

Adjunctive antiepileptic drug treatment can lower risk of dying from a sudden unexpected death

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New research published Online First in *The Lancet Neurology*, has found that epilepsy patients who receive additional treatment with antiepileptic drugs (AEDs) have about a seven times lower risk of dying from a sudden unexpected death-the most common cause of death in epilepsy patients.

Sudden unexplained death is 20 times more common in people with epilepsy than in the general population. Research has identified some potentially preventable risk factors for sudden unexpected death in epilepsy (SUDEP) including a high number of generalised tonic-clonic seizures (the most common type of generalised seizure that affects the entire brain) and taking a combined regimen of AEDs (polytherapy). But until now, no intervention has been assessed in a controlled study or shown a beneficial effect at preventing SUDEP.

In this study, Philippe Ryvlin, Hôpital Neurologique, Lyon, France, and colleagues pooled data from 112 randomised trials of AED add-on treatment of adults with refractory (treatment-resistant) [epilepsy](#) to compare the incidence of definite and probable SUDEP between patients receiving adjunctive AED therapy at effective doses and those given placebo.

A total of 33 deaths occurred in the trials, of which 18 deaths were deemed probable or definite SUDEP, and two deaths possible SUDEP.

Overall, analyses showed that patients treated with adjunctive AEDs at effective doses were about seven times less likely to die of a SUDEP than patients given placebo.

Rates of definite and probable SUDEP were 0.9 per 1000 person-years in the AED group and 6.9 per 1000 person-years in the placebo group.

The authors suggest that the treatment-related reduction in seizure frequency is the most likely explanation for the very low rate of SUDEP in patients given AEDs at effective doses.

They point out that contrary to research suggesting that polytherapy might increase the risk of SUDEP: "Our data suggest that add-on AEDs at doses effective on seizure frequency reduce the risk of SUDEP despite increasing the drug load, at least during the average 3-month duration of randomised trials."

They conclude: "This finding provides an argument not only for active revision and optimum management of treatment in patients with uncontrolled seizures, but also for further prospective and long-term investigation of this unsettled issue."

In a Comment, Dale Hesdorffer from Columbia University, New York, USA and Torbjorn Tomson from the Karolinska Institute, Stockholm, Sweden, outline three key implications of the findings: "First, the study provides strong evidence for an effective intervention to reduce SUDEP risk; Second, the protective effective of adjunctive therapy suggests that seizure control could be extremely important for SUDEP prevention; Third, polytherapy does not increase risk of SUDEP during the time period of a randomised trial."

More information: Paper online: [www.thelancet.com/journals/lan ... \(11\)70193-4/abstract](http://www.thelancet.com/journals/lan... (11)70193-4/abstract)

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