

Systemic inflammatory response syndrome influences short-term mortality in status epilepticus



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Purpose

Short-term status epilepticus outcome is determined mainly by age and etiology. Recently, the role infectious comorbidity plays in status epilepticus prognosis has gained a lot of attention, which produced conflicting evidence regarding its importance. We aimed to see whether infections, their severity and treatment strategy may influence survival of patients with status epilepticus.

Method

We carried out a retrospective evaluation of clinical, radiologic and neurophysiologic parameters potentially affecting status epilepticus outcome in a cohort of adult patients admitted to our institution between 2003 and 2013. Case definition was based on EEG criteria.

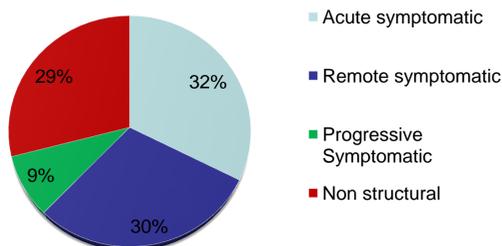
Results

A total of 146 cases fulfilled inclusion criteria (64% female sex), with a mean age of 74 years (range 18-101). Short-term mortality was 38%. Multivariable analysis revealed the following negative prognostic predictors: age (Odds ratio (OR): 1.1, $p < 0.001$), acute symptomatic etiology (OR: 5.5, $p = 0.007$), systemic inflammatory response syndrome (OR: 5.9, $p = 0.002$). Infectious complications did not emerge as a significant determinant in multivariate analysis, as well as antibiotic regimens established either before or after status epilepticus occurrence.

Demography

Parameter	Value
Number of cases	146
Male (%)	53 (36%)
Female (%)	93 (64%)
Age (range)	74 (18-101)
Number of day of hospitalization (range)	24 (3-163)
SE at the admission (%)	58 (40%)

Etiology



Distribution

Category	Parameter	N (%)
Etiology	Acute symptomatic	48 (32%)
	Remote symptomatic	44 (30%)
	Progressive Symptomatic	13 (9%)
	Non structural	43 (29%)
Imaging	Focal damage	98 (68%)
	No focal damage	48 (32%)
Neurological diseases history	Previous CNS diseases	58 (40%)
	Current progressive CNS diseases	42 (29%)
	Preexisting epilepsy	46 (31%)
Comorbidity	Cardiovascular diseases	62 (42%)
	Respiratory diseases	11 (7%)
	Renal diseases	21 (14%)
	Gastrointestinal diseases	20 (14%)
	Metabolic diseases	48 (33%)
	Psychiatric diseases	20 (14%)
	Extracerebral cancers	12 (8%)
Drug and alcohol abuse	Antiepileptic drugs	50 (34%)
	Other drugs influencing CNS	87 (60%)
	Alcohol abuse	19 (13%)
Development of recovery	SIRS	58 (40%)
	Infective complications	62 (42%)
	Non Infective complications	49 (34%)
Prognosis	Mortality	64 (44%)

Statistic analysis

Parameter	Univariate analysis significance (p value)	Multivariate analysis significance (p value)	Odds Ratio (IC, 95%)
Old Age	0,001	0,001	1,094 (1,039-1,151)
Extracerebral cancers	0,004	0,001	51,261 (2,765-950,416)
Acute symptomatic etiology	0,001	0,007	5,502 (1,609-18,807)
SIRS	0,0001	0,002	5,943 (1,944-18,168)
Infective complications	0,0001	//	
Non infective complications	0,001	//	
Onset of SE during the hospitalization	0,0001	0,002	8,929 (2,277-34,942)

Conclusion

Our preliminary study supports the hypothesis systemic inflammatory response exerts a major role in short-term status epilepticus prognosis. Infective complications per se do not seem to alter significantly the outcome.

Bibliografia

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