Telemetry Monitoring was Associated with Improved Survival in Hospitalized Patients with Cardiopulmonary Arrest

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Introduction: The natural history of In-hospital cardiac arrest (IHCA) is different from out-of hospital cardiac arrest (OHCA). However, the outcomes of in-hospital CPRs according to the initial rhythm have not been well studied.

Methods: All IHCA cases were included between Oct 2011 and June 2019. Pulseless electric activity (PEA), Asystole, pulseless ventricular tachycardia and fibrillation (VT/VF) from in-hospital CPR records were verified independently by two separate physicians. The status of the telemetry monitoring at the time of IHCA was obtained from the electronic medical record.

Result: Of the 63,803 hospitalized patients in 8 years, 326 (0.51%) IHCAs occurred in 281 consecutive patients. The mean age was 69.3 ± 14.1 years old, all of whom were male. The percentages of PEA, pulseless VT/VF, Asystole and undocumented events were 55.2%, 28.5%, 13.2%, and 3.1%, respectively. Return of spontaneous circulation (ROSC) was achieved in 60% of CPR procedures, with the rate of survival to discharge (RSTD) of 27.6% (Table 1). Cardiac monitoring before IHCA was associated with improved RSTD, as compared to no cardiac monitoring (30.7% vs 17.5%, risk ratio 1.75, preliminary), with the most impact on patients with Asystole arrest (28% vs 5.6% for 30-day survival, risk ratio 5.0, 16% vs 5.6% for RSTD, Table 2). No increased IHCA events were observed during the weekend or evening hours.

Conclusion: Telemetry monitoring at the time of IHCA was associated with improved survival. Its impact on CPR outcome, especially for patients with Asystole arrest, requires further study.