

Exploring the Issue of Occult Hypoperfusion in the Pre-Hospital Setting

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Abstract : Background: Studies have suggested 16-25% of normotensive trauma patients with no clinical signs of shock have abnormal lactate and BD readings evidencing shock; a phenomenon known as occult hypoperfusion (OH). In light of the scarce quantity of evidence currently documenting OH, this study aimed to identify the prevalence of OH in the pre-hospital setting and explore ways to improve its identification and management. Methods: A quantitative retrospective data analysis was carried out on 75 sets of patient records for trauma patients treated by Kent Surrey Sussex Air Ambulance Trust between November 2013 and October 2014. The KSS HEMS notes and subsequent ED notes were collected. Trends between patients' SBP on the scene, whether or not they received PRBCs on the scene as well as lactate and BD readings in the ED were assessed. Patients' KSS HEMS notes written by the HEMS crew were also reviewed and recorded. Results: -Suspected OH was identified in 7% of the patients who did not receive PRBCs in the pre-hospital phase. -SBP heavily influences the physicians' decision of whether or not to transfuse PRBCs in the pre-hospital phase. Preliminary conclusions: OH is an under-studied and underestimated phenomenon. We suggest a prospective trial is carried out to evaluate whether detecting trauma patients' tissue perfusion status in the pre-hospital phase using portable devices capable of measuring serum BD and/or lactate could aid more accurate detection and management of all haemorrhaging trauma patients, including patients with OH.

Keywords : occult hypoperfusion, PRBC transfusion, point of care testing, pre-hospital emergency medicine, trauma

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