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Abstracts

☐ EXAMINING OUTCOMES IN CASES OF ELDERLY PATIENTS WHO FELL FROM GROUND LEVEL AT HOME WITH NORMAL VITAL SIGNS AT THE SCENE: AN ANALYSIS OF THE NATIONAL TRAUMA DATA BANK.

Ahmed N, Greenberg P, *Journal of Trauma and Acute Care Surgery* 2019;87(3);672–677

Prior studies have shown an increased burden of serious injury in the elderly population due to a fall from ground level (FFGL) and have demonstrated a mortality benefit from transferring elderly patients with major traumatic injuries to a higher level of care. This study investigates whether a mortality benefit is maintained in the cohort of elderly patients who suffered a FFGL and were taken to either a level I or Level II trauma center yet had a favorable physiologic profile at the time of the fall.

This was an observational study utilizing the National Trauma Data Bank (NTDB) to identify all patients from 2012 to 2014 who were age 65 or older, were brought to any hospital due to a FFGL suffered at their residence, had a Glasgow Coma Scale (GCS) of 15, heart rate (HR) between 60-100 beats per minute and systolic blood pressure (SBP) between 90-160. This cohort was divided into two groups determined by whether they were taken to a higher-level facility (Level I or II trauma center) or a lower-level care institution (Level III or IV trauma center or unranked/nontrauma center). After initial analyses, patients were one-to-one propensity score matched by selecting a patient in the higher-level care group (Group 1) and matching them with a patient in the lower-level care group (Group 2) according to the following variables: age, sex, race and ethnicity, respiratory rate, Injury Severity Score (ISS) and comorbidities such as smoking, chronic kidney disease, prior stroke, diabetes and hypertension. Primary outcome was in-hospital mortality while secondary outcomes included time to death, total length of stay, and patient disposition at discharge.

Before matching, patients in Group 1 had significantly higher rates of comorbidities than Group 2. After matching there were 18,813 patients in each group and the statistically significant differences in comorbidities were eliminated. A statistically, but not clinically, significant difference in median ISS remained (9 [4-9] vs. 9 [4-9]). The overall in-hospital mortality rate was 2.5% (95% CI, 2.3%-2.7%) for the higher care group vs 2.3% (CI 95%, 2.1%-2.5%) in the lower care group (p=0.19). Differences in traumatic injuries were reported, with Group 1 showing higher rates of brain contusion, c-spine fractures, rib fractures, pneumothorax and liver injuries. Group 2 had higher rates of intertrochanteric and femoral neck fractures. There was no significant difference in the primary outcome of in-hospital mortality between the two groups. Regarding secondary outcomes, more patients in Group 1 were able to be discharged home without any assistance compared to Group 2, although over half of patients in each group required transfer to a skilled nursing facility (SNF) at discharge.

The authors conclude that their study demonstrates there is no mortality benefit or significant reduction in hospital length of stay for elderly patients with a normal hemodynamic and physiologic profile who present to the highest-level trauma centers vs other hospitals after a ground-level fall. Despite the lack of mortality benefit, elderly patients may benefit from increased resources available at level I and Level II facilities as evidenced by the greater number of patients that were discharged home without further assistance.

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Commentary: This study suggests that elderly patients who suffer ground-level falls and present with normal vital signs and a GCS of 15 may not need assessment at a Level I or Level II trauma center. The current National Trauma Triage Protocol Field Triage Decision Scheme recommends considering transporting elderly trauma patients directly to a trauma center. Adhering to this protocol may involve bypassing the nearest facility in favor of a designated trauma center often located miles from a patient's home and support system. Allowing elderly trauma patients with a favorable hemodynamic profile and minimal risk factors who suffer FFGL to be initially assessed at their local facility could potentially result in tremendous healthcare savings without posing undue risk to these patients.

☐ SAFETY PROFILE AND IMPACT OF LOW-TITER GROUP O WHOLE BLOOD FOR EMERGENCY USE IN TRAUMA.

Williams J, Merutka N, Meyer D, et al. *Journal of Trauma and Acute Care Surgery.* 2019. [Epub ahead of print]

Whole blood (WB) is often used in trauma patients in the combat setting but is seldom used in civilian trauma. The convenience of WB compared to transfusing separate red blood cells (RBCs), platelets, and plasma is only one of the advantages to using WB. There is also evidence to support that WB provides higher levels of hematocrit, coagulation factors and platelets.

This is a single center, prospective observational study comparing outcomes in patients who undergo emergency traumatic resuscitation using low-titer group O-negative whole