

IMPLICATION OF STATUS EPILEPTICUS IN CHILDHOOD EPILEPSY

Status Epilepticus in a Population-based Cohort with Childhood-onset Epilepsy in Finland

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Little is known about the time course over which status epilepticus occurs in childhood-onset epilepsy and its impact on long-term prognosis. A population-based cohort of 150 children younger than 16 years with new-onset epilepsy between 1961 and 1964 residing in the catchment area of Turku University Hospital was observed prospectively until 1997. The occurrence of status epilepticus and recurrent status epilepticus, risk factors for status epilepticus, and the impact of status epilepticus on prognosis were examined. Of the 150 cases, 41 (27%) patients had an episode of status epilepticus, of whom 22 (56%) patients had two or more episodes. The risk of status epilepticus was highest at the onset of the disorder with 30 (73%) cases occurring before ($n = 12$) or at ($n = 18$) onset and 37 (90%) cases within 2 years of onset. On multivariable analysis, risk factors for status epilepticus included remote symptomatic cause, age at onset 6 years or younger, and partial seizures. Specific epilepsy syndromes also were associated with a differential risk of status epilepticus. The occurrence of status epilepticus did not alter the mortality rates and had only a modest impact on the probability of attaining remission. In subjects with no other neurologic handicap, social and educational outcomes were similar in those with status epilepticus and in those with no history of status epilepticus. We conclude that status epilepticus is a common occurrence in childhood-onset epilepsy. When it does occur, it occurs early in the course of the disorder. The occurrence of status epilepticus does not appear to have significant adverse impact on long-term prognosis of childhood-onset epilepsy.

COMMENTARY

Status epilepticus (SE) remains a medical emergency that requires prompt and appropriate intervention to minimize

the potential morbidity associated with it. In recognizing this, we also must realize that when status occurs, it produces a high level of anxiety. Parents are fearful of the impact it may have had even when the child appears to have recovered fully and returned to baseline. Physicians also react and probably alter their assessment of what future medical care may be needed. These judgments, however, are often influenced by studies that may be biased by the ascertainment of cases identified by the SE, and may not reflect the natural history of seizure disorders in children.

Once again, Sillanpaa and Shinnar centered their analysis on a population-based cohort and eliminated the bias of possibly more severe cases by identifying 150 incident cases of childhood epilepsy, 93% of whom were followed up for 25 years or until death, which was seen in 16%. Forty-one (27%) of these children had at least one episode of SE. As has been demonstrated in other studies, the risk of status is greatest early in the development of epilepsy, with 73% of cases occurring before or at the onset of the diagnosis of epilepsy. If a child had not had an episode of status in the first 2 years of the disorder, the risk of its happening later was only 0.03. Parents and physicians should find reassurance in this. However, if SE did occur, more than half had recurrent episodes. Unfortunately, only half of the recurrences occurred in the subsequent 2 years. These children remain at risk and should be followed up with this in mind. The authors also continued to illuminate the factors that appear to predispose to SE: remote symptomatic etiology, an abnormal neurologic examination, and younger age at onset (younger than 6 years), although none of these factors predicted recurrence. Finally, Sillanpaa and Shinnar addressed outcomes. Children who had SE had no higher rate of mortality than did other children with epilepsy, and only multivariable analysis was able to demonstrate a slight adverse impact on the rate of 5-year terminal remission. Children with SE also did as well from a social and educational point of view as did other children with epilepsy, although we must recall that these children overall are at increased risk. This study also adds to the growing literature that sudden death associated with epilepsy is rare in childhood epilepsy and is seen almost exclusively in children with severe neurologic disabilities.

These data reinforce the need for practitioners to be prepared to deal with SE. It is not infrequent in childhood epi-

lepsy, particularly in young children and in those who have had a previous neurologic insult. Once an episode of status has occurred, it is appropriate for families and physicians to be concerned about recurrence and to provide a plan such as the availability of rectal diazepam. However, if a child has been diagnosed with epilepsy and has not experienced an episode of status within 2 years, then families and physicians should be reassured that such an occurrence is highly unlikely. These

children do not appear predisposed to long seizures. The authors continue to advance a theory that a subgroup of children are predisposed to prolonged seizures, as has been noted in children with febrile SE. Clearly, this construct delineates important areas for potential clinical research into the nature of this predisposition and into the impact of aggressive therapy.

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