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Research Article

**NEUROLOGICAL PATIENTS PRESENTING AT GENERAL  
PEDIATRICS WARD OF JINNAH HOSPITAL LAHORE****Dr. Noman Butt, Dr. Muhammad Saqib Khurshid, Dr. Asim Iqbal**  
Jinnah Hospital Lahore**Abstract:**

**Objectives:** The objective of this study is to view the appearance of the patients suffering of the abnormalities of the nervous system admitted into children & infant wards and assess the outcomes, examinations, abnormalities and the treatment as provided to the patients.

**Methodology:** This research work is a conservative investigation of patients Jinnah Hospital Lahore in the year of 2017. All the participants were older than 1 month of age with confirm diagnosis of abnormalities in the nervous system and included in this study. The patients found with metabolic hysterics and having less than one month of age were not the part of this research work.

**Results:** A significant amount of the patients admitted into children ward were suffering of abnormality of the nervous system. Sixty-seven patients out of six hundred and eighty-seven patients were suffering of mental illness. The most common problem of the nervous system was the infections in the central nervous system (CNS). Cerebral palsy with many other difficulties was another cause of the admission with febrile fit & epilepsy etc. High fever with or without seizures was the most frequent symptom. Intravenous antibiotic treatment was provided to every patient who was in danger of suffering with infection of CNS. Intravenous quinine was in use for the treatment of the patients suffering of cerebral malaria.

**Conclusion:** The abnormalities in the nervous system in small children of less than 5 year of age are the vital cause of the admission in the hospital due to most common infections. Neurological infections caused by bacteria are most frequent than the infections of the nervous system caused by virus or protozoa. This research work will help in preparation about the good administration of those patients in the children wards as well as in wards of emergency.

**Keywords:** Neurological Infections, Encephalitis, Abnormalities, Pneumonia, Meningitides, Tuberculosis, Influenza, Conjugate Vaccines.

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**INTRODUCTION:**

Neurological abnormalities are very dangerous illnesses which are vital due to high morbidity & mortality. The infections of the central nervous system as meningitis, encephalitis & malaria of cerebral are very vital reason of the admission of the patients in the ward of children. Early diagnosis, at the appointed time & proper therapy will support in the decrease of the abnormalities & deaths. Considering the design of various abnormalities of the nervous system & division based on the demography will support in the good management of the patients in the ward as well as in emergency. Strep Pneumonia, Influenza and meningitides are three most common organisms which are the main reason for the meningitis due to bacteria in the children of greater than five year of age [1, 2]. The occurrence of meningitis has reduced in the areas where immunization with the help of conjugate vaccines of HiB is conducted [.3]. Fifty percent survivors of meningitis of bacteria get some kind of sequelae [4]. The seriousness and consequences of encephalitis depends on various factors as an excessive virulence pathogens & too much defencelessness of the host [5].

The range of the occurrence of sequelae following malaria of cerebral is ten percent [6]. Quinine is old treatment for the malaria of cerebral [7]. Tuberculous meningitis is very dangerous and crucial abnormality of CNS. There are 6 factors which are responsible for the tuberculosis of the CNS as severe pain in head, suffering from more than 5 days, white cell amount of CSF less than 1000 cm, the amount of lymphocyte more than thirty percent & protein content of greater than hundred mg in percentage [8]. The main objectives of this research work are

1. To know about the total number of the patients of nervous system who got admission in the children ward of the hospital.
2. To know about the range of these abnormalities

