

EPILEPSY IN CHILDREN

Aetiology in childhood epilepsy: Bangladesh perspective

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Background and Objective: Epilepsy is one of the most common diseases of the central nervous system in children. Roughly 50% of the epilepsies begin during childhood. The etiologies in childhood epilepsy vary with an age dependent fashion and differ sharply from adults. Determining the etiology of epilepsy is important for the purposes of work-up, treatment and prognosis. Epilepsy is often, but not always, the result of an underlying brain disease. The purpose of this study was to identify the aetiological factors of epilepsy in children attending an epilepsy clinic in Dhaka, Bangladesh.

Methods: The study subjects were children with epilepsy attending the epilepsy clinic of Neurology Foundation Hospital, Dhaka over a 19 months period. Detailed history including the birth and neonatal history were obtained. Developmental assessment and neurological examinations were done; Electroencephalographies (EEG) were performed in 180 children and neuroimaging in 127.

Results: Two hundred and sixteen children (127 males, 89 females) with a mean age of 3.2 ± 2.6 years (median age 2 years) were studied. A possible aetiology was found in 121 children (56%). In 22 children (10%), the cause of epilepsy was thought to be idiopathic; in 73 children (33.7%), the cause was cryptogenic

Of the 121 symptomatic epilepsy with identifiable etiology, 39 children (32%) had hypoxic-ischaemic encephalopathy, 31 children (25.6%) had developmental CNS malformations. Other causes were: postmeningitic/encephalitic sequelae (18 children), neurometabolic/neurodegenerative disorders (11 children), congenital infection (5 children), head trauma (4 children), hydrocephalus (4 children), subacute sclerosing panencephalitis (3 children), prolonged febrile seizure (2 children), Down syndrome, tuberculoma, brain tumour and AVM (1 each). More than 60% children with epilepsy from hypoxic-ischaemic encephalopathy or structural brain disorders had their onset of epilepsy within infancy, and 85-92% within 5 years of age. Children with hypoxic-ischaemic encephalopathy presented with generalized seizures in 64%, and partial seizures in 26%. In children with structural abnormalities, generalized and partial seizures were found in 50% & 46% respectively. Eighty two percent of the children with idiopathic epilepsy presented with generalized seizures.

Discussion and Conclusion: The importance of hypoxic-ischaemic encephalopathy and developmental CNS malformations as major causes of childhood epilepsy is consistent with the previous studies from Mexico and Poland.^{1,2} However, congenital infection was a major etiology in the Mexican and Polish studies^{1,2}, but it accounted for only 5 patients in our study. This might be due to limited investigational facilities in our centre. Idiopathic etiology was seen in 17% of children in Mexican study.² The 33.7% of cryptogenic cases is comparable to 35% and 50% in the Mexican and Polish studies.^{1,2}

hypoxic-ischaemic encephalopathy and developmental malformation are thus major causes of epilepsy in childhood in Bangladesh. Better investigational facilities will help to uncover the etiologies in more cases. Identifying the etiology is important to plan prevention strategies and further management of patients.

References

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