more than 4 per 1,000 live births or children of a defined age range. The overall birth prevalence of CP is approximately 2 per 1,000 live births.^[3] Delivering medical care to these individuals poses several problems, including practical issues such as consideration of capacity and consent to treatment. These individuals usually require a complex care package involving

many members of the multidisciplinary team.^[4]

Effective and easily implemented increased levels of physiotherapy/occupational therapy may contribute to increased ability in function in a child with cerebral palsy. Family-centered rehabilitation therapies were positively associated with greater outcome but the amount of rehabilitation therapy was not related to developmental outcomes.^[5-6] This group of patients will be unable to live independently during adulthood and need ongoing long-term care. Here we are discussing a case which got marked improvement in quality of life and motor activities. This case report is an effort to show the role of homoeopathic medicine in the management of spastic quadripareisis Cerebral Palsy

Case History:

An 8 year old girl reported to the OPD on 14 May 2018 with the diagnosis of spastic Quadripareisis Cerebral Palsy. She presented with microcephaly, nodding of head and jerking movements of limbs. The patient had restricted range of motion in all extremity joints. Due to reduced stability of the trunk, she had difficulty controlling posture when standing or walking. Difficulty in speaking (uttering one or two words), loss of vision in both eyes since birth, loss of bladder control, spasticity and marked fear of loud noise were present.

The patient had been suffering with complaints since birth itself. Mother was apparently healthy during pregnancy. During second month of pregnancy death of her brother happened which turn in sadness. Two weeks before the expected

date of delivery premature rupture of membrane and amniotic fluid leakage started. She was shifted to hospital but the caesarean section was done on the next day only. Baby cried after delivery but had seizure attack on the same day. She got no treatment so she was shifted to another hospital and admitted there for 20 days. Recurrent attack of seizure occurred with tonic fits, rolled eyes and rigidity. The seizure always preceded by loud cries. The girl subsequently showed delayed development and whole-body hypotonicity. Since then she had been under conventional treatment but there is no changes and seizure still persists with same intensity. From birth itself it was found to have visual defect in both eyes but hearing was intact. All the milestones were delayed including social smile. Poor recognition of mother even after 1 year of age. Attack of recurrent fever present.

There was a history of typhoid fever at the age of 5 years and took conventional treatment for the same. Immunisation was done as per the schedule. Her grandmother died of CA Breast and maternal grandfather was asthmatic. Her uncle died due to coronary artery disease. Family history of cerebral palsy was reported in maternal side.

General symptoms of the patient

Mental generals: The child is very approachable, oversensitive especially to loud noises. **Physical generals:** craving for pungent food, meat and salt. Urine passes involuntarily day and night, occasionally constipated and profuse perspiration over palms and soles. She sleeps well at night.

Examination

General physical examination: No pallor, not icteric, no cyanosis, no clubbing, no lymphadenopathy and no oedema.

Systemic examination: Examination of muscle tone, muscle activity, balance, and gait was performed pre-intervention and post-intervention by the occupational therapist.

Higher mental function: Conscious but poor orientation to place, time and person, no reply to questions asked, uttering some noises, no dysarthria or dysphonia.

On Cranial nerve examination: Complete visual loss of both eyes, even cannot recognise lights in front of eyes. Both sensory and motor functions of all other cranial nerves were normal.

Motor system examination (done by occupational therapist): No Muscle wasting, Tone of muscles increased in all areas especially shoulder flexion, wrist flexion and knee flexion

Tone is markedly increased in supinator and hip flexor muscles. Scissoring Deformity- flat foot bilaterally.

All Deep tendon Reflexes were exaggerated.

Babinski sign-positive bilaterally.

Sensory examination: Vibration, pain and temperature sensitivity are impaired .

Investigation reports: MRI BRAIN (05/06/2010) - mild to moderate parenchymal atrophy with signal alteration in bilateral parieto occipital region. Features suggestive of encephalomalacia in parieto occipital regions.

