

Berg AT, Shinnar S, Levy SR, Testa, FM, Smith-Rapaport S, Beckerman B. **Early development of intractable epilepsy in children: a prospective study.** *Neurology* 2001; 56:1445-1452.

Background: Little is known about early prediction of intractable epilepsy (IE) in children. Such information could help guide the early use of new therapies in selected patients.

Methods: Children with newly diagnosed epilepsy (n = 613) were prospectively identified from child neurology practices in Connecticut (1993–1997) and followed-up for the occurrence of IE (failure of >2 drugs, >1 seizure/month, over 18 months). Etiology and epilepsy syndromes were classified per International League Against Epilepsy guidelines.

Results: The median follow-up is 4.8 years, and 599 (97.7%) have been followed for more than 18 months. Sixty children (10.0%) have met the criteria for IE, including 34.6% with cryptogenic/symptomatic generalized, 2.7% with idiopathic, 10.7% with other localization-related, and 8.2% with unclassified epilepsy ($p < 0.0001$). After multivariable adjustment for epilepsy syndrome, initial seizure frequency ($p < 0.0001$), focal EEG slowing ($p = 0.02$), and acute symptomatic or neonatal status epilepticus ($p = 0.001$) were associated with an increased risk of IE, and age at onset between 5 and 9 years was associated with a lowered risk ($p = 0.03$). The absolute number of seizures and unprovoked or febrile status epilepticus were not associated substantially with IE.

Conclusions: Approximately 10% of children meet criteria for IE early in the course of their epilepsy. Cryptogenic/symptomatic generalized syndromes carry the highest risk and idiopathic syndromes the lowest. Half of IE occurs in children with nonidiopathic localization-related syndromes. Initial seizure frequency is highly predictive of IE. By contrast, absolute number of seizures and unprovoked or febrile status epilepticus are not.