

Research - R119

Poster

Abstract Title:

10 Year Review of Trauma Patients: Supersized?

Authors:

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Background & Purpose:

The health of our nation is poor when compared to other first world countries. Despite the fact that American healthcare has made significant advances, we may be witnessing the first generation of Americans who will be less healthy than their predecessors. Some of this may be attributed to the fact that Americans are now living longer with chronic conditions. As a result, trauma patients may be presenting with more underlying comorbidities than before. These comorbidities could have material adverse effects on outcomes. We hypothesize that, over a 10 year period, trauma patients are presenting with an increased number of comorbidities that negatively impact clinical outcomes.

Study/Project Design:

Retrospective review over a 10 year period

Setting:

600 bed urban trauma center

Sample:

2,962 patients

Procedures:

We queried our trauma database to identify all admitted trauma patients in the year 2000 and the year 2010. We gathered demographic data (age, race, sex, injury severity score (ISS), mechanism of injury) for each group. We then evaluated the incidence of the five most common comorbidities (chronic obstructive pulmonary disease (COPD), coronary artery disease (CAD), hypertension (HTN), obesity, and diabetes) between the two groups. Multivariate analysis was performed to compare the number of complications, length of stay (ICU, hospital), and mortality.

Findings/Results:

Admissions to the trauma service were unchanged over the 10 year time period. There were no statistical differences in race, sex, or ISS. We observed a significant increase in the age of our trauma patient population from 2000 to 2010 (43 vs 46, $p < .05$). There was an increase in the number of falls admitted (25 % vs 40%, $p < .05$) and fewer admissions after motor vehicle collisions (39% vs 23%, $p < .05$). The rate of CAD in our trauma patients tripled (4% vs 13%, $p < .05$). HTN in trauma patients doubled (14% vs 28%, $p < .05$). Twice as many patients had a diagnosis of DM in 2010 (6% vs 12%, $p < .05$). The rate of COPD also tripled (2% vs 6 %, $p < .05$). The incidence of obesity was unchanged (4% vs 5%, $p = .3$). Despite a significant increase in the number of comorbidities, the rate of complications decreased by 50% (308 vs 157, $p < .05$). Hospital length of stay decreased from 2000 to 2010 (4.52 vs 3.28, $p < .05$). Mortality rates were similar between the two groups (1% vs 2%, $p = .22$).

Discussion/Conclusions/Implications:

Trauma patients, over the last decade, are presenting to the hospital with an increasing number of comorbidities. Despite this, outcomes have remained stable or improved in every category evaluated. This data is increasingly important as we determine the parameters by which quality and performance will be determined.