

Brief Reports



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ACUTE MEDICAL DIAGNOSES ARE COMMON IN “FOUND DOWN” ADULT PATIENTS PRESENTING TO THE EMERGENCY DEPARTMENT AS TRAUMA

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Abstract—Background: Patients often present to the emergency department (ED) as “found down,” with limited history to suggest a primary traumatic or medical etiology. **Objective:** The study objective was to describe the characteristics of “found down” adult patients presenting to the ED as trauma, specifically the incidence of acute medical diagnoses and major trauma. **Methods:** Using an institutional trauma registry, we reviewed trauma activations with the cause of injury “found down” between January 2008 and December 2012. We excluded patients with cardiac arrest, transfers from other hospitals, and patients with a more than likely (>50%) traumatic or medical etiology on initial ED presentation. Inclusion and exclusion criteria were reviewed by two independent abstractors. We abstracted demographic, clinical, injury severity, and outcomes variables. Major trauma was defined as Injury Severity Score ≥ 16 . **Results:** There were 659 patients identified with the cause of injury “found down.” A total of 207 (31%) patients met inclusion criteria; median age was 67 years (interquartile range 50–82 years), and 110 (53%) were male. Among the included patients, 137 (66%, 95% confidence interval [CI] 59–73%) had a discharge diagnosis of an acute medical condition, 14 (7%, 95% CI 4–11%) with major trauma alone, 21 (10%, 95% CI 6–15%) with both an acute medical condition and major trauma, and 35 (17%, 95% CI 12–23%) with minor trauma. The most common acute medical diagnoses were toxicological (56 patients, 35%; 95% CI 28–43%) and infectious (32 patients, 20%; 95% CI 14–27%). **Conclusion:** Acute medical diagnoses were common in undifferentiated ED patients “found

down” in an institutional trauma registry. Clinicians should maintain a broad differential diagnosis in the workup of the undifferentiated “found down” patient. © 2015 Elsevier Inc.

Keywords—wounds and injuries; triage; resource allocation; brain injuries

INTRODUCTION

Patients often present to the emergency department (ED) as “found down,” with limited background history to suggest a primary traumatic or medical etiology. Because these patients typically have an abnormal mental status in the context of potential trauma, it is common to activate the trauma team prior to or upon arrival to the ED.

Trauma team activation for the undifferentiated “found down” patient uses tremendous resources, both in manpower and costs (1,2). Trauma team activation also leads to proceeding with a trauma-focused work-up initially, potentially delaying the diagnosis of time-sensitive medical conditions such as acute myocardial infarction or acute stroke.

There is a paucity of literature describing the characteristics of “found down” patients presenting to the ED. Improved understanding of these patients may improve resource utilization and appropriate management. The objective of this study was to describe characteristics of

“found down” adult patients presenting to the ED as trauma, specifically the incidence of acute medical diagnoses and major trauma.

MATERIALS AND METHODS

Study Design and Setting

The study is a retrospective, cohort study conducted at a Level I trauma center from January 1, 2008 to December 31, 2012. The trauma program at the study site collects trauma registry variables in accordance with the National Trauma Registry Data Dictionary (3). At our study site, there are three levels of trauma activation: 933, 922, and 911 trauma codes. The emergency medicine team (resident and attending) primarily manages the 933 trauma codes. The trauma team is activated for 922 trauma codes with the emergency medicine team. The trauma team (nurse practitioners, resident, and chief resident), a respiratory therapist, and a radiology technician all respond to the resuscitation bay. The highest level of activation, 911 trauma codes, includes all the same resources as a 922, with the addition of the attending trauma surgeon. Patients with suspected head injury and a Glasgow Coma Scale (GCS) score of 9 to 13 are coded as 922 trauma codes. Patients with a GCS score < 9 are coded as 911 trauma codes.

Selection of Participants

We included adult ED patients (18 years and older) identified in our trauma registry with the cause of injury of “found down.” Patients with suspected drug or alcohol intoxication at presentation were included. We excluded

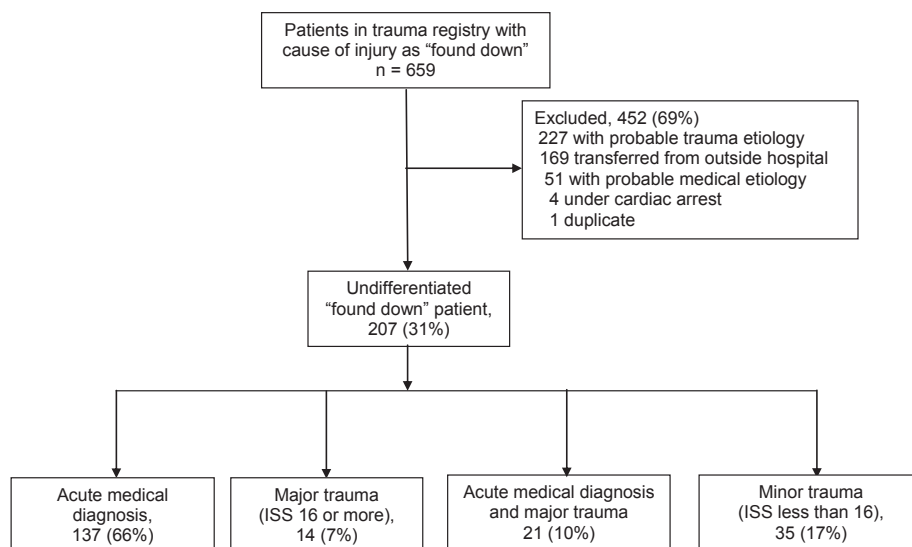
patients that presented to the ED with cardiac arrest, patients that were transferred from an outside hospital, patients that present to the ED with a more than likely (>50%) traumatic (e.g., witnessed traumatic mechanism or mechanical fall) or medical (e.g., nontraumatic syncope) etiology on initial ED presentation.

Methods and Measurements

Data collection followed previously published guidelines on retrospective chart review (4). Variables abstracted from the trauma registry included age, sex, mechanism of injury, initial ED GCS score, initial systolic blood pressure, heart rate, revised trauma score (physiological scoring system based on initial GCS, systolic blood pressure, and respiratory rate), blood alcohol level, drug screen results, initial hematocrit, computed tomography (CT) scans for head, cervical spine, abdomen, and chest, Abbreviated Injury Scale and Injury Severity Score (ISS) (anatomical scoring system), ED intubation, ED disposition and admission service, hospital length of stay, and in-hospital mortality (5,6). Two independent abstractors, each blinded to the other’s assessment, reviewed patients’ electronic medical records for inclusion and exclusion criteria. In cases of discrepancy, a third abstractor adjudicated after electronic medical records review. All abstractors were emergency medicine physicians.

Outcomes

Our primary outcome measures were: 1) an acute medical diagnosis and 2) major trauma. The presence of an acute



Abbreviations: ISS, injury severity score

Figure 1. Flow of patients in the study. ISS = Injury Severity Score.

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