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Delirium in Older Emergency Department Patients: Recognition, Risk Factors, and Psychomotor Subtypes

Jin H. Han, MD, MSc[1], **Eli E. Zimmerman, BA**[2], **Nathan Cutler**[3], **John Schnelle, PhD**[3], **Alessandro Morandi, MD**[2,3], **Robert S. Dittus, MD, MPH**[4,5], **Alan B. Storrow, MD**[1], and **E. Wesley Ely, MD, MPH**[2,5]

[1] Department of Emergency Medicine, Vanderbilt University Medical Center, Nashville, TN, USA

[2] Department of Internal Medicine, Division of Allergy, Pulmonary, and Critical Care, Vanderbilt University Medical Center, Nashville, TN, USA

[3] Department of Internal Medicine and Geriatrics, Poliambulanza Hospital, Brescia, Italy

[4] Department of Internal Medicine, Division of General Internal Medicine, Nashville, TN, USA

[5] Veterans Affairs Tennessee Valley Geriatric Research, Education and Clinical Center (GRECC), VA Service, Department of Veterans Affairs Medical Center, Tennessee Valley Healthcare System, TN, USA

Abstract

Objectives—Missing delirium in the emergency department (ED) has been described as a medical error, yet this diagnosis is frequently unrecognized by emergency physicians. Identifying a subset of patients at high risk for delirium may improve delirium screening compliance by emergency physicians. We sought 1) to determine how often delirium is missed in the ED and how often these missed cases are detected by admitting hospital physicians at the time of admission, 2) to identify delirium risk factors in older ED patients, and 3) to characterize delirium by psychomotor subtypes in the ED setting.

Methods—This cross-sectional study was a convenience sample of patients conducted at a tertiary care, academic ED. English speaking patients who were 65 years and older and present in the ED for less than 12 hours at the time of enrollment were included. Patients were excluded if they refused consent, were previously enrolled, had severe dementia, were unarousable to verbal stimuli for all delirium assessments, or had incomplete data. Delirium status was determined by using the Confusion Assessment Method for the Intensive Care Unit (CAM-ICU) administered by trained research assistants. Recognition of delirium by emergency and hospital physicians was determined from the medical record, blinded to CAM-ICU status. Multivariable logistic regression was used to identify independent delirium risk factors. The Richmond Agitation and Sedation Scale was used to classify delirium by its psychomotor subtypes.

Send all correspondence to: Jin H. Han, MD, MSc, Vanderbilt University Medical Center, Department of Emergency Medicine, 703 Oxford House, Nashville, TN 37232-4700, Jin.h.han@vanderbilt.edu, Phone: 615-936-0253, Fax: 615-936-1316.

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Results—Inclusion and exclusion criteria were met in 303 patients and 25 (8.3%) presented to the ED with delirium. The vast majority (92.0%, 95%CI: 74.0% - 99.0%) of delirious patients had the hypoactive psychomotor subtype. Of the 25 patients with delirium, 19 (76.0%, 95%CI: 54.9% - 90.6%) were not recognized to be delirious by the emergency physician. Of the 16 admitted delirious patients who were undiagnosed by the emergency physicians, 15 (93.8%, 95%CI: 69.8% - 99.8%) remained unrecognized by the hospital physician at the time of admission. Dementia, a Katz ADL ≤ 4, and hearing impairment were independently associated with presenting with delirium in the ED. Based upon the multivariable model, a delirium risk score was constructed. Dementia, Katz ADL ≤ 4, and hearing impairment were weighted equally. Patients with higher risk score more likely to be CAM-ICU positive (area under the receiver operating characteristic curve = 0.82). If older ED patients with one or more delirium risk factors were screened for delirium, 165 (54.5%, 95%CI: 48.7% to 60.2%) would have required a delirium assessment at the expense of missing one patient with delirium, while screening 141 patients without delirium.

