Impact of Delirium on Symptom Distress and Survival of Advanced Cancer Patients Presenting to the Emergency Department: a Prospective Randomized Study

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Background:

The exact frequency of symptoms and delirium among patients with advanced cancer presenting to the emergency departments (EDs) is unknown. The purpose of this study was to determine delirium frequency, recognition by ED physicians, association with symptom distress, and outcome of intensive care (ICU) admission and hospital mortality among patients with advanced cancer presenting to the ED at MD Anderson Cancer Center.

Methods: Patients with advanced cancer who presented to the ED, and met all study criteria, were randomly recruited to the study. The confusion assessment method (CAM) was used to diagnose delirium, and the Memorial Delirium Assessment Scale (MDAS) was used to measure its severity. ED physicians were asked whether the patient was stable enough to be approached. After assessment physicians were asked whether their patients were delirious. Symptoms were measured using the MD Anderson Symptom Inventory (MDASI). Medical records were used to compare the frequency of hospital and ICU admission, hospital and 6 months mortality,

Results:

A total of 624 patients were screen for this study, and 243 patients were enrolled. The main reasons for exclusion were: 1) cancer was not advanced, 2) the patient had been in the ED for over 12 hours, and 3) the patient was non-English speaking. Patients with delirium had poorer performance status than patients without delirium ($p < 0.001$),

however, the two groups did not differ in other characteristics. The median age for all patients enrolled was 62 years (range 19 – 89 years), 167 (69%) were white, and 120(49.4) were female. CAM was positive in 22(9%) of patients. The median MDAS score of CAM positive patients was 14 (range 9 – 22 out of 30). Ten (10%) of 99 patients aged 65 and older were delirious as compared to 12 (8%) of 144 patients younger than 65 years ($p = 0.6$). Physician correctly predicted delirium in 13 patients (59%). Among the patients who were CAM positive 18 (82%) were admitted to the hospital as compared to 115 (52%) of patients without delirium ($p=0.012$). The MDASI severity category was moderate or severe in 80% of patients with delirium, as compared to 39% of non-delirious patients ($p<0.001$). Median survival were 1.23 months (95% CI 0.46, 3.55) for patients with delirium versus 9 months (95% CI 7.16, 11.56) for patients without delirium ($p<0.0001$). The six- month survival for patients with delirium was 23% (95% CI 8.17%, 44.07%) versus 60% (95% CI 52.83%, 66.50%) for patients not delirious ($p<0001$).

Conclusion: Delirium is relatively frequent and underdiagnosed by ED physicians in patients with advanced cancer visiting the ED and it is associated with shorter survival. Universal screening for delirium should be considered for advanced cancer patients in the ED. Further multicenter research is needed.