Research Article

Pattern of Childhood Epilepsy at Minia University Hospital

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Abstract

Background: Epilepsy is one of the commonest problems encountered in pediatric practice. The study aimed at determining the various patterns of epilepsy in children from 2 to 18 years. **Methods:** It is a cross-sectional study conducted at Minia University Maternity and Children Hospital, all children between the ages of 2 and 18 years with confirmed diagnosis of epilepsy were included. **Results:** About 46.7% were males 53.3% were females, the mean age 6.6±3.4. The most prevalent cause of seizure among the children is epileptic focus (66.7%). The mean age of onset of seizure is 19.7±15.9 months, 43.3% of seizers occurred during 1st year, 40% during 1-2 years and 16.7% above 3 years. (76.6%) had generalized convulsions, (10%) had focal seizures and (13.3%) had myoclonus.70% of cases were on two antiepileptic drugs, 16,6% on 3 antiepileptic drugs and 13.3 on 4 antiepileptic drug. **Conclusions**: It is important to classify all epilepsies depending on various clinical patterns in children and investigate them in order to initiate early therapy to prevent recurrences.

Keywords: Epilepsy, Minia University hospital, pattern, children.

Introduction

Epilepsy is one of the most prevalent problems encountered in paediatric pediatric practice. According to the WHO Neuroscience Research Protocol for studying the prevalence of neurological disorders in developing countries epilepsy is defined as two or more afebrile seizures unrelated to acute metabolic disorders or to withdrawal of drugs or alcohol. Patient who have had a seizure within the last 2 – 5 years and those on anticonvulsant medication are considered to have active epilepsy.[1] Children diagnosed with epilepsy face considerable challenges. The seizures themselves, especially when poorly controlled, may be disabling and interfere with the child's ability to learn, whereas secondary influences, such as stigma and lack of knowledge about the condition, can negatively affect their social and psychological function[2]. This study aimed to determine the pattern of epilepsy among children in minia university maternity and children hospital.

Patient and methods

This study is an observational cross-sectional was conducted at Children's Mina University Hospital.

Study population:

It included 30 children aged 2-18 years old diagnosed with confirmed epilepsy who attended the outpatient neurology clinic during the study period from June to December 2021. For the study, epilepsy was defined as two or more a febrile seizures unrelated to acute metabolic disorder or to withdrawal of drugs. Those children who had their onset of seizures

within 2 years of age and those children with febrile seizures were excluded.

Data collection procedure:-
Data collected from caregivers of the child via interview questionnaire inquire a thorough history including age of onset, family history, aura, type of seizures, and a detailed clinical examination was done.

Ethical consideration:
The study protocol was approved by the Ethics Committee of Minia Faculty of Medicine. The informed consent form was obtained from caregivers. In addition, the confidentiality and anonymity of the children were strictly maintained through a code number on the questionnaire.

Statistical analysis:
Statistical analysis was carried out using the Statistical Package for Social Sciences (SPSS) version 20. Descriptive statistics (means, standard deviations) were used to describe the quantitative data. Frequency and percentages used for qualitative data.

Results
The study included 30 children between age of (2-18) years. with mean age (6.6±3.4). Males were 46.7% and females were 53.3%. (Table 1). 40% of epileptic children aged (2-4 years old). Figure 2

The most common etiology of multiple drug resistant epilepsy among our patients was epileptic focus (66.6%) then 13.3% due to structural or metabolic hypoxic ischemic encephalopathy, 13.3% due to cortical dysplasia and 6.6% due to genetic tuberous sclerosis (table 2). The mean age of onset of seizures was 19.7±15.9 months. 43.3% of our patients had their first seizures during 1st year ,40% during 1-2 years and 16.7% above 3 years. Regarding seizures type; 23 patients (76.6 %) had generalized seizures, 3 patients (10%) had focal seizures and 4(13.3%) had myoclonus (table 2).