Conclusion—Delirium was a common occurrence in the ED and the vast majority of delirium in the ED was the hypoactive subtype. Emergency physicians missed delirium in 76% of the cases. Delirium that was missed in the ED was nearly always missed by hospital physicians at the time of admission. Using a delirium risk score has the potential to improve delirium screening efficiency in the ED setting.

Keywords

delirium; emergency department; elder; unrecognized; psychomotor; risk factors

Introduction

Missing delirium in the emergency department (ED) has been described as a medical error and an issue of quality of care.[1] This form of organ dysfunction occurs in one out of 10 older ED patients,[2] and is a major threat to their quality of life. Delirium is associated with higher death rates,[3-5] prolonged hospitalization,[6,7] increased health care costs,[8] and accelerated long-term functional and cognitive impairment.[9,10] Despite its frequent occurrence and negative consequences, delirium is missed by emergency physicians in 57 to 83% of the cases.[5,11-15] There is some evidence to suggest that missing delirium in the ED portends poorer risk compared to patients whose delirium is detected by the emergency physician.[5]

Delirium is missed at a high rate because emergency physicians do not routinely screen for this diagnosis.[16] The ED is a highly chaotic and demanding environment. Adding a delirium assessment to the traditional emergency physician history and physical examination may not be feasible in all ED patients. Performing delirium assessments on a subset of high risk older patients may be more practical. However, no study has adequately characterized delirium risk factors in the older ED patient. Most studies concerning delirium risk factors have been conducted in the inpatient setting and have included patients who developed delirium during hospitalization, limiting the generalizability of these studies to the ED patient.[17,18]

In addition, to the best of our knowledge, no ED study has characterized delirium by its psychomotor subtypes: hypoactive (“quiet”), hyperactive, and mixed.[19] Hypoactive delirium is characterized by decreased psychomotor activity, and has the appearance of depression

and sedation. This subtype is most often missed by physicians and can be difficult to identify without a delirium assessment because of its subtle presentation.[20] Hyperactive delirium is characterized by increased psychomotor activity, anxiety, and agitation.[19] A patient with mixed-type delirium exhibits fluctuating levels of psychomotor activity over a period of time. Distinguishing delirium between its psychomotor subtypes also has important clinical ramifications, because each subtype has been associated with differential outcomes.[21,22]

In order to address these deficiencies, we performed a cross sectional study which sought 1) to determine how often delirium is missed in the ED and how often these missed cases are detected by admitting hospital physicians at the time of admission, 2) to identify delirium risk factors in older ED patients, and 3) to characterize delirium by psychomotor subtypes in the ED setting.

Methods

Study Design and Setting

We conducted a prospective cross-sectional study in a tertiary care, academic ED with an annual census of approximately 55,000 visits. Approximately 10% of the annual census consisted of patients who were 65 years and older. Because we wanted to study delirium's natural course, emergency and hospital physicians were blinded to the study objectives and patients delirium status. Our local institutional review board reviewed and approved this study with these conditions, because performing delirium screening in the ED was not standard of care and there was no evidence to suggest that early detection of delirium in the ED improved patient outcomes.

Study Population

This was a convenience sample of patients who were enrolled from May 2007 to July 2007 from 8AM to 10PM. ED patients who were 65 years and older and present in the ED for less than 12 hours at the time of enrollment were included. The purpose of 12-hour limit was to maximize the number of patients that could be enrolled while minimizing extraneous factors which would artificially cause the emergency physician to not recognize delirium such as physician shift change or new-onset delirium from prolonged exposure to known delirium precipitants (e.g. psychoactive medications). This limit was based upon our ED's typical waiting room wait times and duration of an elder patient evaluation, emergency physician shift duration, and research assistant availability. Patients who refused consent, were non-English Speaking, were previously enrolled, had severe dementia, were unarousable to verbal stimuli for all delirium assessments, or had incomplete data were excluded. Patients with incomplete data either withdrew from the study or the prospective data collection could not be completed because they left the ED before the assessments could be completed. Patients who met inclusion and exclusion criteria were enrolled in the study after verbal consent was obtained from the patients or their authorized surrogates.

