



ISSN: 1813-1638

The Medical Journal of Tikrit University

Available online at: www.mjotu.com

العراقية
المجلات الأكاديمية العلمية
IRAQI
Academic Scientific Journals

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Presentation of cerebral palsy in Salaheldin area

(1) rehabilitation hospital in Tikrit. Iraq

Keywords:

Presentation of cerebral palsy, Salah Eldin area.

ARTICLE INFO

Article history:

Received 21 Jun 2021
Accepted 12 Jul 2021
Available online 5 Dec 2021

ABSTRACT

The aim of this case series study was to show the presentation of cerebral palsy with underlying family history among peoples in Salaheldin area. This study was carried out among 50 Childs with cerebral insult pre- and peri-natal or post-delivery. It includes 35 males and 15 females whose age range between 8 months to 15 years with mean age 10 ± 5 years attending rehabilitation hospital in Tikrit. All were reviewed with history, examination and investigations. The result showed significant relation of cerebral palsy with close siblings marriages between father and mother in a 64% while 36% with no close siblings between father and mother. This study revealed 38% of cases are preterm delivered and 60% with full term delivery while 2% with premature delivery (34 weeks).

The Medical Journal of Tikrit University The Medical Journal of Tikrit University The Medical Journal of Tikrit University

DOI: <http://dx.doi.org/10.25130/mjotu.27.2021.29>

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Introduction:

Cerebral palsy is a permanent movement disorder due to brain insult that affects infants before, during, or after delivery. This effect predispose to many complications including IQ, vision, speech, poor coordination in addition to various musculoskeletal deformities causing limitation of activity. It is the most common cause of disability. The degree and type of motor impairment and functional capabilities vary depending on the etiology of brain insult. It may be associated with different comorbidities like epilepsy, intellectual disability, feeding difficulties and choreoathetosis movements. The severity of cerebral palsy is related to degree of brain insult. The management of cerebral palsy requires multidisciplinary team to reach inter professional approach.

Patients and methods:

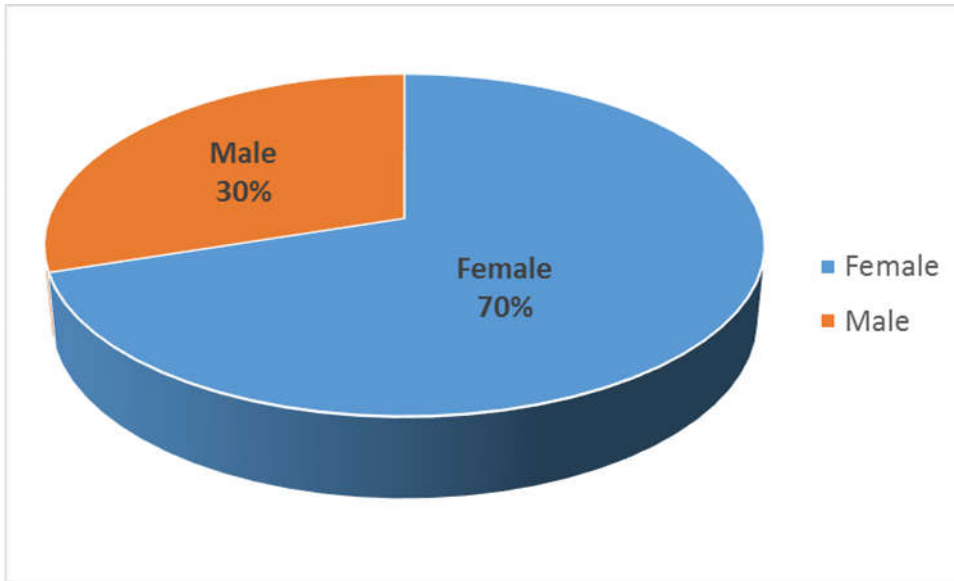
A case series study was conducted on 50 patients with cerebral palsy attending rehabilitation hospital for the

period from the beginning of January to the end of October 2017. Patients were aged 10 months - 15 years. Clinical parameters including parents relativity, mother and fetus health during pregnancy, mother job, period of pregnancy, perinatal circumstances which include type of delivery and if there is complications during labor and baby health after delivery whether the baby needs resuscitation, incubator, oxygen and pediatrician care, add to this health status of baby at home after delivery if the baby developed neonatal jaundice, dehydration, febrile convulsion or chest infection and even weight monitoring of the baby.

Results:

A total number of 50 patients consisting of 35 male and 15 females. The mean age group ranged from 10 months and 15 years with $SD \pm 7.5$.

