

New details on link between epilepsy and suicide attempt

December 9 2015

Generalized 3 Hz spike and wave discharges in a child with childhood absence epilepsy. Credit: Wikipedia.

Scientists report new details into the link between epilepsy and suicidal behavior, finding suicide attempts—whether a first attempt or a recurrent attempt—are associated with new onset epilepsy in the absence of antiepileptic drug prescriptions and a diagnosis of psychiatric disorder, further strengthening the evidence that there is an underlying commonality. The researchers at Columbia University's Mailman School of Public Health and Columbia University Medical Center and are the first to report these associations. Findings are published online in *JAMA*

Psychiatry.

The study, led by Dale Hesdorffer, PhD, professor of Epidemiology, compared the risk for a first suicide attempt in 14,059 patients who later developed epilepsy to 56,184 age and gender matched controls. For patients who later had onset of epilepsy there was a 2.4-fold increased risk for a first suicide attempt in the time period up to and including the diagnosis of epilepsy. The risk for a recurrent suicide attempt was compared in 278 first [suicide attempts](#) in people who later developed epilepsy versus 434 first suicide attempts in controls. The risk for a recurrent suicide attempt increased nearly two-fold up to and including the diagnosis of epilepsy compared to controls. The increased risk persisted in the presence and the absence of diagnosed [psychiatric disorders](#) and when excluding patients prescribed antiepileptic drugs.

"Our findings are consistent with the hypothesis of a common underlying susceptibility to both suicide attempt and epilepsy that is not mediated by psychiatric disorders or by antiepileptic drugs," said Dr. Hesdorffer, who is also professor of Epidemiology in the Sergievsky Center.

Using the United Kingdom Clinical Practice Research Datalink (CPRD), Dr. Hesdorffer and scientists at GlaxoSmithKline compared the risk for a first and a recurrent suicide attempt in cases that later developed epilepsy with the corresponding risks in the control group. The data include detailed information on diagnoses, [drug prescriptions](#), and basic demographic information from a sample of approximately 13 million people throughout the UK from 1987 through 2013. Codes from the database were used to identify the psychiatric disorders previously found to be associated with epilepsy, including major depression, anxiety, and psychosis, bipolar disorder, and substance abuse and dependence for alcohol and drugs before entry in the datalink and during participation. Approximately 5.5 million people are actively followed on the database, which is representative of the distribution of age, sex and geographic

regions of the country.

The researchers studied patients between the ages of 10 and 60 with new onset of epilepsy if they had at least one epilepsy code recorded in the dataset between 1988 and 2013 and at least two antiepileptic drug prescriptions listed from the month before to six months after epilepsy diagnosis, to confirm the epilepsy diagnosis. Exclusion of [antiepileptic drugs](#) prescribed before the diagnosis did not meaningfully alter the findings, nor did separate analyses of patients with and without diagnosed psychiatric disorders.

"Epilepsy has the tenth greatest risk for completed suicide, increasing the risk five-fold, greater than for anxiety and alcohol dependence," noted Dr. Hesdorffer. "Therefore, physicians, treating patients with epilepsy need to develop collaborations with mental health professionals in order to provide comprehensive treatment to their [epilepsy patients](#)."

Provided by Columbia University's Mailman School of Public Health

Citation: New details on link between epilepsy and suicide attempt (2015, December 9) retrieved 1 October 2023 from <https://medicalxpress.com/news/2015-12-link-epilepsy-suicide.html>

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