

Clinical analysis of the etiology of 574 patients with symptomatic epilepsyYusheng Li¹, Xiaojing Liu¹, Shengming Huang²¹Department of Neurology, the First Affiliated Hospital of Zhengzhou University, Zhengzhou, Henan 450052, China²Department of Neurology, the Central Hospital of Luohe, Luohe, Henan 462000, ChinaEmail: yushengli1970@163.com

Abstract: Objective The present study describes the etiologic characteristics of symptomatic epilepsy based on a hospital study in China. **Methods** The etiology of 574 patients with symptomatic epilepsy was analyzed. Epilepsy was diagnosed according to classification of ILAE. **Results** The initial onset in 57.0% of all subjects was under age of 20 years. The analysis of etiologies showed that brain trauma was in 18.5%, cerebral vascular disease in 17.2%, cerebral infection in 16.2%, developmental abnormalities in 12.2%, perinatal brain injury in 10.6%, brain tumor in 7.1%, mesial temporal sclerosis in 6.8%, and the other in 11.3%. **Conclusion** Brain trauma, cerebral vascular disease, cerebral infection, developmental abnormalities, perinatal brain injury, mesial temporal sclerosis, and brain tumor were the most common causes of symptomatic epilepsies and the causes for symptomatic epilepsy were significantly different among various ages.

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key words: Symptomatic epilepsy; Age; Etiology

Epilepsy is a neurological disease caused by a variety of causes clinical syndrome. In China prevalence rate is 7.0 ‰, active epilepsy prevalence rate of 4.6 ‰ [1]. Wherein the symptomatic epilepsy known as secondary or acquired epilepsy, seizures or brain disease is a systemic disease symptoms. Symptomatic epilepsy etiology is complex, and the etiology of different ages there is a big difference. At present, the symptoms of epilepsy population-based epidemiological data etiology little, this paper for June 2005 to June 2009 Neurology Epilepsy Center diagnosed 574 cases of patients with symptomatic epilepsy onset age, gender and etiology characteristics reported below.

Materials and Methods

1. General information: 574 cases of patients, male 359 cases, female 215 cases. Inclusion criteria: (1) based on clinical data combined with EEG and neuroimaging and other auxiliary diagnosed as symptomatic epilepsy; (2) male or female; (3) informed consent. 574 met the inclusion criteria in our hospital and patients filled out a questionnaire. In the Epilepsy Center, including the patient's general condition, diagnosis and etiology and so on were evaluated. Patients underwent head CT and (or) MRI examination and underwent short-and (or) long-range video EEG monitoring.

2. Diagnostic criteria: and 1989 ILAE classification on seizures and epilepsy and epilepsy syndrome data classification criteria [2], and conduct cause analysis.

Result

1. Age and sex distribution: onset age 3 months to 79 years (mean age 18.34 years); course 2d ~ 55 years (mean 9.37 years), male: female = 1.66: 1; 20 years of age onwards sick in 327 cases, accounting for 57.0%.

2. Etiology Distribution: Onset of all ages and composition ratio shown in Table 1.10 children under the age of patients with perinatal damage in the first place, followed by cerebral dysplasia, intracranial infection, brain trauma; 10 to 19 years in patients with intracranial infection

Ranked first, followed by traumatic brain injury, cerebrovascular disease (mainly cerebral aneurysms and cerebral vascular malformations), cerebral dysplasia, etc.; 20 to 39 age group places traumatic brain injury in the first place, followed by intracranial infection, brain diseases (mainly cerebral vascular malformations, cerebral ischemia and cerebral aneurysms), brain tumors, etc.; 40 patients over the age of cerebrovascular disease (mainly cerebral ischemia and cerebral hemorrhage) accounted for nearly half, followed by brain trauma, brain tumors.

