



Letter to the Editor

Guidelines for post-resuscitation care should include management of acute kidney injury and use of renal replacement therapy


Sir,

We read with interest the article recently published by Ridderholm et al. [1]. The authors studied 1087 out-of-hospital cardiac arrest (OHCA) 30-day survivors who were employed prior to their arrest. The aim was to investigate if there was an association between organ support therapy in the intensive care unit and return to work. The study revealed that more than half of OHCA patients treated with renal replacement therapy (RRT) were able to return to work within two years after the arrest [1].

The results are important, since acute kidney injury (AKI) affects approximately half of initial cardiac arrest (CA) survivors, and around 16% experiences the most severe form with need of RRT [2]. Presence of post-arrest AKI is associated with unfavourable outcome, and the chance of survival is reduced proportional to the severity of AKI disease [2]. Despite this, one study showed that OHCA patients treated with RRT had a relatively good prognosis, as 50% were alive after six months, with 89% having good neurological outcome [3].

Although there are few clinical studies on AKI after CA, we know that AKI often is associated with hypervolaemia, hyperkalaemia and acidosis, and tight control of these factors may be important in the initial phase after CA. Delayed awakening from coma may be expected in post-arrest AKI due to reduced renal clearance of analgesics and sedatives, and development of uremic encephalopathy. Withholding and withdrawing RRT are other important issues among initial CA survivors, one study showed that RRT was withheld in 40% of patients with severe AKI [3], and we know that in the western world approximately half of deaths are associated with withdrawal of active treatment.

Recent AKI treatment guidelines suggest modifications of RRT technique in specific clinical situations [4], some alterations in practice may be relevant for post-resuscitation care. According to these guidelines, continuous RRT modes are preferred in patients with hemodynamic instability, acute brain injury, increased intracranial pressure or generalized brain oedema [4]. Furthermore, regional anticoagulation of the RRT circuit is recommended in patients with increased risk of bleeding [4]. These recommendations are especially important to follow in post-arrest AKI, to ensure haemodynamic stability, avoid rapid shifts in fluid balance and serum osmolality, and avoid unnecessary bleeding.

In conclusion, we know that development of AKI and treatment with RRT is common after CA. Post-arrest patients treated with RRT have a relatively good long-time outcome; Ridderholm et al. showed that many were able to return to work [1]. In these patients, we need treatment recommendations for AKI addressing topics like delayed awakening from coma, and handling of hypervolaemia, hyperkalaemia and acidosis. We also need guidelines for RRT with focus on indications, technical adjustments, withholding and withdrawing therapy. We hope that these issues are considered and included in future European guidelines for post-resuscitation care [5].

Conflicts of interest

The authors declare that they have no conflicts of interest related to the topic.

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Sigrid Beitland^{a,b,*}, Kjetil Sunde^{a,b}

^a Institute of Clinical Medicine, University of Oslo, Post Box 1072, Blindern, N-0316, Oslo, Norway

^b Department of Anaesthesiology, Division of Emergencies and Critical Care, Oslo University Hospital, Post Box 4956, Nydalen, N-0424, Oslo, Norway
E-mail address: sigrid.beitland@medisin.uio.no

* Corresponding author at: Renal Research Group Ullevål, Institute of Clinical Medicine, University of Oslo, Post Box 1072, Blindern, N-0316, Oslo, Norway.