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Letter to the Editor

Video of cardiopulmonary resuscitation induced consciousness during ventricular fibrillation

To the Editor,

We read with great interest the review article “Return of consciousness during ongoing cardiopulmonary resuscitation: A systematic review” by Olaussen et al.¹ The article comprehensively discussed the recent literature regarding cardiopulmonary resuscitation induced consciousness (CPRIC). However, in all the case reports, the patient movements during CPRIC have been described using only text.^{1,2} There have been no videographical records till date. We report the experience of an emergency medical technician (EMT) who encountered CPRIC in an ambulance. The course of resuscitation was recorded on the mounted camera in the ambulance (Fig. 1). The cardiac rhythm was recorded by an automated external defibrillator (AED). A written form of consent for publication has been obtained from the patient.

A 42-year-old male fainted on a tennis court while playing. A bystander started cardiopulmonary resuscitation (CPR) and performed defibrillation by an AED under the dispatcher’s instructions. When the EMT arrived, the patient had regained consciousness with a return of spontaneous circulation. During the transit to the hospital, the EMT observed that the patient was unconscious again and his electrocardiogram (ECG) showed signs of ventricular fibrillation (VF). The ambulance was stopped and the EMT initiated CPR. The video and the ECG (Video 1 in Supplementary material) demonstrate the agonal breathing patterns that occurred when the cardiac rhythm converted to VF. Shortly after the chest compressions, the patient made noises and purposeful movements. These were regarded as signs of life, and the EMT discontinued the CPR as per protocol, following which the movements also ceased. Only shallow gasping remained before the shock was delivered. Since VF does not initiate blood flow, the ECG provided direct evidence that the regained consciousness was induced by CPR and not generated from a spontaneous circulation. In the hospital, the patient underwent extracorporeal membrane oxygenation and coronary catheterization for a complete occlusion of the left anterior descending artery. After 2 weeks, the patient was discharged with favorable neurological outcomes.

Recent guidelines for resuscitation have emphasized on the quality of CPR and the need for continuous medical care from the scene of the event to the hospital.^{3,4} In this case, the CPRIC happened through a strong chain of survival. Despite the absence of clear CPRIC management guidelines, the experienced EMT handled this case extremely well. With further development of

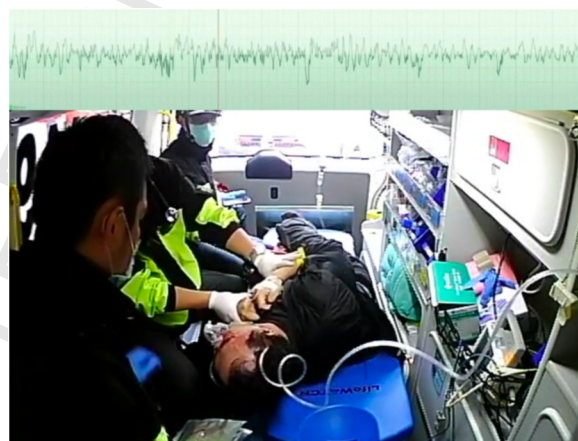


Fig. 1 – xxx.

resuscitation science, we can anticipate that rescuers will encounter CPRIC more often. By sharing this case we hope to familiarize the life support practitioners with this emerging phenomenon, for safe patient management.

Source of support

Nil.

Conflict of interest

None declared.

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:<https://doi.org/10.1016/j.resuscitation.2020.07.006>.

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Received 30 April 2020
Available online xxx

<http://dx.doi.org/10.1016/j.resuscitation.2020.07.006>

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