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"Does the Palliative Performance Scale Correlate with Mortality in the Geriatric Trauma Population?"

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Background: The Palliative Performance Scale (PPS) is a common tool used for predicting prognosis at the end of life. Although the PPS has been validated in predicting mortality in advanced medical illness, there has been little research on whether the PPS is an accurate prognostic tool in geriatric trauma patients.

Objectives: To assess the Palliative Performance Scale (PPS) as an accurate prognostic tool in the geriatric trauma patient population to 30-day, 60-day, and 90-day mortality

Methods: A retrospective review of hospital records of geriatric trauma patients hospitalized at Allegheny General Hospital from January 1, 2010 to June 30, 2014, who were evaluated by the palliative care service. Only those with a PPS score were included (n = 281). Public death registries were accessed for deaths up to 90-days after hospital discharge. A COX proportional hazard model was used for estimation of the hazard ratio, including *PPS* (palliative performance scale), *ISS* (injury severity score), *age*, *sex, ADLC* (advanced directive limiting care), and health conditions (cardiovascular disorders, active cancer, respiratory diseases, remote cancer history, neurological diseases, and active smoker) at time of hospitalization. The outcome was defined as from the time of admission to death or censoring at 90 days.

Results: Out of 281, 167 patients (59.43%) survived at least 90 days after admission, and 40.57% patients died within 90 days. The mean admission palliative performance scale (*PPS*) score was significantly higher in patients alive versus those who died (44.22 *vs* 27.59, *p* < 0.0001). Factors of significance (p scores <0.05) were included in the final multivariate models for 30-,60-, and 90-day mortality. All final models included PPS and cancer, with sex added to the 60-day and 90-day models. Male patients with high PPS scores had a higher rate of mortality than patients with lower PPS scores or those whom were female. With all covariates held constant, the death rate of females was 36% lower than males. Additionally, patients with a diagnosis of active cancer had a higher risk of death (4.8%). Overall, PPS independently predicted 30-day (HR 0.926, p = <.0001), 60-day (HR 0.920, p =<.0001), and 90-day mortality (HR 0.926, p = <0.0001).

Conclusion: PPS should be considered as a useful initial assessment tool to initiate the discussion of medical decision-making and end of life care between the patient, family, and healthcare provider in critically ill geriatric trauma patients.