

Research - R144

Poster

Abstract Title:

Risk Identification in the Geriatric Trauma Population Utilizing the Pill Count

Authors:

Jennifer Grell, RN, MS, Matthew Haas, Christy Stehly, BS, Michael Grossman, MD, and William Hoff, MD

Background & Purpose:

There is a theoretical association between medication counts, comorbidities, and burden of chronic disease. Interest in this association has led to speculation that medication or "pill counts" might be a useful predictor of outcome in the geriatric trauma population (GTP). We hypothesize that GTP (greater than 70 years) taking more prescribed medications are associated with higher mortality, morbidity, discharge status and hospital length of stay (HLOS).

Study/Project Design:

Retrospective chart review

Setting:

The study focused on geriatric trauma patients at a suburban Level I Trauma Center.

Sample:

This was a non-probability convenience sample of geriatric patients older than 70 years of age who experienced traumatic injury and had a HLOS greater than 24 hours.

Procedures:

The electronic medical record was reviewed by the principal investigator, a research coordinator and a trained research assistant. Variables reviewed included age, mechanism, HLOS, admission prescribed daily and as needed medications, ISS and discharge disposition. Data were analyzed using the Kruskal-Wallis test, logistic regression and chi square analysis.

Findings/Results:

A total of 1,683 patients with complete data were included in the study sample. Study patients had an average age of 82.76 and over 82 percent had injuries sustained from falls. There was a statistically significant difference between pill count categories and mortality and HLOS. There was a trend toward statistical significance between pill count and discharge disposition. There was no relationship between pill counts and the occurrence of complications. Direct logistic regression was done to determine if patients' Injury Severity Score (ISS) would have a mediating effect upon pill count categories and outcomes of mortality. ISS and pill counts categories of "0-2" and "5-6" predicted mortality. Specifically, patients who took up to 2 prescription medications had a 2.44 greater likelihood of dying than patients who took at least 7 prescription medications, even when adjusting for the severity of their traumatic injuries. Likewise, patients who took between five and six prescription medications were 2.35 times more likely to die than patients who took at least seven prescription medications, again, even when adjustments were made based upon injury severity.

Discussion/Conclusions/Implications:

Contrary to our hypothesis, there did not appear to be an association in increased mortality and rising pill count in patients for the group as a whole or when stratified by ISS greater than 24. There is a significant inverse correlation between pill count and mechanism of injury with higher kinetic energy. Despite this correlation, there is no associated increase in mortality. However these observations regarding mechanism of injury may explain why groups with lower pill counts have higher mortality. Differences in mortality might become apparent with larger sample sizes.