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Descriptive study of symptomatic epilepsy by age of onset in patients with a 3-year follow-up at the Neuropaediatric Department of a reference centre☆

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KEYWORDS
Encephalopathy;
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Abstract
Objective: We conducted a descriptive study of symptomatic epilepsy by age at onset in a cohort of patients who were followed up at a neuropaediatric department of a reference hospital over a 3-year period.
Patients and methods: We included all children with epilepsy who were followed up from January 1, 2008 to December 31, 2010.
Results: Of the 4595 children seen during the study period, 605 (13.17%) were diagnosed with epilepsy; 277 (45.79%) of these had symptomatic epilepsy. Symptomatic epilepsy accounted for 67.72% and 61.39% of all epilepsies starting before one year of age, or between the ages of one and 3, respectively. The aetiologies of symptomatic epilepsy in our sample were: prenatal encephalopathies (24.46% of all epileptic patients), perinatal encephalopathies (9.26%), post-natal encephalopathies (3.14%), metabolic and degenerative encephalopathies (1.98%), mesial temporal sclerosis (1.32%), neurocutaneous syndromes (2.64%), vascular malformations (0.17%), cavernomas (0.17%), and intracranial tumours (2.48%). In some aetiologies, seizures begin before the age of one; these include Down syndrome, genetic lissencephaly, congenital cytomegalovirus infection, hypoxic-ischaemic encephalopathy, metabolic encephalopathies, and tuberous sclerosis.

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Conclusions: The lack of a universally accepted classification of epileptic syndromes makes it difficult to compare series from different studies. We suggest that all epilepsies are symptomatic because they have a cause, whether genetic or acquired. The age of onset may point to specific aetiologies. Classifying epilepsy by aetiology might be a useful approach. We could establish 2 groups: a large group including epileptic syndromes with known aetiologies or associated with genetic syndromes which are very likely to cause epilepsy, and another group including epileptic syndromes with no known cause. Thanks to the advances in neuroimaging and genetics, the latter group is expected to become increasingly smaller.

PALABRAS CLAVE
Encefalopatía;
Encefalopatía prenatal;
Epilepsia;
Epilepsia sintomática;
Genética;
Síndrome epiléptico

Estudio descriptivo de las epilepsias sintomáticas según edad de inicio controladas durante 3 años en una Unidad de Neuropediatría de referencia regional

Resumen
Objetivo: Estudio descriptivo de epilepsias sintomáticas, según edad de inicio, controladas en una Unidad de Neuropediatría de referencia regional durante 3 años
Pacientes y métodos: Niños con diagnóstico de epilepsia sintomática, controlados del 1 de enero del 2008 hasta el 31 de diciembre del 2010.
Resultados: De 4595 niños en el periodo de estudio, recibieron el diagnóstico de epilepsia 605 (13,17%), siendo 277 (45,79%) epilepsias sintomáticas. Entre los pacientes que iniciaron la epilepsia por debajo del año de vida predominan las de etiología sintomática (67,72%). Entre los que la iniciaron entre 1-3 años, fueron sintomáticas el 61,39%. En cuanto a su etiología, ha sido: encefalopatías prenatales (24,46% del total de epilepsias), encefalopatías perinatales (9,26%), encefalopatías posnatales (3,14%), encefalopatías metabólicas y degenerativas (1,98%), esclerosis mesial temporal (1,32%), síndromes neurocutáneos (2,64%), malformaciones vasculares (0,17%), cavernomas (0,17%) y tumores intracraneales (2,48%). Algunas etiologías inician sus manifestaciones epilépticas por debajo del año de vida, como el síndrome de Down, la lisencefalia genética, la infección congénita por citomegalovirus, la encefalopatía hipóxico-isquémica, las encefalopatías metabólicas o la esclerosis tuberosa.
Conclusiones: La ausencia de una clasificación universalmente aceptada de los síndromes epilépticos dificulta comparaciones entre series. Sugerimos que todas las epilepsias son sintomáticas puesto que tienen causa, genética o adquirida. La edad de inicio orienta a determinadas etiologías. 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, que con los avances en neuroimagen y genética cada vez será menor.

Introduction

The term ''epilepsy'' encompasses a heterogeneous group of CNS diseases in terms of aetiology, prognosis, and treatment.[1] These conditions may constitute the main manifestation of a wide range of disorders and result from the interaction between genetic and environmental factors.[2,3]

Symptomatic epilepsy is secondary to an underlying brain lesion and may manifest in any type of chronic encephalopathy, whether prenatal, perinatal, postnatal, or metabolic in origin.

We conducted a descriptive study of patients with symptomatic epilepsy, classified by aetiology and age at onset, who were followed up for 3 years at the neuropaediatric department of a regional reference hospital.

Material and methods

The sample included all paediatric patients older than one month of age who were diagnosed with symptomatic epilepsy and assessed (either in the first visit or in follow-up consultations) by the neuropaediatric department at Hospital Infantil Universitario Miguel Servet, in Zaragoza, over a period of 3 years (from 1 January 2008 to 31 December 2010). The activities of this department, which was opened to the public in 1990, are recorded in a digital database which includes all relevant data on each patient.[4–9] Patient data are updated to reflect any significant changes in clinical progression, complementary test results, or treatment.

We conducted a retrospective descriptive study based on the data provided by our patients' clinical histories, and collected epidemiological data, clinical characteristics of