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Associated Handicaps in Cerebral Palsy

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Abstract

Cerebral palsy (CP) is one of the most common disabilities affecting children. Most of the children suffering from cerebral palsy have associated abnormalities, which have a direct effect upon rehabilitation management, functional outcome and prognosis.

Two hundred diagnosed cases of CP in the age group of two years and above were assessed and various associated handicaps were identified.

In the given study Mental retardation was found to be the most common handicap.

Key words: **Cerebral palsy, associated handicaps.**

Introduction

Cerebral palsy is a symptom complex rather than a specific disease. It covers a group of non-progressive, but often changing motor impairment syndromes secondary to lesion or anomalies of the brain arising in the early stages of its development [1].

The reported incidence is approximately 2-3/1000 live births [2].

Cerebral palsy presents with multiple associated abnormalities, which have a direct effect on rehabilitation management, on functional outcome and prognosis of the child.

The present study was conducted to identify various types of handicaps associated with cerebral palsy.

Material And Methods

The study was conducted in the department of Physical Medicine And Rehabilitation Safdarjang Hospital and VMMC, New Delhi.

The study included two hundred diagnosed children of cerebral palsy between age groups 2 to 12 years of both sexes who attended the Department of P.M.R. during the years 2000-2002. Only those CP children having prenatal and natal causes were included. The diagnosis of CP was as per definition of American Academy of Cerebral Palsy[3].

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The classification of Cerebral palsy was based on major groupings as described by Minear WL[4].

Identification of various associated handicaps was done. These included:

1) Mental retardation.
2) Speech impairment.
3) Visual impairment.
4) Seizure disorder.
5) Hearing impairment.
6) Miscellaneous, dental dysmorphogenesis.

These were identified and diagnosis confirmed after examination by respective specialists. Mental retardation was graded based on the criteria of American Academy of Mental Deficiency.

Observations

Out of two hundred cases of Cerebral palsy, 142 (70%) were males and 58 (29%) were females. The age group ranged from 2 to 12 years. Maximum number of cases were in age groups between 2 to 3 years. Male to female ratio was 2.4:1. The most common type of Cerebral Palsy was spastic, constituting 165 (82.5%) out of 200 cases followed by Dyskinetic 15 (7.5%) and Hypotonic 15 (7.5%). The least common was Ataxic numbering only 3 (1.5%) and mixed in 2 (1%).

In the spastic group, spastic diplegia in 80 (48.5%) was the commonest followed by spastic quadriplegia in 50 (30.3%) and spastic hemiparesis in 35 (21.2%). (Table

1).

Table 1: The distribution of different types of cerebral palsy (n=200)

	Types	*Total no. (n=200)*	*Percentage*
1.	Spastic	165	82.5
	i. Diplegia	80	48.5
	ii. Quadriplegia	50	30.3
	iii. Hemiplegia	35	21.2
2.	Dyskinetic	15	7.5
3.	Hypotonic	15	7.5
4.	Ataxic	3	1.5
5.	Mixed	2	1

Among the various associated handicaps (Table 2) mental retardation of varying degrees was observed to be the most common handicap in 151 (75.5%) cases. Mild, moderate and severe MR was observed in 73 (48.3%), 53 (35.5%), and 25 (16.5%) cases respectively. Of the 151 cases of mental retardation, 20 (13.24%) cases had microcephaly.

Speech impairment was seen in 63 (31.5%) cases.

Seizure disorder, visual defect, and hearing impairment were present in 60 (30%), 50 (25%), and 28 (14%) cases respectively. Incidence of dental dysmorphogenesis was least, being present in only 16 (8%) cases (Table 2).

Table 2: Associated handicaps in CP children (n=200)

Types of Handicap	*Total no. (n=200)*	*Percentage*
1. Mental ratardation	151	75.5
2. Speech	63	31.5
3. Seizures	60	30
4. Visual impairment	50	25
5. Hearing impairment	28	14
6. Dental dysmorphogenesis	16	8

The visual defects present were strabismus in 35 (70%) cases followed by nystagmus in 9 (18 %) cases and optic atrophy in 6 (12%) cases.

Discussion

A male preponderance was observed in our study with a male to female ratio being 2.4:1, this is consistent with other studies[5,6]. Age group varied between 2 years and above; the maximum number being in the age group 2 to 3 years. This may have been probably because the developmental delay was first noticed by parents at this age. In the study of all the different types of cerebral palsy, the spastic type constituted the largest group in (82.5%) cases. Our finding is consistent with those of other workers who have also reported spastic cerebral palsy to be the most common variety [7]. Amongst the spastic group spastic diplegia was the most common type constituting 48.55% followed by quadriplegia in 30.30% and hemiplegia in 21.20%. Our findings agree with those reported by Kudrajaceve, Schoenberg et al and Michael Msall [7,8].

In the present study mental retardation presented as the commonest handicap constituting 75.5% and matches with the figures given by Vining et al [9]. All the cases with severe mental retardation had microcephaly. Our observation regarding seizure disorders being present in 30% of the cases agree with the study by Hagberg et al[10] and the highest incidence was observed in children with associated severe mental retardation reflecting the greater extent of brain injury in these cases.

The commonest visual defect comprised of strabismus whereas the least common was optic atrophy. The incidence of hearing impairment though rare[11], was higher than dental dysmorphogenesis which in turn constituted the least associated handicap in the study group.

Conclusion

Present study shows the common handicaps in CP are mental retardation, speech impairment, seizure disorder, visual defect, hearing impairment and dental dysmorphogenesis. Maximum number of children with cerebral palsy have mental retardation as associated handicap.

The success of treatment programme and the prognosis of the child with cerebral palsy depends on the degree and extent of associated handicaps. Early identification and management of these associated conditions causing handicaps are essential for optimum rehabilitation of the children with cerebral palsy.

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