

Should non-convulsive status epilepticus be treated aggressively?

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Generalized convulsive status epilepticus (GCSE) is a life-threatening medical emergency. Realizing that "time is brain", modern treatment protocols are quite aggressive, and after failure of a benzodiazepine and one intravenous (IV) antiepileptic drug (AED) the protocols call for induction of generalized anesthesia with drugs such as midazolam, propofol, thiopental or pentobarbital.

Non-convulsive status epilepticus (NCSE) is different from GCSE. It can be defined as a change in behavior and/or mental processes from baseline associated with continuous epileptiform discharges on the EEG. It may or may not include dyscognitive features ("complex partial status" - CPSE). The compromise between the danger related to untreated SE and danger of damage induced by possibly unnecessary aggressive treatments may prove difficult.

Available human data indicate that many clinical forms of NCSE are benign in terms of morbidity and mortality. Poor outcome may be attributed to the etiology and to associated complications. The evidence for neuronal damage induced by NCSE in humans is scant. Mortality in patients with NCSE due to pre-existing epilepsy is as low as 3%; in patients with NCSE due to acute medical disorders mortality reaches 27%, and the cause has a major effect on NCSE outcome.

For most forms of NCSE that persist after treatment with BZD and an AED, additional trials of IV AEDs should be preferred, rather than early escalation to anesthetics. This strategy is especially relevant in cases of NCSE in which consciousness is somewhat preserved, and the risks of anesthetics (including arterial hypotension, respiratory depression, gastroparesis, paralytic ileus, immunosuppression, infections, propofol infusion syndrome and prolonged sedation due to drug accumulation) might outweigh the risks of continued seizure activity.

EFNS guidelines (2010) state the therapeutic decision should be based on the type of SE, age, comorbidity and prognostic issues, and that this is of special relevance in patients with CPSE because the risks of anesthesia may be greater than the risks of ongoing non-convulsive epileptic activity.