Table 1: Sociodemographic characteristics of studied children

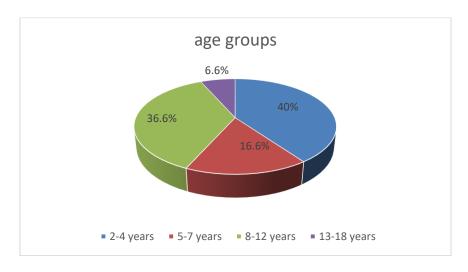|		Total (N=30)
Sex	Male	14 (46.7%)
	Female	16 (53.3%)
Age	Mean±SD	6.6±3.4
Economic status	Enough	20 (66.7%)
	Poor	10 (33.3%)
Participating caregiver	Mother	30 (100%)

Figure 1: age groups of the epileptiv children

Table 2: clinical data of epileptic children

clinical data of epileptic children	Total (N=30)
Seizure etiology	
Epileptic focus	20(66.7)
Genetic (tuberous sclerosis)	2(6.6)
structural or metabolic (hypoxic ischemic encephalopathy)	4(13.3)
Cortical dysplasia	4(13.3)
Age of onset of seizure (months)	
Range (Mean±SD)	1-60 (19.6±15.9)
during 1st year of life	13 (43.3%)
1-2 y	12 (40%)
> 3 y	5 (16.7%)
Seizure type	
Focal	3 (10%)
Generalized	23 (76.6%)
Myoclonus	4 (13.3%)
Number of AED taken daily	
2 drugs	21 (70%)
3 drugs	5 (16.6%)
4 drugs	4 (13.3%)

Discussion

It is important to diagnose epilepsy as early as possible because specific treatment can be initiated at the earliest to attain control and to help the patients in attaining good intellectual,social and vocational outcome.

The Sociodemographic data of our children demonstrated that mean age of participants was 6.6 ±3.4 years old, 14 male (46.7%) and 16 female (53.3%), this is different from that detected by Hallböök et al., (2015)[3] that act on 315patients with resistant epilepsy; 165(52.3%) were male and 150(47.6%) were female with predominance of males.

Our results were against Mohammadzadeh and Nazarbaghi (2022)[4] who showed a predominance of male gender in patients with drug resistant epilepsy, as among 89 patients 53 (59.6%) were male and 36 (40.4%) were female.

Regarding seizure etiologies identified, the most common etiology of multiple drug resistant epilepsy among our patients was epileptic focus (66.6%). Our study was in accordance with Atugonza et al., (2016)[5]

who screened 215 children aged less than 18 years presented with seizures, they founded that the majority (163/215, 75.8%) had epileptic focus, while 17 patients had epileptic syndromes.

Our study showed that mean age of onset of seizures was 19.7±15.9 months. 43.3% of our patients had their first seizures during 1st year ,40% during 1-2 years and 16.7% above 3 years (table 3). This was in agreement with Ochoa-Gomez et al., (2017)[6] who reported that 26.12% of patients had the first seizure before age 1 year, 16.69% at 1-3 years, 19.17% at 3-6years, 23.80% at 6-10 years, 14.22% after 10 years.

Morever, Ramos-Lizana et al., (2012)[7] ounded that the commonest age of onset of seizures was 4-13 years at 37% of patients, while occurred during the first year in 33% of patient and 1-3 years in 30% of them.

Regarding seizures type; about three-quarters of children (76.6%) had genera-lized seizures. This disagreed with results made by Atugonza et al., (2016)[8] who founded that generalized seizures were

described in 39.2% of children; Focal seizures in 47.2% of children; while 13.6% had epileptic syndromes (Lennox-Gastaut syndrome, Infantile spasms and Benign Rolandic epilepsy).

According to our patients, we found that the majority (21(70%)) of patients were receiving 2 AED, 5(16.6%) were receiving 3 AED and 4(13.3%) were receiving 4 AED daily. These results were in agreement with Henning et al., (2019)[9] reported that 97 (29.1%) patients were on 1 AED, 151(45.3%) were on 2AED, 69(20.7%) and 16(4.8%) patients were on 4 AED daily.

Referances

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