Study Protocol and Measurements

Delirium, dementia, and functional status were prospectively collected by two research assistants. Prior to the start of the study, the research assistants participated in an intense

one-week training period where they studied training manuals, received didactic lectures, watched live patient demonstrations, and practiced administering the assessments using simulated patient scenarios. At the end of the training period, the primary investigator (JHH) observed the research assistants perform these assessments in actual ED patients.

Delirium was determined using the Confusion Assessment Method for the Intensive Care Unit (CAM-ICU).[23] The CAM-ICU is a modification of the Confusion Assessment Method (CAM), but uses the exact same features as CAM: 1) acute onset of mental status changes or a fluctuating course, 2) inattention, 3) disorganized thinking, and 4) altered level of consciousness.[24] Unlike the CAM, which requires clinical judgment to assess for all four features, the CAM-ICU uses objective assessments from objective neuropsychiatric tests to determine inattention (feature 2) and disorganized thinking (feature 3). In addition, the CAM-ICU is brief (less than two minutes) compared to the CAM (5 to 10 minutes) and is more easy to administer. This made the CAM-ICU ideal for the busy ED environment where interruptions frequently occur. The CAM-ICU has been validated in both mechanically ventilated and non-mechanically ventilated patients, and has high sensitivity (93 - 100%), specificity (98 - 100%), and excellent inter-rater reliability (kappa= 0.77 - 0.95).[23,25,26] Acute onset of mental status changes or fluctuating course (Feature 1) was determined by surrogate history. If the patient was from the nursing home, the nursing home staff was interviewed if there was no documentation of altered mental status on the nurse's triage assessment or nursing home transfer sheet. Because of the waxing and waning nature of delirium, the CAM-ICU was performed at 0- and 3-hours. A patient was considered to have delirium if either 0-hour or 3-hour assessment was positive.

In patients who were CAM-ICU positive, the Richmond Agitation and Sedation Scale (RASS) was used to categorize the psychomotor subtype of delirium.[27,28] As previously reported, patients with a RASS score between +1 and +4 were considered to have hyperactive delirium. Patients with a RASS score between 0 and −3 were considered to have hypoactive delirium. Patients exhibiting both positive and negative RASS scores at 0- and 3-hours were considered to have the mixed-type.

The determination of whether or not delirium was recognized by emergency and hospital physicians was performed using medical record review using previously established criteria.[11,14,15] Physician interview was not performed in order to maintain feasibility (e.g. physician shift change and high volume of patients) of the study. In addition, a previous study conducted in the ED showed that adding a physician interview to medical record review only increased the delirium recognition by 11.8%.[15] The chart review was performed by a single investigator (JHH) who was blinded to the patient's CAM-ICU status, but not to the study hypothesis. Any reference to acute or new confusional state or disorder, acute mental status change, encephalopathy, toxic-metabolic state, and acute organic brain syndrome in the physician's impression and diagnosis indicated provider recognition of delirium.[11,14,15] Documentation of a delirium assessment performed by the emergency and hospital physician was also abstracted from the history and physical examination. For the hospital physician, only the initial history and physical examination were used, which were typically performed several hours after the initial ED assessment. Delirium recognition was

reassessed by the same chart reviewer 3-months after the initial review; no discrepancies were found.

Dementia was determined by Mini-Mental State Examination (MMSE),[29] short form of the Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE),[30] or from the medical record. The MMSE was only performed in patients who were CAM-ICU negative, because it would not have accurately reflected a delirious patient's premorbid cognition. Patients who had a MMSE score less than 24, an IQCODE greater than 3.38, or had dementia documented in the medical record were considered to have dementia. Functional status was measured using the Katz Activities of Daily Living (Katz ADL).[31] Patients with a Katz ADL ≤ 4 were considered to be functionally dependent.

