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Letter to the Editor

Suggestions to improve the traumatic cardiac arrest guidelines based on practical prehospital experience



To the Editor,

It was with great interest we read the paper by Lott et al. presenting the European Resuscitation Council (ERC) Guidelines 2021: Cardiac arrest in special circumstances.¹ We like to express our gratitude to this collaboration group describing the treatment of traumatic cardiac arrest (TCA) as a specific modality, needing prompt and targeted action. Different, trauma related, causes of the arrest specific intervention strategies are described. Emphasizing TCA as a unique disease, with approaches that differ from the standard advanced life support sequences.

Time is of essence in a cardiac arrest and causes must be identified and treated accordingly in a very limited time frame. In the proposed TCA algorithm (figure 2) a “secured airway” is prioritized to actual treatment of the underlying causes of arrest, for instance the release of a tension pneumothorax of cardiac tamponade. The term “secured airway”, in our opinion, refers to a endotracheal tube with inflated cuff placed under the vocal cords. Of course oxygenation is needed for the patient to survive, but a secured airway is not as urgent as the treatment of a tamponade or tension pneumothorax. Intubation and consequent positive pressure ventilation in this phase of resuscitation might even be disadvantageous.²

We like to propose to change the algorithm and use the sentence used in the ERC pediatric TCA section: “airway opening and ventilation with (high flow) oxygen”.³ This action takes less time and less resources, increasing the possibility to identify and treat the underlying cause of TCA.

In case of traumatic cardiac tamponade there is very limited evidence, and place, for (ultrasound guided) needle pericardiocentesis as proposed in the guidelines. This skill is not without risks and demands training and skills.⁴ Even when the needle is in the correct position, it is debatable if the cumulated clotted blood can be aspirated adequately. Needle pericardiocentesis provides no definitive treatment unlike clot removal by thoracotomy.⁵ In a scenario with adequate resources and skilled professionals, a (guided) pericardiocentesis will

only delay a resuscitative thoracotomy and must therefore not be included in a TCA guideline.

Conflicts of interest

None.

REFERENCES

1. Lott C, et al. European Resuscitation Council Guidelines 2021: cardiac arrest in special circumstances. *Resuscitation* 2021;161:152–219.
2. Hudson AJ, et al. Airway and ventilation management strategies for hemorrhagic shock. To tube, or not to tube, that is the question!. *J Trauma Acute Care Surg* 2018;84:S77–82.
3. Perkins GD, et al. European Resuscitation Council Guidelines 2021: executive summary. *Resuscitation* 2021;161:1–60.
4. Loukas M, et al. Pericardiocentesis: a clinical anatomy review. *Clin Anat* 2012;25:872–81.
5. Lee TH, et al. Pericardiocentesis in trauma: a systematic review. *J Trauma Acute Care Surg* 2013;75:543–9.

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