ICU
MANAGEMENT & PRACTICE

Fluid Responsiveness in Emergency Care

While fluid responsiveness is directly relevant to emergency care, a systematic review has found very little evidence (489 patients in total) on which to base best practice. High quality, adequately powered outcome studies are still lacking, so the place of fluid responsiveness in the emergency department (ED) remains undefined, according to the review team.

Fluid therapy is a key part of resuscitation of the shocked patient in ED. The immediate goal of fluid resuscitation is improving cardiac output (CO) and ultimately improving tissue perfusion. If a fluid bolus does not increase CO, it will not improve tissue perfusion and may be harmful. The haemodynamic response to fluid loading, "fluid responsiveness" has been suggested as a dynamic guide for fluid therapy and a controlled method of resuscitation. Testing fluid responsiveness involves both a fluid challenge, and subsequent monitoring of change in a haemodynamic parameter.

This review aimed to synthesise the existing literature investigating fluid responsiveness in in-hospital emergency care. MEDLINE, Embase and the Cochrane library were searched for relevant peer-reviewed studies published from 1946 to present. A total of 249 publications were retrieved of which 22 studies underwent full-text review and eight relevant studies were identified.

Only three studies addressed clinical outcomes, including two randomised controlled trials and one feasibility study, the review team said. Five articles evaluated the diagnostic accuracy of fluid responsiveness techniques in ED. Due to marked heterogeneity, the reviewers said, it was not possible to combine results in a meta-analysis.

According to the review team, future studies should have standardisation of patient groups, the target response and the underpinning theoretic concept of fluid responsiveness. The value of a fluid responsiveness based fluid resuscitation protocol needs to be established in a clinical trial, the team added.

"As the benefit of fluid administration is often related to early administration, we think that, despite the practical difficulties, studying fluid resuscitation in the ED is fundamental for improving patient outcomes," the authors write. "Fluid responsiveness based resuscitation strategies have not been adequately tested in the ED to know whether or not they influence outcome, but fluid responsiveness remains an attractive concept."

Source: **Scandinavian Journal of Trauma, Resuscitation andEmergency Medicine**

Image credit: **freeimages.com**

Published on : Tue, 11 Apr 2017