Patient demographics, past medical history, number of home medications, residence, visual or hearing impairment and recent hospitalization were obtained from the patients, their surrogates, and the medical record. Visual and hearing impairment were not objectively measured, but were assessed by history, the presence of corrective lenses, or hearing aids. Chief complaint, ED physician diagnosis, vital signs, and emergency severity index (ESI) at triage were also obtained from the medical record. Charlson Comorbidity Index was used to measure comorbid burden.[32] The presence of systemic inflammatory response syndrome (SIRS) was used as a surrogate for severity of illness. Patients were considered to have SIRS if they had two or more of the following criteria: 1) heart rate > 90 beats per minute, 2) body temperature < 36 or >38 degrees Celsius, 3) respiratory rate > 20 breaths per minute, or 4) white blood cell count <4,000 cells / mm^3 or >12,000 cells / mm^3.[33] All data abstracted from the medical record occurred after patient enrollment and were double checked for accuracy.

Data Analysis

Proportions with their 95% confidence intervals (95%CI), medians and interquartile ranges were reported, where appropriate. For simple comparisons, chi-square analyses were performed for categorical data, and Wilcoxon Rank Sum tests were performed for continuous data. Multivariable logistic regression was performed to determine which clinical variables were independently associated with delirium in the ED. Age, gender, race, dementia, Katz ADL ≤ 4, visual impairment, hearing impairment, Charlson Comorbidity Index, number of home medications, triage ESI, SIRS, ED diagnosed infection, nursing home residence, and hospitalization within the past week were considered for the model and were based upon literature review and expert opinion.[34] Given the number patients with events (CAM-ICU positive), only three covariates were selected for the multivariable model in order to avoid over-fitting.[35] We utilized a forward selection process and first considered covariates which were biologically plausible and were consistently found to be associated with delirium in the hospital literature. We selected a combination of covariates which had the highest discriminatory power (c-statistic). If two or more models had similar discriminatory power, we chose the model which utilized covariates that would potentially be more readily available to the emergency physician. All covariates included in the model were reported in odds ratios (OR) with their 95%CI. Pearson Chi-square test was performed on the logistic regression model to test for goodness-of-fit. We also performed a secondary

analysis to determine how the number of delirium risk factors affected the likelihood of delirium; each risk factor was weighted according to their effect size. A receiver operating characteristic curve was constructed, and the area under the curve (AUC) was calculated. Using receiver operating characteristic curve analysis, an optimal cut-point was chosen. Sensitivity, specificity, and positive and negative likelihood ratios with their 95%CIs were determined for that cut-point.[36] A p-value less than 0.05 was considered statistically significant. All statistical analyses were performed with SAS 9.1 (SAS Institute, Carey, NC) and Microsoft Excel 2003 (Microsoft Incorporation, Seattle, WA).

Results

A total of 376 patients were screened and 303 met inclusion or exclusion criteria **(Figure 1)**. The median (IQR) age was 74 (69, 80) years old, 169 (55.8%) were females, 50 (16.5%) were non-white, and 20 (6.6%) were from a nursing home. Of the patients who had 0-hour CAM-ICUs performed, 21 (6.9%) were CAM-ICU positive. Two patients were initially not assessable because they were in a stupor or coma. Eighty two (27.1%) patients had the 3-hour assessment performed; an additional 4 patients were CAM-ICU positive. Combining the 0- and 3-hour CAM-ICU assessments, 25 (8.3%) of our cohort had delirium.

Of the 25 patients with delirium, 19 (76.0%, 95%CI: 54.9% - 90.6%) were not recognized to be delirious by the emergency physician. Four patients with delirium were discharged home, and of these, only one patient was determined to be delirious by the emergency physician. No ED patient had a delirium assessment documented in the emergency physician history and physical examination.

