Evaluating inter-hospital transfers of critically ill trauma patients at a major Sri Lankan trauma center

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ABSTRACT

Background: Inter-hospital transfer of critically ill trauma patients is a high-risk, time-sensitive process requiring appropriate staffing, monitoring, documentation, and communication. Trauma patients have dynamic physiology and complex resuscitation needs, yet data evaluating the quality of trauma transfers in Sri Lanka are limited. This audit assessed adverse events, staffing, monitoring, documentation, delays, and preparedness during transfers to the National Hospital of Sri Lanka (NHSL), Colombo.

Methods: A prospective audit was conducted involving 150 critically ill adult trauma patients transferred to the Accident Service of NHSL. Data were collected using structured questionnaires completed by receiving emergency physicians. Variables included adverse events, monitoring practices, documentation quality, staffing, delays in key interventions, and pre-transfer communication. Associations were analyzed using chi-square and Fisher's exact tests and compared against national and international transfer standards.

Results: Adverse events occurred in 64% of transfers. Cardiovascular events were most frequent, including sinus tachycardia (65.3%), hypotension (13.3%), and cardiac arrest (2%), all in unaccompanied patients. Respiratory complications included raised airway pressures (13.3%) and desaturation (3.3%). Neurological deterioration occurred in 16% of patients with GCS <9 who were not intubated. Monitoring was inconsistent: ECG monitoring was used in only 20% of cases, and 10% had no monitoring. Among ventilated patients, 61.3% received muscle relaxants and 57.3% received sedation. Documentation was incomplete, with initial vital signs recorded in 32% and past medical history in 12%. Transfers led by trained personnel were associated with significantly fewer adverse events (p = 0.0056). Pre-transfer communication occurred in only 33.3% of cases and was linked to fewer complications.

Conclusion: This audit identified major deficiencies in the inter-hospital transfer of critically ill trauma patients, including inadequate monitoring, poor documentation, lack of trained escorts, and delays in essential interventions. Standardized transfer protocols, improved staff training, and enhanced communication are urgently required to improve patient safety. A re-audit is planned following targeted quality improvement measures.

Keywords: Inter-hospital transfer, critically ill trauma patients, adverse events, patient safety, emergency medicine.