

Efficacy of deep sedation for patients with intractable electrical storm refractory to anti-arrhythmic drugs

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Background: Sympathetic overactivity is implicated in the initiation and maintenance of electrical storm (ES). Deep sedation has empirically been considered as an efficient therapeutic option to blunt sympathetic tone and control ES.

Purpose: The aim of this multicenter study was to determine the efficacy of deep sedation in patients presenting intractable ES refractory to anti-arrhythmic drugs.

Methods: Patients requiring deep sedation for refractory ES from January 1st 2007 to July 31st 2018 were retrospectively included in 13 centers. The primary endpoint was the rate of acute response to sedation, defined as ES termination within 15 minutes after deep sedation.

Results: Among the 116 patients, 55 (47.4%) had ES termination within 15 minutes and were considered “acute responders” to deep sedation. Clini-

cal signs of congestive heart failure before deep sedation (OR=3.31, 95% CI:1.001–10.97, p=0.049) was the only independent predictor of non-acute response. Twenty-one non-acute responders (34.4%) had an extracorporeal membrane oxygenation (ECMO) implanted. Non-acute responders had a significantly lower in-hospital survival (Log-rank, p=0.010). ECMO implantation did not influence survival in non-acute responders to sedation. Acute response to deep sedation was an independent protector of in-hospital mortality, decreasing by 73% the risk of death (OR 0.27; 95% CI:0.10–0.70, p=0.008).

Conclusion: To the best of our knowledge, this multicenter study is the first analysis of the efficacy of deep sedation in patients with intractable ES refractory to anti-arrhythmic drugs, and demonstrating the positive impact of “acute response” on in-hospital survival.