Table-1: Time line and Follow up:

Date	Follow Up	Medicine
28/07/2018	General improvement. Nodding of head reduced, spasticity persists as same. Appetite and thirst reduced, no seizures, no fever	CALCAREA PHOS 1M/1D weekly for 1 month
11/09/2018	Fear of loud noises, always shaking head, making some noises to get attention, no seizures or fever	CALCAREA PHOS 1M/1D weekly for 1 month
9/10/2018	Fever, cough and coryza, bad breath, reduced appetite and thirst	BELLADONNA 200 (3-3-3)
13/11/2018	No attack of fever since last 1 month, fear of noises persists otherwise general improvement, flexibility of joints improving, nodding of head absent. Responses to question by making noises	CALCAREA PHOS 1M/1D weekly for 1 month
11/12/2018	Appetite improved, thirst reduced, no fever, no seizures, child responds to questions asked, making noises, head shaking reduced, limbs become more flexible	CALCAREA PHOS 1M/1D weekly for 1 month
11/01/2019	c/o dyspnoea and cough, mild fever, reddish itching eruptions on dorsal thoracic region	BELLADONNA 200/6D
05/03/2019	Weakness of extremities present. Spasticity persists. Child laughs well, approachable, trying to talk or sing, mother says that she is responding to flashes of light. She was admitted in IPD.	Occupational therapy and physiotherapy started SL
07/05/2019	Walks with support, walks on the medial aspect of feet, looking at light, responses to bright light, active, socialization improved, wants to go out.	CALCAREA PHOS 1M/1D weekly for 1 month
01/06/2019	Injury- left big toe, no fracture, pain present trying to walk without support, Eye contact maintained, looking at face of others.	ARNICA 200/1D
15/07/2019	Attack of seizure in the morning after 1 year, loud cries, head bends backwards	CICUTA 200/ 1D
16/10/2019	Walking without support, trying to say her name, fearful, startles from slightest noise, eye contact maintained	SL
24/12/2019	Walking without support, trying to say her name, fearful, startles from slightest noise, eye contact maintained	SL
19/3/2020	Walking erect without support, responds to questions, consulted ophthalmologist and wearing spectacles , approachable, remember everyone that	CALCAREA PHOS 1M/1D weekly for 3 months

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	she met earlier, joints are flexible	
27/06/2020	Walking erect without support, responds to questions, watching television, listening music and trying to sing as well, joints are flexible, no irritability to noises.	CALCAREA PHOS 1M/1D weekly for 3 months
21/08/2020	Walking erect without support. Watching television, happy to meet everyone, trying to communicate, scarcity of vocabulary, laughs well, eye contact maintained.	CALCAREA PHOS 1M/1D weekly for 3 months

Table-2: CPQOL

CPQOL	Baseline	Last visit
Family and Friends Participation	55	117
Communication	7	33
Health	5	20
Special equipments	31	96
Pain and bother	3	none
Some final questions about your child	4	9
Access to services	10	27
Your health	12	45
Total	138	382

Table 3': Modified Naranjo algorithm

Modified Naranjo algorithm	Yes	No	Not Sure or N/A
1. Was there an improvement in the main symptom or condition for which the homoeopathic medicine was prescribed?	+2	-	-
2. Did the clinical improvement occur within a plausible timeframe relative to the medicine intake?	+1	-	-
3. Was there an initial aggravation of symptoms?	-	0	-
4. Did the effect encompass more than the main symptom or condition, (i.e. were other symptoms ultimately improved or changed)?	+1	-	-
5. Did overall wellbeing improve? (use Eq-5D-5L)	+1	-	-
6 (A) Direction of cure: did some symptoms improve in the opposite order of the development of symptoms of the disease?	+1	-	-

6 (B) Direction of cure: did at least two of the following aspects apply to the order of improvement of symptoms: - from organs of more importance to those of less importance - from deeper to more superficial aspects of the individual - from the top downwards	+1	-	-
7. Did “old symptoms” (defined as non-seasonal and non-cyclical symptoms that were previously thought to have resolved) reappear temporarily during the course of improvement?	-	0	-
8. Are there alternative causes (other than the medicine) that –with a high probability- could have caused the improvement? (Consider known course of disease, other forms of treatment, and other clinically relevant interventions)	-3	-	-
9. Was the health improvement confirmed by any objective evidence? (e.g. lab test, clinical observation, etc.)	+2	-	-
10. Did repeat dosing, if conducted, create similar clinical improvement?	+1	-	-

