

## Publication

### Associations between infections and clinical outcome parameters in status epilepticus : a retrospective 5-year cohort study

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Status epilepticus (SE) represents a life-threatening condition, requiring pharmacologic therapy and neurointensive care. Infectious complications in SE are suspected to be frequent and worsen outcome. However, little is known about their incidence during SE and their impact on course and outcome. The aim of this study was to determine the incidence and time of onset of infections during SE, as well as their association with particular SE courses, length of hospitalization, intensive care unit (ICU) stay, and outcome.; All consecutive ICU patients hospitalized due to SE from 2005 to 2009 at the University Hospital Basel were included. Electroencephalography (EEG) recordings and microbiologic data were extracted from two prospectively established databases. Length of SE, ICU, and hospital stay; development of refractory status epilepticus (RSE); and destinations at discharge or death were assessed by comprehensive medical chart review.; Of 160 patients, 23% had infections during SE. Of those, 94% were respiratory tract infections, 29% were ventilator-associated pneumonias. Patients with infections during SE had longer SE duration ( $p < 0.0001$ ), longer ICU stay ( $p = 0.0041$ ), higher risk of RSE (odds ratio [OR] 4.8,  $p = 0.0002$ ), and higher mortality (OR 5.2,  $p = 0.0003$ ) than those without infectious complications. Infections during the first 3 days after SE onset were significantly associated with longer SE duration, higher rate of RSE, and higher mortality compared to infections detected before SE.; Infections during SE are frequent and associated with higher mortality, prolonged ICU stay, and higher rates of RSE. Further trials are needed to provide evidence of a causative relation between infections and outcomes of SE, followed by investigations on underlying mechanisms and preventive strategies.

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