Research - R155

Poster

Abstract Title:

IMPACT OF ALCOHOL ON INJURY SEVERITY, LENGTH OF STAY AND MORTALITY RATES FOR TRAUMA PATIENTS

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Background & Purpose:

Alcohol consumption is the leading cause of trauma in the United States. Current literature reveals that intoxicated patients are more severely injured and hospitalized longer than sober patients. Conflicting conclusions exist regarding the impact of alcohol on outcomes such as morbidity, mortality, and cost. The purpose of this study was to examine select outcomes for trauma patients admitted between 1992 and 2010. Specifically, the goal was to compare mortality rates, injury severity and length of stay for trauma patients with alcohol as a complicating factor.

Study/Project Design:

Retrospective observational study of trauma registry records for admissions from 1992 through 2010.

Setting:

Research was conducted at a Level III Urban Trauma Center at a non-academic hospital.

Sample:

Adults 18 and older with primary or secondary diagnoses code of trauma, admitted to the hospital via the trauma services of the ED (N=3,695).

Procedures:

Data were obtained from electronic medical records and an electronic Trauma Registry database. Variables included age, gender, mechanism of injury, laboratory documentation of ETOH (presence/absence, level), Emergency Department disposition, admission and discharge dates, final discharge disposition and injury severity scores. Subject records were divided into ETOH-positive (≥ .80) and ETOH-negative (<.80) groups. Analyses were conducted with all records (N=3,695) and with a subset of matched-pairs (n=2,260). Each ETOH positive record was matched with an ETOH-negative record based on gender, age, and mechanism of injury. Matches were made by data file review conducted by the researchers. Mechanism of injury matching was based on researcher clinical judgment and subject expertise.

Findings/Results:

Chi-square and independent samples t-tests were used to analyzed the data via SAS Enterprise Manager 5.1. Data were grouped and analyzed on gender and ETOH status – positive (≥.80) or negative (<.80). All eligible records: Compared to ETOH negative subjects, ETOH positive subjects were younger in both genders. ETOH positive men had longer average lengths of stay (ALOS) and higher mean injury severity scores (ISS) than ETOH negative men. No statistically significant differences were found by ETOH status (positive versus negative) for ALOS or ISS for women or mortality rates for either gender. Matched pairs: No statistically significant differences were identified for length of stay or mortality for either gender based on ETOH status. ETOH positive women had statistically significantly higher mean injury severity scores than their ETOH negative counterparts; however, this was not the case for men.

Discussion/Conclusions/Implications:

Results of this research found that, adjusting for age, gender and injury cause, alcohol status had no statistically significant impact on length of stay or mortality for men or women. Presence of alcohol had a minimal impact on injury severity scores for women – ETOH positive women had slightly higher injury severity scores than ETOH negative women, but no similar impact in men. Future research will investigate differences in cost of care for ETOH positive and negative patients, and differential impact of ETOH within injury categories (motor vehicle crashes, falls, and homicide) and age groups.