

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



Giovanni Furlanis, Marco Belluzzo, Lara Stragapede, Fabrizio Monti, Paolo Manganotti

Clinica Neurologica, Dipartimento di Scienze della Salute, Azienda Ospedaliero-Universitaria "Ospedali Riuniti" di Trieste



## 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.

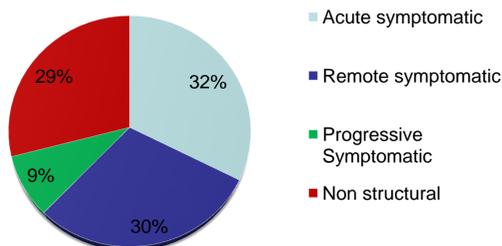
## Results

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 (%)
<b>Etiology</b>	Acute symptomatic	48 (32%)
	Remote symptomatic	44 (30%)
	Progressive Symptomatic	13 (9%)
	Non structural	43 (29%)
<b>Imaging</b>	Focal damage	98 (68%)
	No focal damage	48 (32%)
<b>Neurological diseases history</b>	Previous CNS diseases	58 (40%)
	Current progressive CNS diseases	42 (29%)
	Preexisting epilepsy	46 (31%)
<b>Comorbidity</b>	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%)
<b>Drug and alcohol abuse</b>	Antiepileptic drugs	50 (34%)
	Other drugs influencing CNS	87 (60%)
	Alcohol abuse	19 (13%)
<b>Development of recovery</b>	SIRS	58 (40%)
	Infective complications	62 (42%)
	Non Infective complications	49 (34%)
<b>Prognosis</b>	Mortality	64 (44%)

### Statistic analysis

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

## 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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