Time for the brain – out-of-hospital cardiac arrest case report

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Introduction: Sudden cardiac death (SCD) is a term that refers to the sudden cessation of cardiac activity. According to the literature, in the European Union the average annual incidence of out-of-hospital cardiac arrest (OHCA) ranges from 47.8 to 57.9 per 100,000 inhabitants.[1]

Case report: 43-year-old female was hospitalized after an OHCA with initial rhythm of pulseless electrical activity. Resuscitation was performed by ambulance personnel. According to witnesses, the arrest took place in a church full of bystanders, but no appropriate cardiopulmonary resuscitation (CPR) was conducted. Upon arrival to the hospital, a brain CT scan and a CT pulmonary angiography were performed and there were no pathological findings. An emergency coronary angiography followed, which established normal epicardial coronary arteries. Echocardiography showed normal-size left ventricle, with a hypokinetic mid- and apical septum, and moderately reduced systolic function. Patient was admitted to the Cardiac Intensive Care Unit, where targeted temperature management was started. After withdrawal of analgosedation, the level of neuron specific enolase was determined, which was 201.3 µg/L. Neurological status-maintained Glasgow Coma Scale 3. For additional quantification of the neurological status, a control brain CT scan was performed, followed by a CT angiography of the cerebral arteries, which described the absence of arterial flow. An anesthesiologist was consulted, who declared the patient brain dead. An interview was conducted with family members who agreed on organ explantation. In view of the unexplained cause of the patient's cardiac arrest, a pathohistological analysis of the heart was performed, in which no pathological substrate was found at the macroscopic or microscopic level. Considering that the patient was a mother of four, a genetic analysis was performed with a target screening panel for arrhythmias. The findings of the analysis are in process.

Conclusion: Bystander CPR is of great importance for increasing survival from OHCA. However, the percentage of cases in which an individual receives bystander CPR is only 40% globally.[2] Systematic education of lay people on how to recognize sudden cardiac arrest and perform CPR should become one of the most important goals of public health actions.

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LITERATURE

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