3. To know about its symptoms, appearances, difficulties and the provided therapy.

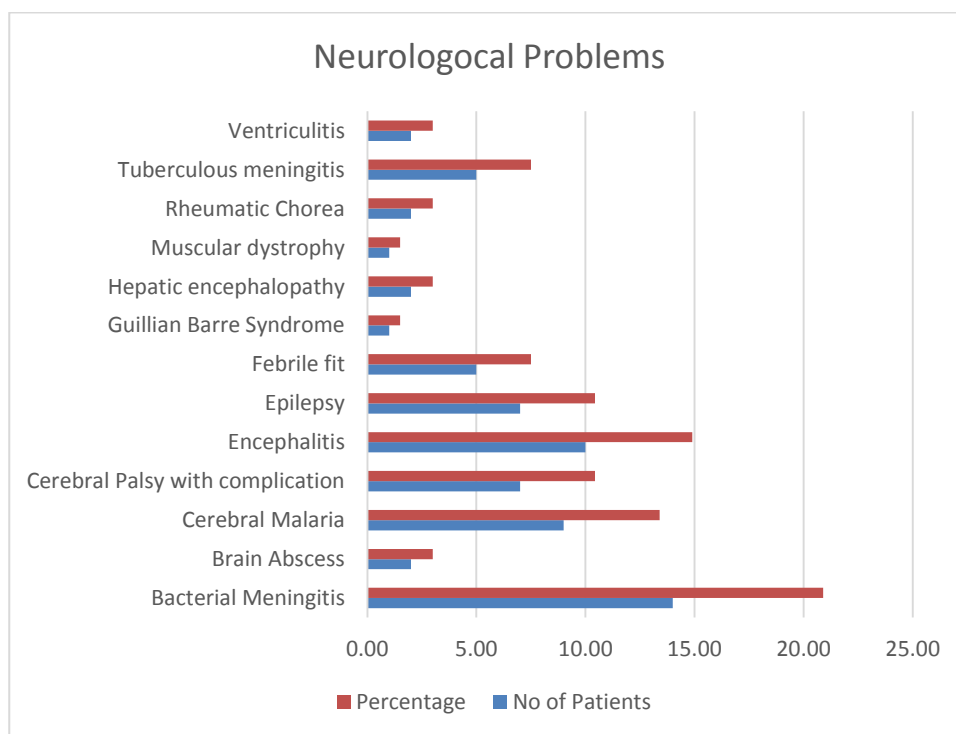
**METHODOLOGY:**

This research work carried out in the year of 2017 in Jinnah Hospital Lahore. All the patients with confirm detection of the abnormalities in the nervous system included into this research work. The patients suffering with metabolic fits & children having less than two weeks of age were not the part of this research work. The range of the age of the patients was from thirty days to twelve year of age. All the patients were separated into different age groups according to their age as young infant of one to two month of age, infant of two months to one year of age, patients of one to five year of age and the patients having more than five year of age. Gender and age division, symptoms at the time of appearance, performed examination and the therapy which was carried out was also under record. The total number of patients who were getting treatments in the wards was compared with those who were suffering from the abnormalities of the nervous system.

**RESULTS:**

Six hundred and eighty-seven patients admitted in the children ward. The neurological abnormalities were present in sixty-seven patients. Most of the patients were males and 32 to 67 patients were from one to five year of age. Eighty-seven percent patients were with less than five year of age. The total description of these patients is available in Table-1. The infections of the CNS as bacterial meningitis in 14 patients, encephalitis in ten patients, cerebral malaria in nine patients, tuberculous meningitis in five patients, ventriculitis in two patients and brain abscess in two patients were the most frequent mental cause of the admission in the hospital, containing about more than sixty-two percent of the total patients.

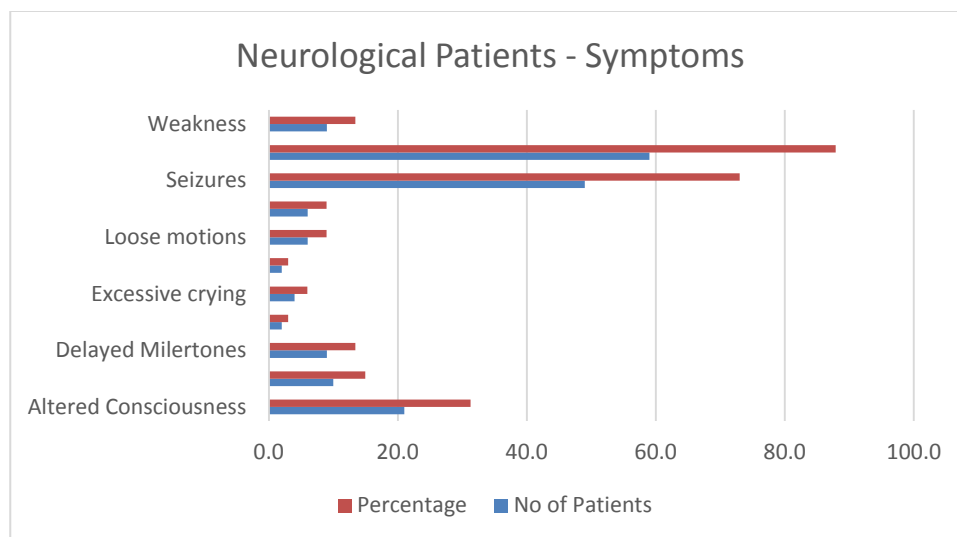
Problem	No of Patients	Percentage
Bacterial Meningitis	14.00	20.90
Brain Abscess	2.00	3.00
Cerebral Malaria	9.00	13.40
Cerebral Palsy with complication	7.00	10.43
Encephalitis	10.00	14.90
Epilepsy	7.00	10.43
Febrile fit	5.00	7.50
Guillian Barre Syndrome	1.00	1.50
Hepatic encephalopathy	2.00	3.00
Muscular dystrophy	1.00	1.50
Rheumatic Chorea	2.00	3.00
Tuberculous meningitis	5.00	7.50
Ventriculitis	2.00	3.00



