Measurement of the IVC-CI can provide early detection of hemodynamic response to fluid therapy in patients with intra-abdominal infection with spontaneous breathing compared to UOP” Abahuje et al (2017).

Abstract:

BACKGROUND: Patients with intra-abdominal infections need to achieve adequate hemodynamic status before being taken to the operating room. Multiple parameters (urinary output, vital signs, inferior vena cava collapsibility index, and central venous pressure) may be used to assess hemodynamic response to fluid resuscitation, but the options are few in limited-resource settings. This study aimed at assessing if a bedside-performed ultrasound to assess the inferior vena cava collapsibility index is superior to UOP in assessing hemodynamic response to fluid resuscitation.

METHODS: All adult patients presenting to a tertiary referral hospital in the capital city of Rwanda with intra-abdominal infection requiring intravenous fluid (IVF) resuscitation before operation were included in this study. Before IVF administration, the baseline inferior vena cava collapsibility index (IVC-CI) and vital parameters were recorded. After initiation of IVF resuscitation, serial measurements of IVC-CI and UOP were recorded every 2 h until the decision was made to take the patient to the operating room.

RESULTS: Twenty-four patients were enrolled. The mean duration of symptoms was 4.7 days. Four patients (16%) had altered mental status as a presenting symptom. Half of all patients had generalized peritonitis due to gangrenous bowel as the primary diagnosis (n = 12). The mean difference between time of hemodynamic response based on IVC-CI versus UOP was 2 h (P < 0.001).

CONCLUSIONS: Measurement of the IVC-CI can provide early detection of hemodynamic response to fluid therapy in patients with intra-abdominal infection with spontaneous
breathing compared to UOP. Future research should utilize this parameter in the preoperative management of hemodynamically unstable patients.

Reference:


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