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## **Hemodynamic Protective Assessment of BurnNavi-Guided Fluid Management in Burned Patients: Pilot Study**

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### **Abstract**

Burn injuries remain a leading cause of mortality and morbidity worldwide. Many formulas have been described for burn resuscitation using various combinations, but there is still no consensus on the most effective method. The aim of our study was to evaluate the effectiveness of Burn Navigator (BN) as an effective clinical tool for fluid management under non-invasive assessment of cardiac output (CO). The study included 34 patients who were hospitalized at Vinnytsia Burn Care Center. The patients were divided into 2 groups: a group with 16 cases (14 males and 2 females, aged  $(44.6 \pm 12.4)$  years) who had followed the BN (FBN) and a routine monitoring group with 18 cases (15 males and 3 females, aged  $(41.8 \pm 14.8)$  years) who had not followed the BN (NFBN). The hemodynamic effects of different fluid management strategies were assessed by continuous measurement of non-invasive cardiac output (esCCO). The results of our study showed a significant difference in fluid volumes infused between the two groups in favor of the FBN group ( $155.87 \pm 82.7$  vs  $135.46 \pm 54.9$ ). After admission, the indicators of CO decreased in both groups and were  $3.7 \pm 0.8$  L/min in the FBN group and  $3.9 \pm 0.6$  L/min in the NFBN group. The overall dynamics of CO increasing were better in the FBN group. According to the results of our study, the volume of fluid administered in the first 24 h should be slightly higher than the Parkland formula. BN is a system designed to assist physicians in the use of fluid resuscitation for burns.



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