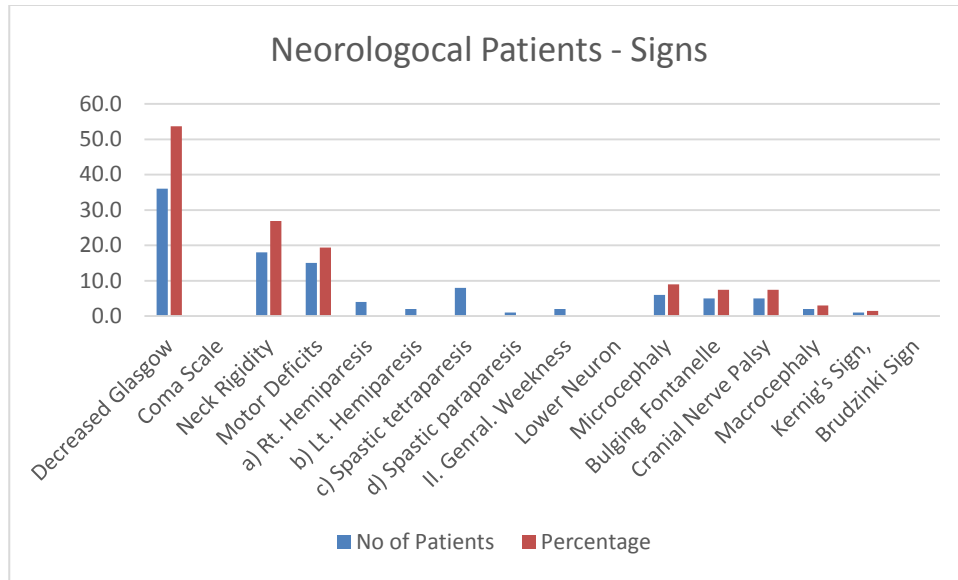
Cerebral palsy was present in seven children. A precious background of asphyxia was available in 5 out of 7 patients of cerebral palsy. The symptoms of the patients of nervous systems are available in Table-2. The patients suffering with ventriculitis existing with head enlargement are also available in Table-2. The signs are available in Table-3. Glasgow Coma Scale was in use to check the change consciousness and presented thirty-six patients. Computerized tomography carried out in eighteen

patients. Six patients found normal in this CT. Neurological shortfall in patients suffering with infections of central nervous system are available in Table-4. Neurological shortfall was available in five patients of bacterial meningitis, 3 patients of encephalitis & 1 patient of malaria of cerebral malaria. The motor deficit was the most common neurological shortfall. Some of the other neurological deficits were loss of speech, nerve palsies & seizures.

Symptoms	No of Patients	Percentage
Altered Consciousness	21.0	31.290
Cough, Breathlessness	10.0	14.970
Delayed Milertones	9.0	13.410
Enlarging head	2.0	2.980
Excessive crying	4.0	5.960
Jaundice	2.0	2.980
Loose motions	6.0	8.940
Reluctance to feed	6.0	8.940
Seizures	49.0	73.010
Temperature	59.0	87.910
Weakness	9.0	13.410



Indications	No of Patients	Percentage
Decreased Glasgow	36.0	53.640
Coma Scale		
Neck Rigidity	18.0	26.860
Motor Deficits	15.0	19.400
a) Rt. Hemiparesis	4.0	
b) Lt. Hemiparesis	2.0	
c) Spastic tetraparesis	8.0	
d) Spastic paraparesis	1.0	
II. Genral. Weakness	2.0	
Lower Neuron		
Microcephaly	6.0	8.940
Bulging Fontanelle	5.0	7.450
Cranial Nerve Palsy	5.0	7.450
Macrocephaly	2.0	2.980
Kernig's Sign,	1.0	1.490
Brudzinki Sign		

