17 The Reliability of Triage Classification as a Predictor of Severity in Major Trauma

Lisa Moreno-Walton, MD, MS; Hector Torres, MD; Michael Radeos, MD, MPH.
Lincoln Medical and Mental Health Center, Bronx, New York

Objective: To determine which clinical parameters can be used to reliably identify severely injured trauma patients in the Emergency Department.
Methods: A retrospective study of all adult patients (>14 years) identified on our prospectively maintained Level I Trauma Center Registry at this inner city hospital over a six-month period. Medical records were reviewed for mode of arrival and triage classification assigned. We calculated Revised Trauma Score (RTS) and Injury Severity Score (ISS) for each patient. Admission to the SICU or to the OR or an operation within 48 hours of arrival was used as identifiers of severe injury.
Results: Of the 208 patients included in the study, 100 (48.08%) met criteria for severe injury. Ninety five patients (45.67%) were brought in by EMS as resuscitations, 76 (36.54%) were brought in by EMS but not as resuscitations, and 37 (17.79%) were walk-ins. Forty-four (46.32%) of the resuscitation patients, 34 (44.74%) of the non-resuscitation patients, and 22 (59.46%) of the walk in patients met criteria for severe injury (P =0.275). Nurses assigned 112 patients to Triage Class A, 80 to Class B, 2 to Class C, and 14 were not assigned. Fifty-three (47.32%) of Triage A patients, 41 (51.25%) of B patients, and 1 (50%) of the C patients were severely injured (P=0.604). There was a 75.26% concordance between mode of arrival and triage classification (kappa =0.578). The calculated mean RTS of the severely injured patients was 7.59 and of those not severely injured, 7.82 (P=0.010, odds ratio 0.1645). The ISS for the severely injured patients was 33.5 and for those not severely injured, 27.2 (P=0.001, odds ratio 1.040). Age adjusted logistic regression did not alter the results.
Conclusions: Emergency physicians traditionally rely on mode of arrival and triage classification as predictors of the severity of injury in trauma patients. Both of these parameters are highly unreliable. Ambulatory trauma patients in our study had a greater than 50% incidence of severe injury. Triage classification is well correlated with mode of arrival and poorly correlated with injury severity. RTS, previously indicated for use as a medical triage instrument, proved to be unreliable in our study. The ISS proved to be the most reliable tool. Further study should be undertaken to validate its reliability and consideration should be given to using ISS to evaluate trauma patients on arrival to the Emergency Department.

18 Pediatric Trauma Video Review: An Underutilized Resource

Steven Rogers, MD; Nanette C. Dudley, MD; Eric Scaife, MD; Stephen Morris, MD; Douglas Nelson, MD.
University of Utah School of Medicine Primary Children's Medical Center

Background: Traumatic injuries continue to be the number one cause of mortality in patients ages 1-44 years in the U.S. Successful trauma care often requires a coordinated team effort. Trauma video review (TVR) has been identified as an effective method of quality improvement and education.
Objective: The objective of this study is to determine the TVR practices of pediatric trauma centers in the U. S. and their use of video review for quality improvement and education.
Methods: Pediatric trauma centers accredited by the American College of Surgeons (n=16) and the National Association of Children's Hospitals and Related Institutions (n=24) were identified and surveyed by telephone. Surveys included questions regarding program demographics, residency information and details about past and present TVR.
Results: Forty pediatric trauma centers were contacted over a two-month period; four reported not to be trauma centers. Ninety-four percent (34/36) of trauma centers completed the surveys. Twenty-seven percent (9/34 centers) are currently using TVR; 38% (13/34) previously used TVR, but stopped due to legal concerns or technical problems; and 35% (12/34) never used TVR. Nine reported that a TVR program was under development. Total planned or current use is 53% (18/34). All currently videotaping programs confirmed that TVR has improved their trauma process. Eighty-eight percent (30/34) have emergency medicine (EM) and/or pediatric emergency medicine (PEM) trainees. Two centers specifically use recorded traumas for resident education. Eight programs do not allow EM (7) or PEM (1) trainees to participate in trauma resuscitations; two of these programs allow trainees to attend TVR conferences.
Conclusions: Most pediatric trauma centers are using or planning to use TVR but few are using it for resident education. Emergency medicine trainees may have limited pediatric trauma experience. Future studies should focus on identifying potential uses of TVR for resident education and impediments to TVR program establishment.

19 Short Stay Admissions: Emergency Department (ED) Observation Unit (OBS) Compared to In- Hospital

Robert L. Norton, MD; Rongwei Fu, PhD.
Department of Emergency Medicine, Oregon Health & Science University

Background: Admission to an emergency department (ED) observation unit (OBS) provides an option to hospital (HOSP) admission for selected patients.