The following figure show the sex distribution.



This study revealed close siblings of parents (father and mother) in 64% of patients (32) while 36% of patients (18) had no close siblings. Also, this study shows 38% of babies (19) presented with history of premature delivery while 60% of them (30) are with full term delivery and only one baby delivered premature at 34 weeks of gestational age. In this study 84% of patients (42) are delivered by normal vaginal delivery, 71.4% of them with prolonged labor and 28.6% with easy labor. Also, this study revealed 16% of patients (8) delivered by cesarean section.

Table 1. show the post labor circumstances of those babies with vaginal delivery as following:

Presentation	Number of babies
Asphyxia	11
Cyanosis	9
Convulsion	10
Incubator management	12

In this study 22% of patient (11) clinically flaccid paralysis while 66% of them (33) are of spastic type while 12% of patient (6) with normal muscles tone on examination. Post-partum follow up history revealed 36% of patients (18) developed neonatal

jaundice, 11.11% of them (2) exposed to blood exchange procedure and 50% of them (9) treated by phototherapy while 38.88% of whole jaundiced neonates (7) not treated due to family belief.

Table (2) show the various clinical complications of cerebral palsy.

Type	Number of patents with low I.Q
I.Q	17
Salivation	7
Hearing loss	4
vision (squint)	6
Primitive speech	18
Aphasia	13
Chorioathetotic movement	3

Table (3) revealed the posture balance and ambulation of patients with cerebral palsy.

Posture	Number of patients	Percent
Loss of sitting balance	22	44%
Loss of standing balance	5	10%
Standing balance with assistant	7	14%
Ambulation with assistant	7	14%
Normal ambulation	9	18%

Table (4) show the severity of cerebral palsy.

Degree	Number	Percent
Mild	21	42%
Moderate	14	28%
Severe	15	30%

Chorioathetotic movement carry bad sign and poor prognosis, in this study 3 patient 6% presented with chorioathetotic movement which is difficult to treated. Also this study showed 3 patients (6%) presented with repeated fits even with treatment repeated at least once per month.

In this study CT brain showing cortical brain atrophy in 12 patients (24%) while others showing normal CT brain examination.

Table(5) revealed geographical classification of cerebral palsy.

Major types	Description	Number of patient	%
Monoplegia	One extremity involved usually lower	4	8%
Hemiplegia	Both extremities on same side involved	12	24%
Paraplegia	Both lower extremities equally involved	10	20%
Quadriplegia	All extremities involved equally Normal head neck control	20	40%
Total body	All extremities severely involved No head / neck control.	2	4%

Discussion

The overall prevalence rate of cerebral palsy occurs in about 2/1000 live births⁽¹⁾ in this present study was higher in male than female in rate of 2.3:1 which is concordant to previous European studies which revealed male to female ratio 2:1⁽²⁾, but differ to American previous study which showed ratio 1:1⁽³⁾. The presented age of patient in this study were ranged between 10 months and 15 years⁽⁴⁾. The variation in percentage of close sibling of parents was higher than non-close sibling parents of childrens in the study 64% against 36% this consistent to all studies in eastern countries especially middle east peoples⁽⁵⁾. While varies widely in western countries like

Canadian and united states population⁽⁶⁾. In this study 60% of patient with cerebral palsy delivered before expected date of delivery which nearly accordant to European studies 50% of all patients with cerebral palsy^(7,8,9). This may be attributed to diseased mother during pregnancy or may be with malnutrition^(10,11,12). birth trauma carry major causes of cerebral palsy this impression revealed in this study in 16% of all studied patients which is consistent to German studies 14%⁽¹³⁾ birth trauma may lead to many complications like cyanosis, asphyxia, convulsion even may indicate incubator management⁽¹⁴⁾. The spastic type of paralysis in this study revealed in 66% of patients against 22% of flaccid type which different to European studies

80% are of static type while 10% of flaccid paralysis^(15,16,17,18).

One of the most critical post natal complication is neonatal jaundice which consist of 11.11% of total patients this mimic Japanese study 13%^(1,19) while England studies revealed 5%^(20,21).

Chorioathetotic movement disorders is present in 6% of total patient were studied which nearly differ to Scandinavian studies which revealed 3% of patients are complaint of Chorioathetotic movement⁽²²⁾.

In this study the major types of description revealed Quadriplegia consist of 40% whole patients followed by hemiplegia at 24 % of total patients while paraplegia consisting of 20% and monoplegia only 8% while total body involvement include 4% of patient this results concordant to Italian and Ireland studies^(23,24,25).

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