

Methods to facilitate the prognostic assessment of patients with status epilepticus, using clinical and biological biomarkers



Pathology : Status epilepticus (SE) is the most extreme form of epilepsy. SE results either from the failure of the mechanisms responsible for seizure termination or from pathological mechanisms that lead to abnormally prolonged seizure. It is a life-threatening situation which needs a prompt and particular treatment in order to prevent cerebral damage.



Medical care : Antiepileptic drug therapy is used to rapidly terminate seizure activity. As the duration of SE increases, the seizure becomes more pharmaco-resistant to benzodiazepines. Immediate diagnosis and treatment are necessary to reduce mortality but there is a lack of adequate diagnostic tools. Delay in care results in an increased risk of neurologic sequelae.



Innovation : Machine learning tools based on bio-clinical scores to optimize the prognostic evaluation of patients with SE in terms of mortality, functional degradation and recovery capacities. This approach can be used routinely to enhance early recognition and prompt treatment. The identified biomarkers of SE could be implemented in a companion diagnostic test.



Market : The overall incidence of SE is 9.9 to 41 per 100,000/year. 30% of patients diagnosed as having epilepsy will initially present with status epilepticus. An estimated 152,000 cases occur per year in the United States, resulting in 42,000 deaths.



Mortality rate



Seizures refractory to pharmacotherapy



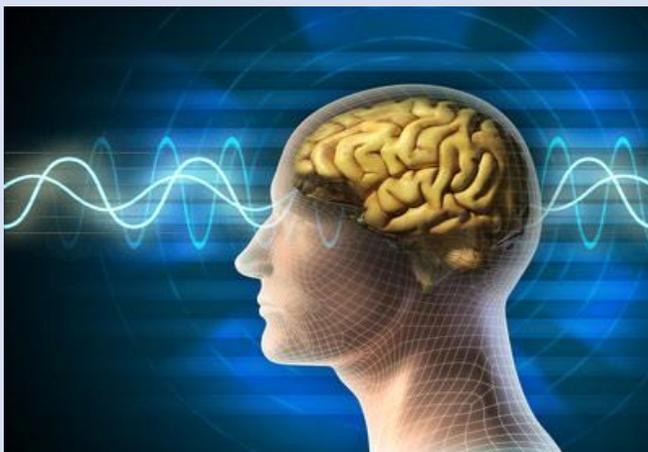
Mean hospital costs in the USA per admission.

Intellectual property

European Patent

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