

Research - R180

Poster

Abstract Title:

Impact of Recidivism in a Regional Trauma System

Authors:

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Background & Purpose:

Identification of trauma patients at risk for re-injury provides an opportunity for targeted prevention. Rates of recidivism have been identified for urban and rural areas, and for penetrating and blunt injury. Previous studies examining recidivism in trauma centers identified gender, penetrating injury and mental illness as predictors of second injury. An evaluation of recidivism within a suburban regional trauma system has not been previously done.

Study/Project Design:

This is a retrospective review of a regional registry which includes both trauma centers and non-trauma centers.

Setting:

The suburban county has 1.5 million residents, and is served by 5 trauma and 6 non-trauma centers.

Sample:

A nine year cohort of 16,565 patients were identified and followed for a second injury through 2010.

Procedures:

Recidivists were defined as patients having more than one traumatic event requiring repeat hospitalization. Recidivist admissions were identified by matching medical record number, date of birth and hospital. For patients whose second admission was to a different hospital, gender, date of birth, and zip code of residence were matched. Demographic factors, injury and hospitalization characteristics, and discharge disposition were recorded. Standard statistical analysis was performed by SPSS software with significance of $p < 0.05$. Multivariate logistic regression modeling was done to identify risk factors for recidivism. The registry is ICD-9 based and includes ISS > 9 . Thermal injury, isolated hip fractures, and late effects of injury are not included.

Findings/Results:

307 of the 16,565 (1.9%) patients sustained a separate second injury requiring hospitalization. Seventeen of the 307 patients had more than two trauma admissions (290 admitted twice, 17 admitted more than 2 times). The recidivism rate varied by age, with those over age 65 having the highest rate at 3.1%. This elderly group was least likely to be treated in a trauma center. More than half of all repeat injuries occurred within 18 months of the first injury (mean 24.6 months, range 0-112 months). Recidivists were older (59.4 vs. 46.9 yrs.), more likely to have any pre-existing medical conditions (56.3% vs. 38.4%), to have fallen (60.3% vs. 41.8%), and to be discharged to rehabilitation (25.4% vs. 18.4%). Multivariate logistic regression identified age (OR 3.475 for age > 64 ; CI 1.774-6.805) and alcoholism/drug abuse (OR 1.827; CI 1.30-2.529) as significant predictors of repeat injury. Second injuries were associated with an 8.1% mortality rate. Dementia/mental illness and pre-existing bleeding disorder did not predict second injury.

Discussion/Conclusions/Implications:

While pre-existing mental illness was validated as a risk factor for repeat injury, in this suburban region gender and penetrating injury were not. Patients over age 65 with pre-existing alcoholism or drug abuse were most likely to sustain a second injury requiring hospitalization. Hence, fall prevention programs and alcohol screening programs may be of benefit to prevent the first (or the second) fall in these patients. Brief Alcohol Intervention (BAI) programs for this high risk group may provide a targeted injury prevention strategy, in both trauma centers and non-trauma centers.