CEREBRAL PALSY: STILL A SOCIAL PROBLEM

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ABSTRACT:

Research Problem: What are the social aspects of cerebral palsy?

Objective: To determine the extent and severity of neuromuscular involvement in cases of cerebral palsy and to find out the associated defects among these children.

Study Design: Cross sectional study.

Setting: Tertiary care hospital, outdoor patients.

Participants: Children in the age group of 0 - 12 years.

Sample Size: 120 children suffering from cerebral palsy.

Study Variables: Social factors, neuromuscular involvement.

Statistical Analysis: By proportions

Result: Out of 120 cases, maximum number of cases (66.6%) were in the age group of 1- 4 years. 83 cases (69.16%) were males. Among the various types, spastic type was the commonest (87.5%). Of these spastic cases, 52 (49.52%) had quadriplegia. No case of tremor and rigidity was seen. Delayed milestones was the commonest associated disorder, seen in 107 (89.16%) cases, followed by speech defect in 58(48.3%) cases, visual defect in 34(28.3%) cases and convulsions in 24 (20.0%) cases. Hearing defect was seen in 5 cases (4.16%) only.

Conclusion: More concerted efforts are required to identify children with cerebral palsy and rehabilitate them for the betterment of society.

Key Words: Cerebral palsy, Associated defects.

INTRODUCTION:

Cerebral palsy continues to be one of the major crippling disorders in children. Research in this field is complex because of difficulties in applying criteria for diagnosis and parameters for prognosis to all clinical types. Various studies have been carried out to study the clinical profile of this disorder [1-11]. The burden imposed by cerebral palsy on society has not reduced despite recent advances in medical care. The present study was undertaken to find out the extent of neuromuscular involvement and the associated defects of cerebral palsy.

MATERIAL AND METHOD:

The participants of the study comprised of 120 children in the age group of 0-12 years attending the OPD of Department of Paediatrics, SVBP Hospital, LLRM Medical College, Meerut during the period of August 1995 to July 1996. Each child was assessed once. As part of the total evaluation of the patient, previous medical records were obtained. When this information was not available, information from the parents was depended upon. The children were examined in familiar surroundings under optimum environmental conditions in front of their parents to ensure full cooperation of children and parents.

Cerebral palsy was defined as" persistent disorder of movement and posture appearing early in life due to a developmental, nonprogressive disorder of the brain"[8]. The clinical types were classified as described by Minear[9] which includes spastic, athetoid, atonic, tremor, toxic, rigidity, mixed and unclassified types. The spastic group was further subclassified into monoplegia, paraplegia, hemiplegia, quadriplegia, diplegia and triplegia.

Developmental history was taken. Convulsions were considered as an associated disorder and not a cause, if the seizure episode followed the motor deficit. A detailed examination was carried out with special emphasis on neurological examination. Gross vision was assessed by the child's response to light or bright colored objects. Gross hearing was assessed by observing the child's response to verbal stimuli or bell. fundus examination was done in all cases.

OBSERVATIONS:

Out of 120 cases, 80 (66.6%) were in the age group of 1-4 years. Only 2 cases were in the age group of 0-6 months. No case was seen above 7 years. Out of 120 cases, there were 83 (69.16%) males (Table - I).

The distribution of types of cerebral palsy is shown ing table - II. Spastic type formed the largest

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group comprising 105 (87.5%) cases, followed by atonic, mixed, ataxic and athetoid types seen in 7.5%, 2.5% 1.65% and 0.83% cases respectively. Among the spastic type, quadriplegia was the commonest (Table - III) . Among the associated disorders, delayed milestones was the commonest and was seen in 89.16% cases, followed by speech defects in 48.33% cases. Visual defect was seen in 28.33%. Squint was the commonest visual defect seen (15.8%) followed by decreased visual acuity (8.33%), nystagmus (2.5%) and optic atrophy (1.66%). 24 (20.0%) cases gave history of convulsions. 5 cases (4.16%) had hearing defects while drooling was observed in 15 (12.5%) cases (Table -IV).

DISCUSSION:

Maximum number of cases of cerebral palsy were observed in the age group of 1-4 years, which is the period of active growth where any delay in the development of the child is easily brought to the parents' notice. A male preponderance was observed with the male to female ratio being 2.24:1. This is consistent with other reports [1,2]. Spastic type was the most common type (87.5%). This is in accordance with other studies[1-4] which have reported spasticity in 62.8% to 91.4% cases.

