Overall mortality was 2.2% in children after a first unprovoked afebrile seizure


Q In children with a first unprovoked afebrile seizure, what is the prognosis in terms of overall mortality and sudden unexplained death in epilepsy?

**METHODS**

- **Design:** inception cohort followed for mean 14 years.
- **Setting:** 3 medical centres in Bronx, New York, USA.
- **Patients:** 407 children who were 1 month to 19 years of age (mean age at first seizure 6.8 y)* with a first unprovoked afebrile seizure. 68 (17%) had initial seizure of remote symptomatic aetiology and 339 (83%) had initial seizure of cryptogenic or idiopathic aetiology.
- **Prognostic factors:** no prognostic factors included.
- **Outcomes:** overall mortality and sudden unexplained death in epilepsy.


**MAIN RESULTS**

9 children (2.2%) died. 5 deaths were classified as definitely or probably unrelated to epilepsy. 4 deaths were classified as possible or probable sudden unexplained deaths in epilepsy, with all 4 children having previous seizures and anticonvulsant use at the time of death.

**CONCLUSION**

In children with a first unprovoked afebrile seizure, 9 children (2.2%) died, 4 of whom had deaths classified as possible or probable sudden unexplained deaths in epilepsy.

For correspondence: Dr S Shinnar, Albert Einstein College of Medicine, Bronx, NY, USA. SShinnar@aol.com

Source of funding: The National Institute of Neurological Disorders and Stroke.

---

**Commentary**

The study by Shinnar et al examines whether the decision not to treat a child with a first, unprovoked seizure could increase the risk of mortality via the sudden death in epilepsy syndrome. Until recently, many paediatricians routinely treated a first, non-febrile seizure in children. Between 25 000 and 40 000 children have a first seizure each year in the US.¹ In 2003, the Quality Standards Subcommittee of the American Academy of Neurology reviewed the available literature and concluded that no evidence existed to show that antiepileptic drug (AED) treatment reduced the incidence of long term epilepsy, and therefore the Practice Parameter did not recommend routine AED use.¹

This study by Shinnar et al is important in examining the risk of mortality in children who have had a first, unprovoked seizure, with the general practice of no treatment for first seizures. Only 4 of 9 deaths in 407 children with unprovoked seizures were related to recurrent seizures, and all were already receiving AED treatment because of recurrent seizures. Thus, delaying treatment until a second seizure does not seem to increase the risk of sudden death. This study involves the same 407 children reported earlier by the same investigators,² on seizure recurrence. In the earlier report, 46% of the children had a recurrent seizure within 10 years. After a second seizure, 72% had a third seizure, showing that the second seizure is a more valid indicator for a diagnosis of epilepsy and initiation of antiepileptic treatment.

The most important limitation of the study is the small sample size; children with epilepsy have a low mortality rate, and sudden death in epilepsy is a relatively rare occurrence. It is, therefore, questionable whether a sample size of 407 children is a large enough number to reach a definite conclusion on the influence of delay of treatment on the incidence of sudden death. It should reassure clinicians, however, that delay of treatment until after a second seizure in this study did not seem to carry any increased risk.

Howard S Kirshner, MD
Vanderbilt University School of Medicine
Nashville, Tennessee, USA

Overall mortality was 2.2% in children after a first unprovoked afebrile seizure

_Evid Based Med_ 2005 10: 152
doi: 10.1136/ebm.10.5.152

Updated information and services can be found at:
_http://ebm.bmj.com/content/10/5/152_

**References**

This article cites 3 articles, 2 of which you can access for free at:
_http://ebm.bmj.com/content/10/5/152#BIBL_

**Email alerting service**

Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

**Topic Collections**

Articles on similar topics can be found in the following collections

- Epilepsy and seizures (38)
- Epidemiologic studies (1092)
- Stroke (546)
- EBM Prognosis (104)

**Notes**

To request permissions go to:
_http://group.bmj.com/group/rights-licensing/permissions_

To order reprints go to:
_http://journals.bmj.com/cgi/reprintform_

To subscribe to BMJ go to:
_http://group.bmj.com/subscribe/_