Use of Non-Invasive Hemodynamic Monitoring Device in the ICU

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Use of Non-Invasive Hemodynamic Monitoring Device in the ICU

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Background

- Hypotensive patients prescribed vasopressors before determining fluid resuscitation response
- Prolonged length of stay results from vasopressor need, titration and dependency
- Ventilator and hemodialysis needs prolonged due to vasopressor administration
- Project Purpose: To determine the effectiveness of using a non-invasive hemodynamic monitoring device to decrease length of stay in ICU patients

PICO

In hypotensive ICU patients, does the use of a non-invasive hemodynamic monitoring device decrease ICU length of stay compared to ICU patients treated with standard level of care practices?

- P: Hypotensive ICU patients
- I: Use of a non-invasive hemodynamic monitoring device
- C: ICU patients treated with standard level of care practices
- O: Decreased length of stay in ICU patients managed with a non-invasive hemodynamic monitoring device

Methods

- Use of the non-invasive hemodynamic monitoring device on hypotensive patients
- Patient chart review to document and track the use of this device
- Determine device effectiveness in decreasing patient ICU length of stay
- Compare ICU length of stay of patients not monitored with the non-invasive hemodynamic monitoring device verse patients that did use this non-invasive method

Outcomes

- Use of non-invasive hemodynamic monitoring device through passive leg raise or fluid bolus monitoring and analysis decreased patient ICU length of stay

Conclusion

- The use of a non-invasive hemodynamic monitoring device in hypotensive ICU patients decreases ICU length of stay
- Recommendation: Implement the non-invasive hemodynamic device in all ICU settings to promote fluid resuscitation evaluation in hypotensive patients

<table>
<thead>
<tr>
<th>Variable</th>
<th>Non-Invasive Stroke Volume Fluid Therapy n = 35</th>
<th>Usual Care</th>
<th>Δ/p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICU LOS (days)</td>
<td>5.98 ± 0.68</td>
<td>8.87 ± 1.18</td>
<td>2.89 days</td>
</tr>
</tbody>
</table>

REFERENCES