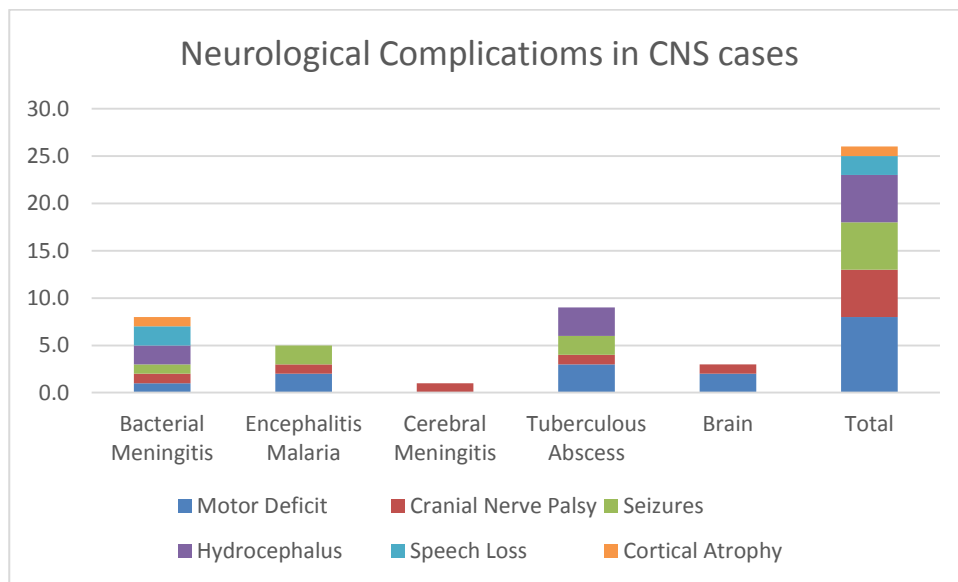


Empiric intravenous antibiotic therapy carried out on the patients who were suffering with the infections of the CNS. A large number of patients were also treated with the amalgamation of ampicillin & chloramphenicol. Ceftriaxone was also in the use for

the early treatment. In the abnormality of meningitis, antibiotics provided to the patients for consecutive ten days. Acyclovir provided in only two instances. Antituberculous drugs were in the use for whole year for the patients of TBS.

**Table-IV: Neurological complications in patients with CNS infections.**

Neurological Sequelae	Motor Deficit	Cranial Nerve Palsy	Seizures	Hydrocephalus	Speech Loss	Cortical Atrophy
Bacterial Meningitis	1.0	1.0	1.0	2.0	2.0	1.0
Encephalitis Malaria	2.0	1.0	2.0	-	-	-
Cerebral Meningitis	-	1.0	-	-	-	-
Tuberculous Abscess	3.0	1.0	2.0	3.0	-	-
Brain	2.0	1.0	-	-	-	-
<b>Total</b>	<b>8.0</b>	<b>5.0</b>	<b>5.0</b>	<b>5.0</b>	<b>2.0</b>	<b>1.0</b>



**DISCUSSION:**

The findings of this research work showed that infections in CNS are the most common cause of neurological abnormalities patients admitted in the children ward. Infection caused by bacteria infections were common cause followed by infections of virus and protozoa. The subject of this issue describes the infections due to virus are the most frequent infections of central nervous systems. In this case study, most of the patients were from 1 to 5 year of age. Dickinson & Perez [9] concluded the high occurrence of the bacterial meningitis in the patients of this age. Stiffness of the neck, fever & changes in the mental conditions are available in less than fifty percent adults suffering with meningitis [10]. The signs of Kernig's & Brudzinski are available in only five percent adults suffering with meningitis caused by bacteria [11].

These types of signs are not visible in children. In this research work, rigidity of neck was available in 8 out of 14 patients suffering of bacterial meningitis while the sign of Kernig's and Brudzinski were available in only one patient. Research in this field discovered that eighty to ninety percent patients of bacterial meningitis contain positive Gram stain [12]. Antibiotic treatment has the capability to reduce the yield of CSF [13]. More responsive methods as intensification of sixteen S rRNA with the help of PCR (polymerase chain reaction) can be helpful to detect the patients who have been treated with antibiotics [14]. Empiric treatment after the period of neonatal is vancomycin plus [15]. Prevailing intellectual abnormalities as malaria of cerebral malaria are under considerations. In a current research work of Boivin & his colleagues [16], twenty-one percent children had cognitive abnormalities. The patients of this research work required a long treatment and follow up. Vaccines are under development to fight against malaria [17]. In this case study, a previous past history of asphyxia at the time of birth was available in 5 patients out of 7 patients which are very high from the amount mentioned in other research works carried out in the same subject matter i.e. three to twenty-one percent [18]. This shows the requirement for the better service in the field of child birth and care of the mother.

**CONCLUSIONS:**

The abnormalities of the nervous system in children are vital reason for their admission in the hospital due to the most prevailing infection. These infections are very common in adults and the children of less than five year of age. The infections of the CNS due to bacteria are common than the infections caused by

protozoa and virus. The symptoms of this disease are fits and/or fever. This research work will support the best administration of patients of nervous systems in emergency as well as in wards.

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