Table 1 Analysis of different ages etiology

Age (years)	Number of Cases	Perinatal injury number of cases (%)	Cerebral dysplasia number of cases (%)	Intracranial infection number of cases (%)	Traumatic brain injury number of cases (%)	Cerebrovascular disease number of cases (%)	Brain tumor number of cases (%)	Hippocampal lesions number of cases (%)	Others number of cases (%)
0 ~ 9	183	45(24.6)	39(21.3)	24(13.1)	21(11.5)	7(3.8)	8(4.4)	10(5.5)	29(15.8)
10 ~ 19	144	12(8.3)	19(13.2)	26(18.1)	23(16.0)	21(14.6)	9(6.3)	12(8.3)	22(15.3)
20 ~ 39	158	4(2.5)	10(6.3)	35(22.2)	40(25.3)	32(20.1)	15(9.5)	13(8.2)	9(5.7)
≥40	89	0	2(2.2)	8(9.0)	22(24.7)	39(43.8)	9(10.1)	4(4.5)	5(5.6)
Total (%)	574	61(10.6)	70(12.2)	93(16.2)	106(18.5)	99(17.2)	41(7.1)	39(6.8)	65(11.3)

Discussion

In this study, onset age of 20 accounts for about 57.0%. Tip age of onset of symptomatic epilepsy in children and teenagers. The group of men than women, and men of all ages are more than women, especially after age 40, male to female ratio greater difference may be risk factors for epilepsy and men suffer more than women the opportunity to attack on [3].

Our data show that brain trauma in the etiology of symptomatic epilepsy occupies the first place, up 18.5%, significantly higher than the 5.26% reported in developed countries ~ 13.1% [4]. Authors suggest that their results may be related to differences in brain trauma patients in our hospital for treatment rate, postoperative secondary epilepsy corresponding increase in the proportion of patient visits, leaving the group to increase the proportion of traumatic brain injury. Data reported in developed countries, cerebrovascular disease is the leading cause of this disease [4]. The group became symptomatic cerebrovascular disease, the second largest cause of epilepsy, and the proportion with increasing age has also increased in patients over the age of 40 nearly half is secondary to cerebrovascular disease. In patients less than 40 years old, cerebral aneurysms, vascular malformations and cerebral ischemia proportion close to, and in 40 years the population of symptomatic epilepsy cerebral hemorrhage proportion occupies the first place, followed by cerebral ischemia.

Intracranial infection is a common cause of the disease. The group of symptomatic intracranial infection ranks third in the etiology of epilepsy, significantly higher than in developed countries reported. In encephalitis and meningitis, intracranial infection occurs with the largest proportion, followed by brain abscess, it is worth noting that there are eight cases in adults with epilepsy is caused by a cerebral cysticercosis infection and intracranial infection to become 10 to 19 years of age of onset the leading cause of symptomatic epilepsy.

In recent years, cerebral dysplasia caused by more in-depth understanding of seizures [5]. CT brain MRI can confirm the past can not find a variety of

congenital brain abnormalities. This study shows that the brain cause seizures dysplasia become common causes. Cerebral dysplasia caused by the vast majority of epilepsy onset at 20 years of age, and became the group aged 0 to 9, the second largest cause. Cerebral dysplasia include gray matter abnormalities, pachygyria, brain penetrating malformation, corpus callosum, septum gap, arachnoid cyst and tuberous sclerosis, usually in the same patient can have many forms. Caused by a cerebral dysplasia often refractory epilepsy, surgery is the preferred treatment. Therefore, children with epilepsy should try a clear diagnosis of the cause, help to select treatment. Perinatal injury is a major cause of epilepsy in children. Dystocia perinatal asphyxia and injuries including intracranial hemorrhage. The group, perinatal injury caused by the vast majority of seizures onset at 20 years of age, and the ranking from 0 to 9 years of age causes first. Foreign data showed that about 44.44% of infant epilepsy and perinatal factors, and with perinatal brain damage in infants approximately 26.7% of the EEG abnormalities [6]. Caused by a brain tumor symptoms of epilepsy seizures accounted for 11% to 15% [7], with epilepsy as the first symptom of brain tumors account for about 10% of all brain tumors [8], and the group of brain tumors caused by epilepsy symptomatic epilepsy seizures only 7.1 percent, significantly lower than the foreign reports, analyze the causes and sources of limitations on the sample, the sample is limited to hospital patients Neurology Epilepsy Center. In addition, hippocampal sclerosis caused by temporal lobe epilepsy can be seen in all ages, such poor response to drug treatment of epilepsy, surgical treatment is better.

This study is based on the current status of hospital-based research, analysis of hospital symptomatic epilepsy etiology. However, because the study sample limited to hospital epilepsy center, it still can not simply be extrapolated to the population-based study. The future should be to carry out a population-based, or a combination of related large scale multi-center clinical epidemiology symptomatic epilepsy, which in turn provides for the prevention and treatment of large populations of evidence based medicine.

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