

Abstract

This diploma thesis dealt with the influence of the duration of extended adult cardiopulmonary resuscitation on the prognosis of cardiac arrest due to cardiac causes. In the research part of the thesis, we worked with data obtained from the EMS of the Pardubice Region for the year 2022. The data were selected from an initial set of 323 cases with cardiac arrest due to cardiac causes. In addition, persons for whom cardiopulmonary resuscitation from the Emergency Department lasted at least 1 minute were selected. Therefore, the total number of cases consisted of only 88 respondents. With the use of contingency tables, the influence of duration of CPR from the EMS on achieving ROSC or exitus lethalis was investigated. Most often, CPR lasted from 11 to 20 minutes, for a total of 33 respondents, of which 39.39 % achieved ROSC and 60.61 % ended in exitus lethalis. The highest success rate of CPR with ROSC achieved with CPR was lasting 1 to 10 minutes. It was remarkable that in this time interval, 91.30 % of respondents achieved ROSC and only 8.70 % did not. From this it can be deduced that the duration of CPR by the EMS crew has a definite impact on survival. Furthermore, the influence of the initial rhythm on the success rate of CPR was investigated. During the monitored period, a defibrillatable rhythm accrued in 32.91 % of cases, of which 84.62 % of patients managed to restore spontaneous circulation. Last but not least, the influence of the duration of CPR from the EMS and the initial defibrillatory rhythm on the achievement of ROSC or exitus lethalis was investigated. The final finding was a 100 % success rate of CPR performed in between 1-10 minutes with a defibrillatable rhythm. With longer duration of CPR a clear gradual decrease in survival was evident.

Keywords: Cardiac arrest, out-of-hospital cardiac arrest (OHCA), duration of CPR, defibrillatable rhythm