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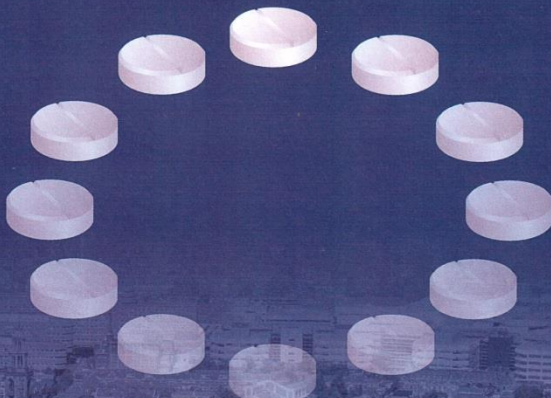
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Abstract no 184* (Poster Session: Psychotropics and pain)

Impact of analytic strategies for handling missing risk time during hospitalizations on the effect measure of the association between antiepileptic drugs and completed suicide or suicide attempt

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Background: In pharmaco-epidemiological studies, information on hospital medications is frequently not available for analysis based on outpatient prescription data. Formally this problem can be considered an instance of missing data.

Objective: To evaluate the impact of four different analytic strategies (ignoring, censoring, elimination or multiple imputation of risk time) for handling unobservable medication use during hospitalizations studying the association between antiepileptic drug (AED) use and suicide events.

Methods: Register-based cohort study of all incident users of AEDs between 1995 and 2007 identified from a 25% sample of the Danish population. We performed time-dependent Cox proportional Hazard analysis comparing suicidal events during current with events during past use of AEDs. We report hazard rate ratios (HRR) with 95% confidence intervals (CI) adjusted for age, sex, treatment indications and other treatment-related variables.

Results: We identified 26,916 hospitalizations among 43,069 incident users of AEDs. After the first AED prescription, 5.16%, 11.49% or 21.33% of patients were hospitalized within 10, 30 or 90 days, respectively. Time spent in hospital accounted for 2815 days (1.77%) of follow up time (159,065 person years). Of the 1708 observed suicide events (10.73/1000 PYs), 8% occurred during hospitalizations (137/2815=48.67/1000 PYs). Compared to a HRR of suicide event of 1.50 (95% CI: 1.27-1.77) when hospitalizations were ignored among current antiepileptic drug users, censoring at the first day of admission or assigning current use during hospitalization increased the HRR by up to 30% (HRR: 2.19 (1.66-2.89), and HRR: 2.27 (1.86-2.73), respectively), while elimination or multiple imputation of risk time increased HRRs by appr. 5% (HRR: 1.59 (1.34-1.50); HRR: 1.56 (1.32-1.85), respectively).

Conclusions: Censoring at first hospitalization changed estimates of suicide risk among AED patients indicating that hospitalizations are not independent censoring events, and hence they should not simply be ignored when studying the risk of suicide events in these patients.

Abstract no186 (Poster Session: Psychotropics and pain)

Long-term outcomes should be used for comparative evaluation of the effectiveness of antiepileptic drugs

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Objectives. To compare the outcomes antiepileptic drugs (AED) treatment after a year and more than three-year follow-up period.

Methods. We calculated Risk Ratio (RR with Review Manager 5.0 and 95% confidence intervals) for comparisons of efficacy and safety of AED in children with focal epilepsies. We used a favorable outcome - remission more than 1 year and remission more than 3 years to evaluate the effectiveness; unfavorable outcome - the number of patients with adverse reactions to assess the safety.

Results. We conducted (2014) Ð° retrospective observational study of monotherapy for focal forms of epilepsy in 234 children (aged from 3 to 18 years, 136 males and 98 females). Analysis showed no benefits of carbamazepine vs topiramate, carbamazepine vs valproates in efficacy, using indicator of efficiency - remission lasting more than 1 year (RR=1.13; 95% CI [0.90, 1.42] and RR=1.68; 95% CI [0.96, 2.95], respectively). Carbamazepine was more effective than topiramate, and no advantage of carbamazepine vs valproates, using outcome - remission more than 3 years (RR=3.71; 95% CI [0.95, 14.53] and RR=1.19 [0.77, 1.85], respectively). Monotherapy with carbamazepine vs topiramate or valproates was safer in children with focal epilepsy during the observation period of 3 and more years (RR=0.29; 95% CI [0.11, 0.77] and RR=0.34; 95% CI [0.15, 0.80], P=0,01).

Conclusions. Using of the long-term outcomes (remission lasting more than 3 years) to evaluate the effectiveness of antiepileptic drugs gives more objective information about benefits of the drug for a chronic disorder, such as epilepsy. Conflicts of interest - None.