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Contextual Factors Influencing Resuscitation Decisions

Ambulance Crashes While Running Lights and Sirens

In 2011, NAEMSP published a position statement on TOR

life.[43] The injury that is likely to be the most amenable to EDT is pericardial tamponade, an injury easily diagnosed with a bedside ultrasound examination.[44,46] The ACSCOT not only recommends EDT for other penetrating injuries but also states that these patients have a very low survival rate. The ACSCOT recommends EDT for blunt trauma patients only when the arrest was witnessed by the ED staff.[43]

The recommendations from the ACSCOT differ from the Western Trauma Association (WTA), which recommend EDT for patients with no signs of life and less than 10 minutes of CPR for blunt traumatic arrest and less than 15 minutes of CPR for arrest secondary to penetrating trauma.[47] As referenced in the WTA practice guideline, Cothren et al.[48] summarized the available literature on survival following EDT in adults. Consistent with the ACSCOT recommendations, survival rates for patients arriving to the ED with no signs of life were highest for isolated cardiac injuries with 4 (3%) of 126 patients from the reported studies surviving. Rhee et al.[49] also present a review of the literature showing a survival rate of 1.2% for all patients who arrive [illegible] life in the field. As discussed later, two other references in the WTA practice guideline further present data on the effect of resuscitation time on overall survival rates.[41,50]

Specifically examining the effect of CPR time on the rate of successful resuscitation, the 2003 NAEMSP/ACSCOT guideline on TOR in traumatic cardiopulmonary arrest endorsed 15 minutes of CPR before TOR. The authors of the 2003 guideline felt that at the time, the collective data supported the assertion that any patient with traumatic cardiopulmonary arrest and more than 15 minutes of transport time would not survive.[1] In a further analysis of the studies that were reviewed for development of the 2003 guideline

[illegible]

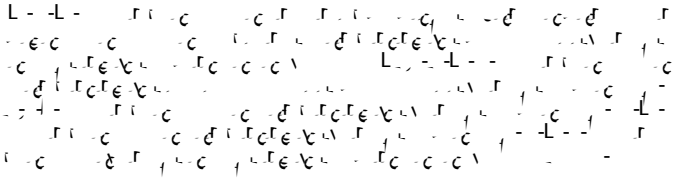
directors need to consider the potential advantage to quickly loading a patient into a transport unit and moving toward a trauma center and how this will impact a TOR protocol. The use of a time determinant in a TOR protocol is complicated by a need for a process to terminate while in transit and consideration of what should be done with a patient once the resuscitation has been terminated. A decision should be made if the EMS providers should continue with transport to the trauma center without lights and sirens, stop at the side of the road and wait for the medical examiner, or continue with transport directly to the medical examiner or identified morgue[59] or if there is another method to handle this situation. Geographic location of the arrest and other factors in the state regulatory environment may affect these decisions. Of note, the State of Maryland recently implemented a new protocol to direct EMS providers to pronounce the patient dead in the field and then transfer the care of the patient to local law enforcement and the coroner.[60]

As there are operational challenges that are to be expected in the development of protocols for withholding and TOR, it is important to note that the purpose of this article is to present the best available evidence. It is up to the system medical director to determine the best method to create these protocols accounting for the system specific factors and balancing the best available evidence.

CONCLUSION

In the setting of cardiopulmonary arrest secondary to trauma from both blunt and penetrating mechanisms, an evidence-guided protocol for withholding resuscitation includes clear evidence that the patient is dead, and a protocol for TOR should include the following elements: no evidence of signs of life including no pulse, no respirations, no blood pressure; and no ROSC after initiation of resuscitation by the EMS providers, which should include minimally interrupted chest compressions.

AUTHORSHIP



DISCLOSURE

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