Injuries associated with cardiopulmonary resuscitation in non-survivors after cardiac

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Purpose of the study: The aim of this study is to analyze the incidence and seriousness of CPR-associated injuries on a cohort of CPR non-survivors after hospital cardiac arrest. We also want to investigate if the cause of death, identified by the emergency physician, in patients who had cardiac arrest unresponsive at resuscitation maneuvers in the Emergency Department was the same with the cause identified by medical forensic actresses.

Materials and methods: The study included 183 adult patients who died in ED of “St. Spiridon” Hospital during 1st Jan -31 Dec 2018, patients who were admitted in cardiac arrest or installed cardiac arrest in ED and who was unresponsive to resuscitation maneuvers. The causes of cardiac arrest identified by the emergency physician and recorded in the observation sheet were statistically analyzed compared to the cause identified at autopsy study.

For patients requiring necropsy (18.58%), in 26.47% cases, the cause identified by the emergency physician was identical to that identified following autopsy study, but in some situations the initial diagnosis was completed with new elements, as would be coronary atherosclerosis and extended myocardial fibrosis (38.23%), newly diagnosed neoplasms 8.82% or non-traumatic vascular lesions 8.82%.

Figure 1 The most common post-resuscitation injuries

Results: 183 patients were included in the study, 81.42% did not require necropsy, because of their significant pathological history.

The most common post-resuscitation injuries were sternal and rib fractures - reported in 44.11% cases; rib fractures were usually multiple. 38.23% of the patients were without post-resuscitation injuries not identified and 5.88% could not be identified due to the post-traumatic lesions that have led to death.

Conclusion: Outcomes of our study suggest that CPR-associated injuries are very common, usually multiple, and they might not be potentially lethal (if return of spontaneous circulation is achieved). For a significant number of patients who die in ED, the cause of death is known, patients with a significant pathological history. For these patients, efforts should be taken to avoid withdrawal of life-supporting treatment.

Bibliography:

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