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DELIRIUM IN NURSING HOME RESIDENTS ACROSS CARE TRANSITIONS: A PRELIMINARY REPORT

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To the Editor: Delirium affects patients in many settings,[1-3] leading to adverse outcomes. Nursing home (NH) patients are three times more likely to present to an emergency department (ED) with delirium than community-dwellingelderly patients.[4] In addition, many NH patients seen in the ED are admitted to the hospital before returning to the NH. One might expect that these transitions would exacerbate delirium, even though no one has documented delirium persistence across care settings. Delirium was monitored across the ED, hospital, and NH in a small number of NH residents admitted to the ED for the purpose of describing how many days they experienced delirium and how transitions between care settings affected delirium.

METHODS

This was a prospective observational study conducted at a tertiary care, academic ED using a convenience sampling between June 2007 and February 2008. The local institutional review board approved the study. Verbal consent was obtained from surrogates or patients.

ED patients aged 65 and older from two NHs admitted to the hospital were included in the study. Patients were excluded if they refused consent, were previously enrolled, had severe dementia (were unable to follow simple commands at baseline status), were comatose, were

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non-English speaking, or did not have surrogates available if unable to provide consent. Dementia and its severity were also determined using the Cognitive Performance Scale (CPS) from the NH Minimum Data Set.[5]

Trained research associates assessed delirium using the Confusion Assessment Method for the Intensive Care Unit (CAM-ICU).[3] Delirium was evaluated in the ED, daily in the hospital, and daily for 28 days after patients returned to the NH.

Patients' demographics were recorded. Premorbid functional status and comorbidity were measured using the Katz scale activity of daily living (ADL)[6] and the Charlson Comorbidity Index (CCI), respectively.[7] Rehospitalization within a 6-month period and 30-day and 6-month mortality were also collected.

RESULTS

Sixteen patients were screened; four were excluded for severe dementia, and two withdrew from the study after consent, leaving 10 NH patients to be enrolled. Most of the patients (8) were evaluated in all three settings (ED, hospital and NH), with an average of three assessments in the hospital and 15 in the NH.

The median (interquartile range) age was 89 (67, 92), seven (70.0%) were female. The median (IQR) CCI was 5 (2, 11), all (100%) patients had an ADL score less than 4, and eight (80.0%) had dementia. Of the eight patients with dementia, three had mild dementia and five had moderate dementia.

The prevalence of delirium in the ED, hospital, and NH (Table 1) ranged from 50% to 60%. Of the patients, four (40%) experienced delirium across transitions: two patients (20.0%) developed a new episode of delirium from the ED to hospital admission, and two (20.0%) developed a new episode between hospital discharge and return to the NH. Of the patients, 80% overall experienced delirium at least once over the three settings, and the median (IQR) number of days with delirium was 6 (0, 17); only one patient (10.0%) was documented to be delirious continuously over the three settings.

DISCUSSION

NH residents are at high risk for presenting to the ED with delirium.[4] This report does not provide definitive conclusions but should help generate hypotheses and stimulate others to look into this important component of vulnerability for the NH population. New information is provided in that almost all (80.0%) of this frail group experienced delirium at some point in their course of treatment and transition between the ED, hospital, and return to NH. The most compelling explanation for this result is that the stress caused by transitions between settings may contribute to high delirium rates.

We want to highlight two chief potential implications. First, NH patients should be routinely screened for delirium in the ED, because healthcare providers miss delirium in the ED in 76% of cases.[8] Likewise, delirium should be routinely assessed in all subsequent settings in which NH patients receive treatment, especially just before and after making atransition in care setting. Second, future research should evaluate the efficacy of interdisciplinary interventions to reduce the incidence and duration of delirium across transitions in care settings. These interventions should include behavioral components such as cognitive and social support, as well as environmental considerations.[1,9,10] This small pilot study has generated hypotheses rather than conclusive evidence on this topic. In conclusion, when considered along with other reports, these data may suggest the importance of routinely

assessing delirium and implementing delirium intervention protocols, which could ideally be initiated in the ED and continued during subsequent care transitions.

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Table 1

Delirium Evaluation in Three Different Settings, Rehospitalization, and Mortality in Nursing Home Patients

Patient Number	Delirious in ED	Delirious in Hospital	Delirious in Nursing Home	Delirious During ED, Hospital, or Nursing Home	Total Days of Delirium	Alive at 1 Month	Alive at 6 months	Rehospitalization within 6 Months
1	Yes	No	**Yes**	Yes	2	Yes	Yes	No
2	Yes	No	No	Yes	1	Yes	Yes	Yes
3	No	No	No	No	0	Yes	Yes	No
4	Yes	Yes	Yes	Yes	9	Yes	No	Yes
5	No	**Yes**	Yes	Yes	17	Yes	Yes	No
6	Yes	Yes	*	Yes	6	No	—	No
7	No	**Yes**	Yes	Yes	5	Yes	Yes	No
8	Yes	Yes	No	Yes	3	No	—	No
9	No	†	No	No	0	No	—	No
10	Yes	No	**Yes**	Yes	13	No	—	No

Note: Bolded “yes” findings indicate delirium that emerged after a care transition.

ED=emergency department.

*Patient died before the nursing home assessment could be performed.

†Patient not admitted.