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Life support in hemodialysis emergencies-treatment standard

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Abstract

Hemodialysis removes uremic toxins and excess water and sodium from the blood of patients with kidney failure. For the last 60 years, this technique has been extensively improved in order to optimize patient survival and minimize adverse events. Indeed, life-threatening complications related to hemodialysis have become very rare with the use of modern machines and equipment. These hemodialysis-related serious events that became less frequent include hemolysis, air embolism, dialyzer reactions and dialysis disequilibrium syndrome. On the other hand, other medical emergencies are regularly encountered in hemodialysis units such as arrhythmia, acute coronary syndrome, stroke, epilepsy, trauma, sepsis, allergic reactions, or bleeding related or not to vascular access. Cardiac arrest can also occur suddenly or as a result of the severity of medical events or delay in their management. In fact, patients on hemodialysis have multiple comorbidities and are subject to common complications that need to be promptly recognized and timely managed by the dialysis staff. Nephrologists taking care of these high-risk patients need a practical, efficient approach to provide care and save lives. Based on the European Resuscitation Council Guidelines, the Resuscitation Council UK, the American Heart Association, and the Advanced Trauma Life Support, we review here the current standards of life support and propose a systematic approach to be used in the hemodialysis setting, that helps healthcare providers in their assessment and management of vital emergencies.

Keywords: cardiopulmonary resuscitation; emergencies; hemodialysis; life support; life-threatening.

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