

# Outcome of aggressive treatment of status epilepticus after cardiac arrest

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Argomento: Trauma e arresto cardiaco

**Background:** Status Epilepticus (SE) is a frequent presentation of neurological damage after cardiac arrest and it's believed to be associated with a poor outcome. Reported prognosis sets around 0-10% survival. However, these studies are biased by withdrawal of life support at a very early stage of treatment because no universal consensus on SE management is currently available.

**Objective:** The aim of this retrospective study is to assess outcome when SE is aggressively treated with induced Burst Suppression (BS) for longer than 48h.

**Methods:** We included 46 consecutive patients admitted to San Gerardo Hospital (Monza) ICUs after cardiac arrest between January 2011 and March 2017, who developed SE after rewarming from targeted temperature management. SE was defined by formal laboratory EEG's criteria and monitored with continuous EEG. Treatment included BS induction and AEDs and was carried on unless outcome was very likely to be poor according to ERC criteria. Outcome was assessed with CPC scale.

**Results:** 27 patients were treated with >48h BS. At 6 months follow up, 13 (48%) were deceased (CPC 5), 2 (7%) survived with a poor outcome (CPC 3-4) and 12 (44%) with a good neurological function (CPC 1-2).

EEG reactivity within 5 days (OR 10,297 -  $p$  0,007) was the most significant variable to predict a good recovery with 17% FPR and 59% sensibility.

5/12 (42%) patients didn't present with early reactivity despite having subsequently achieved a good recovery, but 4 of them developed it at a later stage.

**Conclusions:** Our results show that prolonged and aggressive treatment of SE may increase the chances a good neurological outcome. They underline the importance of early EEG reactivity to predict a good recovery, but we emphasize that the absence of early reactivity shouldn't be believed a negative factor if we want to avoid inappropriate withdrawal of life support.

### OUTCOME AT 6 MONTHS FOLLOW UP

