POSTER 3-4

Intra-City Regional Demographics of Major Trauma

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Objective: To report intra-city, regional geographic and demographic factors affecting risk of major trauma for intentional versus nonintentional trauma.
Design: One-year retrospective association of trauma registry and census tract databases.
Setting: Urban trauma system with patient entry by emergency medical services (EMS) personnel.
Participants: Major trauma cases grouped by presumed intent to injure.
Measurements: Age- and sex-adjusted trauma rates for seven geographic intra-city regions (comprised of 144 census tracts) were associated with population density, median household income, and race data. Rates and risk factors for intentional versus non-intentional trauma were compared.
Results: There were 257 intentional and 575 non-intentional major trauma system cases. Both intentional and non-intentional injury populations were predominately male (RR = 7.04 and 2.74, respectively). Intentional trauma was largely a nonwhite phenomenon (RR = 4.08) affecting the 15–24 year and 25–34 year age groups (RR = 20.3 and 15.3 respectively). Regional differences in occurrence rates were most pronounced for intentional trauma; 52% of all intentional trauma cases occurred within a small area of 14 census tracts and was associated with nonwhite race and low median household income for site of injury.
Conclusion: Different demographic features affect intentional versus nonintentional major trauma in Portland, Oregon. These features can be used to guide EMS planning and injury prevention measures.

POSTER 4-42

Application of the Trauma Triage Rule to Blunt Trauma Patients

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Objective: Baxt recently proposed the Trauma Triage Rule (TTR), reporting 92% sensitivity and specificity in identifying trauma patients requiring care at level-I centers. Using slightly different methodology and definition of "major trauma," Emerman subsequently reported 94% sensitivity for the TTR. This investigation measures the accuracy of the TTR in an independent data set.
Methods: Retrospective application of the TTR to trauma registry data. Accuracy in identifying major trauma victims was measured using the resource-based definitions used by Baxt and Emerman. Participants included 626 adult, blunt trauma patients at a level-I trauma center serving a metropolitan area of more than 1-million people.
Results: Of 524 patients with sufficient data, 95 (18%) and 63 (12%) patients met the criteria for "major trauma" used by Baxt and Emerman, respectively. Using Baxt's definition of major trauma, the TTR revealed a sensitivity of 74% (95% CI: 0.65–0.83), and a specificity of 84% (95% CI: 0.81–0.88). There were 25 significant false negative results, including 12 patients requiring urgent laparotomy and four patients requiring emergency airway procedures. Using Emerman's definition of major trauma, sensitivity improved modestly (76% sensitivity (95% CI: 0.65–0.87) and 80% specificity (95% CI: 0.77–0.84).
Conclusions: In this population, Baxt's TTR failed to identify a significant number of severely injured blunt trauma patients. Slight alterations in the definition of "major trauma" can significantly affect the performance characteristics of triage instruments.

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