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Short Communication

Drug Resistance Factors in Children with Epilepsy Older than Five Years

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ABOUT THE STUDY

The most prevalent neurological illness, epilepsy, affects 50 million people globally, 80 percent of whom reside in resource-constrained poor nations. Childhood is when epilepsy most frequently occurs. Epilepsy is still mostly treated with Anti-seizure Medications (ASMs). ASM resistance, which is defined as the inability to control seizures with two or more acceptable ASMs at an adequate dose, will, nonetheless, affect 10% to 40% of patients. The biggest issue affecting people with epilepsy is drug resistance. The highest mortality rate and hazards for cognitive and behavioral issues are found in those who are resistant to ASMs. Developmental issues are more likely to affect children with epilepsy who are resistant to ASMs.

Resistance to ASMs can be anticipated early after diagnosis, according to prior research. A higher probability of ASM resistance was shown to be associated with a number of clinical traits. Drug resistant epilepsy has been linked to symptomatic aetiology, history of prenatal traumas, older age of commencement, history of febrile seizures, presence of various seizure types, complex partial seizures, abnormalities on EEG or brain imaging, and poor response to first medication [1]. Children with epilepsy span a range of age groups with various etiological, epidemiological, neurodevelopmental, and clinical traits. Children who first had epilepsy before the age of five may represent a distinct cohort with unique predictors of resistance to ASMs [2].

Focal epilepsies may be more common in this age group, and factors such prenatal insults may have less of an impact than they do in younger children. Several epilepsy disorders, including childhood or juvenile absence epilepsy, epilepsy with Centrotemporal spikes, Panayiotopoulos syndrome, and juvenile myoclonic epilepsy, are also connected to this age range and may be benign or unresponsive to treatment. Previous research suggests that certain identified risk factors for medication resistance may have varying effects on different age groups [3]. There are few studies on the risk factors for ASM resistance in kids with epilepsy whose beginning age is more than five years.

Recent systematic reviews on the risk factors for drug-resistant epilepsy revealed that no studies particularly examined this age group, with the majority of studies instead focusing on younger children, such as infants, or on children in a broad age range (0-18 years). Given that this group accounts for a sizeable portion of children with epilepsy and that more in-depth knowledge will be useful to identify children at risk for drug resistance as early as possible and prepare appropriate measures, it is crucial to understand the risk factors of drug resistance in children with epilepsy whose age of onset is greater than five years [4].

The fact that not all patients had brain imaging, specifically MRI, is another flaw in this study. Not all patients with epilepsy should have brain MRI. In contrast to the symptomatic aetiology in this analysis, the majority of brain imaging in this investigation was performed on the symptomatic or drug-resistant group, which had a high yield of abnormalities. However, after correction, it was not found to be an independent risk factor. The lower number of participants that underwent brain imaging may be to blame for this. It may be possible to more accurately characterize the results of brain imaging as a risk factor for drug resistance if it is conducted on all subjects.

The lack of serum drug level tests in this study also prevented exploration of the relationship between the pharmacodynamics of the medicines and their effects. In this investigation, no information on cognitive function was available. Such information might be helpful to more accurately describe patients' conditions. Finally, studies have shown that some disorders, including prenatal arterial ischemic stroke, can have a long latent phase of over 5 years, even though survivors of pre or perinatal brain injury typically develop epilepsy at a young age. In this analysis, no comprehensive information on prenatal disease was available.

Symptomatic epilepsy and an unfavorable initial response, defined as failing to achieve three consecutive months of seizure freedom within the first six months of treatment, were found to be independent risk factors for resistance to ASMs in children with epilepsy whose age of onset was greater than five years. Early on in the course of the treatment, these risk factors should be identified so that special safety measures can be taken. Rapid dose escalation and counselling for parents regarding potential

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prognoses, polytherapy, and other treatment modalities should be provided.

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