SHOULD AEDS BE STARTED AFTER A FIRST SEIZURE IN PATIENTS WHO HAVE PRE-EXISTING BRAIN INJURY? NO

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Prevention of post-traumatic epilepsy (PTE) is of primary importance to reduce the degree of functional morbidity following traumatic brain injury (TBI). However, the use of antiepileptic drugs (AEDs) in patients with TBI must be assessed in light of seizure type, risk of seizure relapse, and chance of development of unwarranted adverse events. A first seizure is more frequently acute symptomatic (ie, in close temporal relationship with the traumatic event) than unprovoked (ie, after the acute phase). The incidence of acute symptomatic (early) seizures, which usually occur within one week of injury, ranges from 2.1 to 16.9% while the incidence of unprovoked (late) seizures ranges from 1.9 to >30%.[1] A first acute symptomatic seizure has a 19% risk of recurrence over 10 years of follow-up as compared to an unprovoked seizure, which may recur in up to 65% of cases during the same period.[2] In the latter case, still 35% of patients may experience an isolated seizure.

Treatment itself may not affect the risk of recurrence of unprovoked seizures as several AEDs have no effects on epileptogenesis after a CNS injury.[3] In observational studies, after a period ranging from 6 months to 13 years, the proportion of cases developing seizures was 0-10% in patients receiving treatment compared to 2-50% in those left untreated.[4] In randomized clinical trials, the difference between active treatment and placebo was virtually lacking for the prevention of PTE. In a Cochrane systematic review of 890 patients from 10 randomized clinical trials assessing phenytoin or carbamazepine, the pooled relative risk (RR) for prevention of early seizures was 0.33 (95% confidence interval, CI 0.21-0.52). In contrast, the RR for prevention of late seizures was 1.28 (95% CI 0.90-1.81).[5] After a systematic review of published reports, the Quality Standard Subcommittee of the American Academy of Neurology declared that "… *AED prophylaxis is probably not effective in decreasing the risk of late post-traumatic seizures* …".[6] Drug treatment may be occasionally accompanied by serious adverse events. The use of phenytoin or carbamazepine can be followed by skin rashes. In addition, cognitive performance and functional recovery are affected by most AEDs.[3]

The failure to influence the risk of PTE in studies of patients with TBI is similar to findings from meta-analyses of randomized clinical trials on seizure prevention in patients with other clinical conditions, such as febrile seizures, cerebral malaria, craniotomy, and excessive alcohol intake.[7] For these reasons, chronic treatment with AEDs should not be started after a first seizure in patients with TBI.

References

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