Homoeopathic Treatment:

Considering the presenting totality CALCAREA PHOSPHORICA 1M weekly one dose was prescribed and advised to report after one month. The frequency of seizures reduced and all other symptoms persists as same. So Placebo was prescribed for next month and she started showing some improvement such as nodding of head reduced, jerking movements of head reduced but spasticity remained same. No fever for 2 months. No seizural attack.

Result and Discussion:

Cerebral palsy is a very important social and economic problem, since the affected children are co-dependent. This group of

patients will be unable to live independently during adulthood and need ongoing long-term care.^[7] Providing the quality life to the child is a difficult task but it is like silver lining to the dark cloud. Initially, a comprehensive evaluation regarding etiopathogenesis, clinical features and investigations was done that started from a thorough medical history of child together with a complete physical examination. It was observed that the intervention using CALCAREA PHOSPHORICA resulted in gains on motor performance and functional balance in a child with CP. The increase in quality of life, verified through the CPQOL Questionnaire filled by her mother shows the effectiveness of CALCAREA

PHOSPHORICA in this case. CPQOL (Cerebral palsy Quality of Life) primary care giver questionnaire was filled at the baseline and the last visit by her mother. At the end of the intervention the score was raised to 382 from the baseline score of 138. (Table.2)

CNS examination was also done in the baseline and last visit. The areas of motor performance which showed an increase were: fine motor skills, overall motor function, balance and tone of the muscles. Improvement started after the continuous doses of same medicine along with physiotherapy and occupational therapy. Child was completely blind on the first visit but then vision improved and now wearing spectacles with the consultation of ophthalmologist. Physiotherapist and Occupational therapist re-examined the child at the end and their comments were mentioned as walking without support but a tendency to fall forward. Spasticity was slightly present on right upper limb and lower limb. Everted ankle is present on right side. The management included AROM exercise and PROM exercises, Tone normalisation Weight bearing exercises and ambulation. Gross motor function measure score (GMFMS) was unable to perform at the baseline as the child was bedridden, non approachable and suffered with jerky movements of limbs and repeated seizures. But it was performed at the end by occupational therapist. Symptomatically the child has improved as the nodding of head relieved, no fever or siezural attacks. Fear of loud noises better, appetite and thirst improved. Child become approachable, communicative and oriented to persons and

places. Now she is walking without support, playing with peers, watching television, singing songs, eating alone and bathing alone.

The effect of Calcarea Phosphorica in the management of developmental disorders have been previously reported in different studies.^[8-9] Calcium is essential for healthy bones. It is also important for muscle contraction, heart action, nervous system maintenance, and normal blood clotting. The major sphere of action of Calcarea groups are musculo skeletal system and nervous system. Calcarea group also Used for treatment of slow development and difficulty in performing intellectual operations.^[10-11] Most important point regarding the medicine Phosphorus is its action on nervous system. The patient is exceedingly susceptible to external impressions and we will find Phosphorus indicated in diseases of locomotor system like locomotor ataxia.^[12] Thus the medicine was selected on the basis of combination of these two drugs. The causal attribute between the medicine prescribed and clinical improvement was assessed using the Modified Naranjo Algorithm.^[13] The total score of 7 indicates that the improvement was attributed to the Homoeopathic medicine Calcarea Phosphorica. [Table-3]

Conclusion:

This case report highlights the role of homeopathy as an adjuvant therapy in Cerebral palsy and it is to be hoped that this will arouse further research interest to showcase homeopathic medicines as stand-alone or adjunct treatments in developmental disorders in children.

Limitation of 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 Homoeopathy in cerebral palsy.

Patient consent:

Informed Consent has been taken from patients mother for treatment as well as for publication of this case study.

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