FRAIL Scale Predicted 1-Year Functional Status of Geriatric Trauma Patients

Doug Brunk

WAIKOLOA, HAWAII — The FRAIL scale questionnaire predicts functional status and mortality at 1 year among geriatric trauma patients and is a useful tool for bedside screening by clinicians, results from a single-center study demonstrated.

“Over the past 2 years, the implications of frailty among the geriatric trauma population have gained much attention in the trauma community,” Cathy A. Maxwell, PhD, said in an interview in advance of the annual meeting of the American Association for the Surgery of Trauma. “This work highlights the clinical utility of the FRAIL scale for screening injured older patients who are admitted to trauma centers and other acute care hospitals. Hopefully, it will encourage trauma care providers to use the instrument to identify older patients’ pre-injury/baseline status and to obtain a frailty risk adjustment measure for quality improvement efforts.”

The FRAIL scale requires answers to questions about fatigue, resistance, ambulation, illnesses, and loss of weight (J Nutr Health Aging 2012;16(7):601–8). In an effort to examine the influence of pre-injury physical frailty (as measured by FRAIL) on 1-year outcomes, Dr. Maxwell, of Vanderbilt University, Nashville, TN, and her associates evaluated injured patients 65 and older who were admitted through the ED between October 2013 and March 2014 and who participated in a prior study (J Trauma Acute Care Surg 2016;80(2):195–203). The researchers identified the five items of the FRAIL instrument from that study and created a pre-injury FRAIL score for each patient.

Dr. Maxwell reported results from 188 patients with a median age of 77, a median Injury Severity Score of 10, and a median comorbidity index of 3. Upon admission to the ED, 63 patients (34%) screened as nonfrail (defined as a FRAIL score of 1 to 2), and 71 (38%) screened as prefrail greater, 71 (38%) screened as prefrail (defined as a FRAIL score of 1 to 2), and 54 (29%) screened as nonfrail (defined as a FRAIL score of zero). Frequencies for components of the FRAIL score were as follows: fatigue (65%), resistance (32%), ambulation (40%), illnesses (27%), and loss of weight (6%).

After the researchers controlled for age, comorbidities, injury severity, and cognitive status via the Ascertain Questionnaire (AD8), they found that pre-injury FRAIL scores explained about 13% of the variability in physical function as measured by the Barthel Index (P < .001). A total of 47 patients (26%) died within 1 year of admission. Logistic regression analysis revealed that after adjustment for these same variables, the higher the pre-injury FRAIL score, the greater the likelihood of mortality within 1 year (OR, 1.74; P = .001).

“FRAIL scale predicts functional decline and mortality in geriatric trauma patients and is a useful tool for clinicians,” Dr. Maxwell concluded. “Bedside nurses in our trauma unit at Vanderbilt University Medical Center are currently using this instrument to screen our older patients. We have seen an increase in earlier geriatric palliative care consultations as a result of our screening efforts.”

She acknowledged certain limitations of the study, including the fact that it was a secondary analysis. “We created FRAIL scale scores for 188 patients from six different data sources; thus, the created scores may not accurately represent actual prospectively collected FRAIL scores,” Dr. Maxwell said. “That being said, we compared the frailty frequencies from this study with actual FRAIL scale scores (from current bedside FRAIL screens) and we are seeing similar percentages of patients in nonfrail, prefrail and frail categories. This strengthens the findings of this study.”

Dr. Maxwell reported no disclosures.

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