Among the spastic types, quadriplegia was the most common and was seen in 49.52% cases followed by diplegia (31.42%) and hemiplegia (13.33%). Other studies [5,6] have also reported quadriplegia to be the commonest among spastic type. Evans[7] reported diplegia to be the commonest among spastic type. O'Reilly and Wallentynowicz [4] reported hemiplegia as the commonest spastic type (26.1%) while quadriplegia was found in only 13.5%. Mitchelle[3] also found hemiplegia to be the commonest type (37.1%) followed by tetraplegia in 19.2% cases. A low incidence of triplegia and monoplegia was seen in 0.83% cases. Similar low incidence was reported by Evans[7], Srivastava[5], and O'Reilly and Wallentynowicz[4].

In this study, atonic, mixed, ataxic, and athetoid were seen in 7.5%, 2.5% 1.65% and 0.83% respectively. There was no case of tremor or rigidity. Similar low incidences of athetoid, tremor, mixed, and ataxia was reported by Srivastava [5]. O'Reilly and Wallentynowicz,[4] however, reported a higher incidence of mixed, athetoid, rigidity and ataxic cerebral plasy in 12.0, 11.7, 7.2 and 4.9% cases respectively. Similar higher incidence of athetosis was also reported by Makwabe and Mgone[2] in 12% and by Mitchell[3] in 7.5%.

Basu [1] observed hypotonia, athetosis and mixed types in 7.1, 5.5 and 2.4% cases respectively. This low figure of atonic and ataxia may be due to the fact that if quite a number of cases were followed up, they would indicate a change in their clinical pattern to some other froms. O'Reilly[4] observed that hypotonia in pure form was rare but might be an outstanding initial symptom of any kind of cerebral palsy.

Delayed milestones was the commonest associated disorder (89.16%). This was also the commonest presenting feature. Visual defect was seen in 28.33%. This was closely related to that observed by Agatha [11] in 30% cases. Black[10] and Amita and Lamba [6] reported a higher incidence of visual defect in 80%, and 68.6% respectively. Srivastava[5] reported a lower incidence of the visual defect (9%). The overall lower incidence of visual disorder in this study may be due to technical difficulties in ophthalmic examination of children. The varied incidence of visual disorders emphasizes the need for a thorough ophthalmic examination of all children of cerebral palsy. Hearing deficit was observed in 4.16%. Amita and Lamba[6], Agatha[11] and Evans [7] reported higher incidence of hearing deficit of 12.9%, 10% and 22% respectively. Convulsions were seen in 20.0%, speech defects in 48.33%, drooling in 12.5% and involuntary movements in 2.5% cases.

CONCLUSION:

This study highlighted the number and complexity of the impairments and disabilities in children of cerebral palsy. It was observed that the clinical picture had not changed substantially since the 1940 and 1950s. It is unclear as to what extent these were being fully diagnosed or compensated for by the use of new technology. The need of these children have been largely overlooked. Maintenance of records and regular follow up will help ensure that these needs are met to the maximum possible extent . The ultimate aim is to rehabilitate the child and make him independent with -in his irrepairable disabilities.

TABLE - I

AGE AND SEX DISTRIBUTION OF PATIENTS OF CEREPRAL PALSY

Age Group	No. of patients			
	Male	Female	Total	%
0-6 months	2	-	2	1.66
6-12 months	12	6	18	15.00
1-4 years	58	22	80	66.66
4-7 years	11	9	20	16.66
7 years +	-	-	-	------
Total	**83**	**37**	**120**	**100.00**

TABLE - II

DISTRIBUTION OF TYPES OF CEREBRAL PALSY

Types	No. of patients	%
Spastic	105	87.5
Atonic	9	7.5
Mixed	3	2.5
Ataxic	2	1.65
Athetoid	1	0.83
Tremor	-	-
Rigidity	-	-
Total	**120**	**100**

TABLE - III

DISTRIBUTION OF TYPES OF SPASTIC CEREBRAL PALSY

Types	No. of patients	%
Quadriplegia	52	49.52
Diplegia	33	31.42
Hemiplegia	14	13.33
Paraplegia	4	3.80
Triplegia	1	0.95
Monoplegia	1	0.95
Total	**105**	**100.0**

TABLE - IV

DISTRIBUTION OF ASSOCIATED DISORDERS

Disorders	No. of patients	%
Delayed milestones	107	89.16
Convulsions	24	20.00
Speech defect	58	48.33
Drooling	15	12.50
Visual defect	34	28.33
Hearing deficit	5	4.16
Involuntary movements	3	2.51

n = 120

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