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Letter to the Editor

Ultrasound is useful in cardiac arrest, but we still have concerns

To the Editor,

We read the original article by Suat Zengin et al.¹ with interest. The use of ultrasound can be helpful in the diagnosis and treatment of what may be potentially reversible causes of cardiorespiratory arrest (pericardial tamponade, pneumothorax, pulmonary embolism, and hypovolemia),² as long as it does not interrupt cardiopulmonary resuscitation (CPR).³ These reversible conditions can also cause false pulseless electrical activity (PEA). Distinguishing between false and true PEA using ultrasound can contribute positively to patient outcome.¹ However, we noticed a few limitations and had a few questions about this study.

The 2015 European Resuscitation Council Guidelines for Resuscitation state that pulse control does not provide precise information about the presence or absence of circulation. Therefore, it is recommended that the determination of cardiorespiratory arrest should be based on the presence of respiration. However, we did not observe any data in this study regarding whether respiration was considered when cardiac arrest was observed. The 2015 American Heart Association Guidelines for CPR, which are referred to, recommend that healthcare providers check the pulse in cases of cardiac arrest. The guidelines suggest that if a definite pulse is present, the recommended course is to observe the patient and initiate naloxone treatment, whether respiration is absent or agonic.⁴ In this article (Table 2),¹ it was also not clear what criteria were accepted for cardiac arrest or CPR for patients with or without a palpable pulse.

It was mentioned that 27 of 164 patients were excluded from the study for technical and anatomical reasons.¹ The classification of these reasons would be useful. In addition, the fact that the 2 physicians were ready to examine the femoral region with ultrasound probes in the first 10 s of cardiac arrest seems unlikely. Simply the preparation of the patients' clothes for a femoral examination in such a short period of time would often be difficult. It would appear more likely that such an initial femoral assessment would not occur in many instances. However, if solutions to delays in the preparation have been resolved, we would ask that they be

included in the study. We are concerned that the initial ultrasound may interrupt resuscitation efforts.

Another issue that raised questions for us is that all true PEA, false PEA, and successfully resuscitated patients were only reported as observed in sinus rhythm on the monitor (Table 2).¹ In an earlier study, the rhythms of arrest patients who were accepted as cases of PEA were divided into several groups with and without P waves, and patient outcomes were examined.⁵ Our clinical experience has also been that different rhythms have been observed in PEA.

Although the importance and value of ultrasound in CPR is increasing, there are concerns about potential harm to the patient. We believe that the correct timing of the use of cardiac ultrasound is very important.

Conflict of interest statement

No conflicts of interest to declare.

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Q2

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Q3

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