Effect of End-Tidal Carbondioxide Measurement on Resuscitation Efficiency and Termination of Resuscitation

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Objective: In this study, the utilization of end-tidal carbon dioxide (ETCO2) levels measured by capnometry as an indicator of the resuscitation effectiveness and patient survival was investigated, by the emergency department in patients presenting with cardiopulmonary arrest.

Methods: ETCO2 which was measured after the 2nd. minute of compression or after 150 compression ETCO2 value was accepted as the 0th. ETCO2 value in patients intubated and underwent chest compression. Patients' demographic data, presence of chronic illness, respiration type of 112, the implementation of pre-hospital CPR, the patient arrest rhythm, arterial blood gas measurements, ETCO2 values with an interval of 5 minutes duration by the estimated time of arrest, the time of patients' return to spontaneous circulation were recorded.

Results: Cardiac arrest developed 97 cases were consisted of, 56 out of-hospital, 41 in-hospital patients. Fifty patients return to spontaneous circulation and just 1 of them had a initial ETCO2 value below 10 mmHg. The mean of last ETCO2 levels were found to be 36.4 ± 4.46 among RSCPs and 11.74 ± 7.01 among the died cases. In all rhythms; Asystoly, pulseless electrical activity (NEA) and VF / VT; higher ETCO2 levels were denoted for RSCPs than the cases who died. Among the NEA patients of in-hospital arrests, asystolic patients of out of hospital arrest; ETCO2 values of RSCPs were significantly higher than the cases who died.

Conclusion: ETCO2 level is a guidance in terms of survival, effectiveness and prolongation of CPR, for the patients who received CPR and monitored by capnometry in Emergency services so we think that it would be suitable to use capnometry in all CPR applying units.

Key words: Capnometry, Cardiopulmonary arrest, Resuscitation