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ORIGINAL ARTICLE

A study of epilepsy according to the age at onset and monitored for 3 years in a regional reference paediatric neurology unit☆

Laura Ochoa-Gómez[a], Javier López-Pisón[a,*], Carlos Lapresta Moros[b], Cristina Fuertes Rodrigo[a], Ruth Fernando Martínez[a], Pilar Samper-Villagrasa[c], Lorena Monge-Galindo[a], José Luis Peña-Segura[a], María Concepción García-Jiménez[d]

[a] *Unidad de Neuropediatría, Hospital Miguel Servet, Zaragoza, Spain*
[b] *Servicio de Medicina Preventiva, Hospital de Barbastro, Huesca, Spain*
[c] *Servicio de Pediatría, Hospital Clínico Lozano Blesa, Zaragoza, Spain*
[d] *Unidad de Metabolismo, Hospital Miguel Servet, Zaragoza, Spain*

Received 10 November 2015; accepted 5 May 2016
Available online 30 November 2016

KEYWORDS
Epilepsy;
Cryptogenic epilepsy;
Idiopathic epilepsy;
Symptomatic epilepsy;
Refractory epilepsy;
Childhood;
Epileptic syndrome

Abstract
Objective: A study of epilepsy, according to the age at onset of the crisis and its causes, monitored by a Paediatric Neurology Unit over a period of three years.
Patients and methods: Historical cohorts study was conducted by reviewing the Paediatric Neurology medical records database of epileptic children followed-up from 1 January 2008 to 31 December 2010.
Results: A total of 4595 children were attended during the study period. The diagnosis of epilepsy was established in 605 (13.17%): 277 (45.79%) symptomatic, 156 (25.79%) idiopathic, and 172 (28.43%) with cryptogenic epilepsy. Absence epilepsy and benign childhood epilepsy with centro-temporal spikes are the idiopathic epileptic syndromes most prevalent, and the most prevalent symptomatic epilepsies are prenatal encephalopathies. More than one-quarter (26.12%) of epilepsies began in the first year of life, and 67.72% were symptomatic. Refractory epilepsy was observed in 25.29%, 42.46% with cognitive impairment, 26.45% with motor involvement, and 9.92% with an autism spectrum disorder, being more frequent at an earlier age of onset.
Conclusions: The absence of a universally accepted classification of epileptic syndromes makes tasks like this difficult, starting with the terminology. A useful classification would be aetiological, with two groups: a large group with established aetiology, or very likely genetic syndromes,

☆ Please cite this article as: Ochoa-Gómez L, López-Pisón J, Lapresta Moros C, Fuertes Rodrigo C, Fernando Martínez R, Samper-Villagrasa P, et al. Estudio de las epilepsias según la edad de inicio, controladas durante 3 años en una unidad de neuropediatría de referencia regional. An Pediatr (Barc). 2017;86:11–19.

* Corresponding author.
E-mail address: jlopezpi@salud.aragon.es (J. López-Pisón).

and another with no established cause. The age of onset of epilepsy in each aetiological group helps in the prognosis, which is worsened by refractoriness and associated neurodevelopmental disorders, and are generally worse at an earlier onset and in certain aetiologies.

PALABRAS CLAVE
Epilepsia;
Epilepsia criptogénica;
Epilepsia idiopática;
Epilepsia sintomática;
Epilepsia refractaria;
Infancia;
Síndrome epiléptico

Estudio de las epilepsias según la edad de inicio, controladas durante 3 años en una unidad de neuropediatría de referencia regional

Resumen
Objetivo: Estudio de las epilepsias según la edad de inicio de las crisis y la etiología, de los pacientes controlados en una unidad de neuropediatría durante 3 años.
Pacientes y métodos: Estudio de cohortes históricas. Revisión de historias de niños con epilepsia de la base de datos de neuropediatría controlados del 1 de enero de 2008 al 31 de diciembre de 2010.
Resultados: De 4.595 niños atendidos en el periodo, se estableció el diagnóstico de epilepsia en 605 (13,17%), siendo 277 (45,79%) epilepsias sintomáticas, 156 (25,79%) idiopáticas y 172 (28,43%) criptogénicas. La epilepsia de ausencias y la epilepsia benigna de la infancia con paroxismos centrotemporales son los síndromes epilépticos idiopáticos con mayor prevalencia, y las encefalopatías prenatales las epilepsias sintomáticas más prevalentes. El 26,12% iniciaron su epilepsia el primer año, siendo sintomáticas el 67,72%. Se han considerado refractarias el 25,29% de las epilepsias; el 42,46% asocia déficit cognitivo, el 26,45% afectación motora y el 9,92% trastorno del espectro autista, siendo más frecuentes a menor edad de inicio.
Conclusiones: La ausencia de una clasificación universalmente aceptada de los síndromes epilépticos dificulta trabajos como este, empezando por la terminología. Una clasificación útil es la etiológica, con 2 grupos: un gran grupo con las etiologías establecidas o síndromes genéticos muy probables, y otro de casos sin causa establecida. La edad de inicio de la epilepsia en cada grupo etiológico añade orientación pronóstica. El pronóstico de la epilepsia lo ensombrecen la refractariedad y las alteraciones asociadas del neurodesarrollo, siendo peor en general a más precoz inicio y en etiologías concretas.

Introduction

Epilepsy is one of the most frequent neurologic disorders in childhood, with an estimated prevalence of 3.4–11.3 cases per 1000 inhabitants.[1–3]

Epilepsy syndromes are age-dependent, and their characteristics vary based on the stage of brain maturation, with certain disorders presenting predominantly in specific age groups.

The prognosis of epilepsy depends mainly on its aetiology. Another key factor is the age at the first seizure (which depends on the aetiology), with early ages generally associated with poorer outcomes.[4–7] Epilepsy with onset in the first year of life usually has a poor prognosis that worsens the earlier the onset, is frequently refractory to treatment, and is associated with neurodevelopmental disorders,[8,9] although there are forms of epilepsy in infants that have a favourable prognosis.[5,10]

We conducted a study of cases of epilepsy and epilepsy syndrome by age of onset and aetiology followed up at a regional reference paediatric neurology unit during a three-year period. We analysed aetiologic and prognostic differences in epilepsy by age of onset in the patients that received care in our unit during the period under study.

Materials and methods

The population under study consisted of all patients aged more than 1 month with a diagnosis of epilepsy assessed (for the first time or in follow-up visits) at the Unit of Paediatric Neurology of the Hospital Miguel Servet of Zaragoza over a three-year period (from January 1, 2008 to December 31, 2010). The services provided by this unit since its creation in 1990 have been documented in an electronic database, that includes records of all the relevant data for each patient[11,12] that are updated when there are clinically relevant changes, new test results or changes in treatment.

We conducted a retrospective cohort study by reviewing the medical records of the patients included in the sample.

We have defined epilepsy as a history of at least two spontaneous epileptic seizures. The exclusion criteria included neonatal convulsions in the absence of subsequent epilepsy, isolated afebrile seizures, febrile seizures, and other acute provoked or symptomatic seizures.