

Using the Score for Trauma Triage in the Geriatric and Middle-Aged (STTGMA) to Cluster High-Risk Hip Fracture Patients for Hospice Discharge

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Purpose: Patients with hip fracture can be considered candidates for hospice care if their life expectancy is less than 6 months. This study evaluates the Score for Trauma Triage in the Geriatric and Middle-Aged (STTGMA) score's ability to accurately cluster high-risk patients with hip fracture for hospice discharge directly from their index hospitalization, enabling personalized end-of-life post-acute care planning.

Methods: A retrospective review of a hip fracture database in a single institution from 2014 to 2024 was performed. Inclusion criteria were age older than 55 years, low-energy mechanism, OTA 31A-B, 32C hip fractures, and minimum follow up of 6 months. Patients were stratified into STTGMA risk groups: minimal risk (50%), low risk (30%), moderate risk (17.5%), and high risk (2.5%). Baseline demographics, injury characteristics, and treatment types were recorded. Hospital quality measures and 6-month mortality were recorded. Patients with inpatient mortality greater than 48 hours after surgery and less than 6 months after surgery were categorized as 'Hospice Discharge Candidates' (HDC). Two-way Analysis of Variance (ANOVA) tests were performed to compare characteristics among STTGMA risk groups. American Anesthesia Society (ASA) score was calculated for all patients and compared to STTGMA for the ability to cluster HDCs using area under receiver operating characteristic (AUROC) analysis and the Delong test. Statistical significance was set at $p < 0.05$.

Results: There were 3493 patients with hip fracture who met inclusion criteria (mean age, 80.83 ± 10.08 years; 70.0% female). Mortality within 6 months of surgery increased significantly with STTGMA risk level: 0.5% (minimal risk), 2.5% (low risk), 8.3% (moderate risk), and 25.3% (high risk) ($p < 0.05$). Only 8.8% of patients classified as ASA 4 were HDCs. Additionally, STTGMA demonstrated a significantly better ability to discriminate HDCs compared to ASA (0.823 vs 0.642, $p < 0.001$).

Conclusion: The STTGMA score effectively identifies HDCs and is better than ASA at this task. High-risk patients with hip fracture classified by STTGMA show a high probability of mortality within 6 months of surgery and should be prioritized for hospice discharge upon admission.