

Category :**Brain: Neurologic disease**

**A238 - Super-refractory status epilepticus in a neurocritical care unit**

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### **Introduction:**

Super-refractory status epilepticus (SRSE) is defined as status epilepticus (SE) that continues or recurs 24h or more after the onset of anaesthetic therapy. Treatment is based on case reports and expert opinion, and reported outcome is generally ominous. We aimed to analyse the incidence, clinical characteristics and mortality of patients with the diagnosis of SRSE admitted to a neurocritical care unit (NICU).

### **Methods:**

Retrospective cohort study. Population consisted of all patients admitted to our NICU with a diagnosis of SRSE, from January 2018 to July 2021. Protocol-based data were retrieved from our electronic data base. Statistical analysis was performed using T-test and Chi-square for comparing variables between deceased and survival patients. Variables who were statistically significant were introduced in a binary logistic regression model to predict mortality.

### **Results:**

Of all eighty-two patients with a diagnosis of SE, 29 (35%) fulfilled criteria for SRSE. Mean age was 61-year-old, predominantly females (84.6%); mean SAPS II was 48 and mean admission SOFA was 7. The majority had acute symptomatic aetiology (65.5%). NICU mortality was 44.8%, further 20% patients died in hospital after ICU discharge and another 3.4% after hospital discharge, with a cumulative mortality of 69%. 82,8% were treated with at least 2 anaesthetics and 89.7% with at least 4 conventional antiepileptics. Patients who died were older (66 vs 43 years,  $p<0.05$ ), mostly male ( $R=4.15$ ,  $p<0.05$ ), were submitted to neurosurgery ( $R=8.62$ ,  $p<0,05$ ) and had nonconvulsive status epilepticus ( $R=5.73$ ,  $p<0.05$ ). Of those variables, only age and need for neurosurgery predict mortality.

### **Conclusion:**

Despite comprehensive protocol-based treatment in a dedicated neurocritical centre [1], mortality of patients with diagnosis of SRSE remain very high. Better understanding of underlying causes, pathophysiology and higher evidence-based treatment protocols are urgently needed.

### **References:**

[1] Gomes, D. et al. Acta Médica Portuguesa 31(10):598-605, 2018