Twenty one delirious patients were admitted to the hospital and 15 (71.4%, 95%CI 47.8% to 88.7%) were not recognized to have delirium by the hospital physician. In the five admitted patients in whom delirium was recognized by the emergency physician, all were recognized by the hospital physician. Of the 16 admitted patients whose delirium was undiagnosed by emergency physicians, only one patient (6.3%, 95%CI: 0.2% to 30.2%) was recognized by the hospital physician at the time of admission. None of the hospitalized patients had a delirium assessment documented in the history and physical examination.

Patient demographics, past history and clinical variables (**Table 1**) were compared between older ED patients with and without delirium. Patients with delirium were more likely to be older, reside in a nursing home, have dementia or a Katz ADL ≤ 4, have visual or hearing impairment, be on more home medications, meet SIRS criteria, and have an infectious etiology diagnosed by the emergency physician. No differences in Charlson comorbidity index, hospitalization within the past week, and triage ESI were observed between the delirium and non-delirium groups. In the multivariable logistic regression model, dementia (adjusted OR = 3.3, 95%CI: 1.2 – 8.9), a Katz ADL ≤ 4 (adjusted OR = 4.4, 95%CI: 2.1 – 9.4), and hearing impairment (adjusted OR = 3.8, 95%CI: 1.4 – 10.0) were independently associated with delirium in the ED. The c-statistic for the model was 0.83 and the Pearson chi-square test was 0.204 indicating that there is no proof of lack of fit.

From the multivariable model, a delirium risk score was developed. Dementia, Katz ADL ≤ 4, and hearing impairment were weighed equally. The proportion of older ED patients with delirium was stratified by the delirium risk score (**Figure 2**). As the delirium risk score increased, the proportion of older ED patients with delirium increased. The AUC was 0.82. Using a cut-off of one or more points, the sensitivity (95%CI) was 96.0% (88.0% - 100.0%), the specificity (95%CI) was 49.3% (43.4% - 55.2%), the positive likelihood ratio (95%CI) was 1.9 (1.6 – 2.2), and the negative likelihood ratio (95%CI) was 0.08 (0.01 – 0.56) for delirium. If older ED patients with one or more delirium risk factors were screened for delirium, 165 (54.5%, 95%CI: 48.7% - 60.2%) would have required a delirium assessment at the expense of missing one patient with delirium, while screening 141 patients without delirium.

The vast majority (92.0%, 95%CI: 74.0% to 99.0%) of delirious ED patients had the hypoactive psychomotor subtype of delirium. Two patients had hyperactive or mixed-type delirium and both were recognized by emergency physicians as having altered mental status. Of those with hypoactive delirium (n = 23), 18 (78.3%, 95%CI: 56.3% - 92.5%) were not recognized by emergency physicians.

Discussion

Our cross-sectional study provides a comprehensive investigation of delirium in the ED and observed three key findings not previously reported in the ED literature: 1) delirium that was unrecognized by emergency physicians was most likely to be missed by hospital physicians at the time of admission, 2) delirium risk factors were characterized in older ED patients and may help identify patients at high risk for having delirium, and 3) the vast majority of delirious older patients presented to the ED with the hypoactive subtype.

Delirium is significant problem in the ED, and a large proportion of patients with delirium is unrecognized. Similar to previous reports, we observed that 76.0% of the cases of ED delirium were not recognized by emergency physicians.[5,11-15] Adding to the existing body of literature, we observed that over 90% of admitted patients whose delirium were missed by the emergency physician were also missed by the hospital physician at the time of admission. This suggests that if delirium is missed in the ED, there is potential delay in diagnosing delirium in the hospital setting. The consequences of missed delirium in the ED are unclear. However, Kakuma et al. studied older patients discharged from the ED and observed that patients whose delirium was unrecognized by the emergency physician had the highest death rate compared to ED patients whose delirium was recognized and patients without delirium.[5] Other potential consequences for missing delirium exist; ED patients with underlying life-threatening illnesses may have received inappropriate diagnostic evaluations and discharged home. If discharged, delirious patients may not be able to comprehend their discharge instructions, and this may lead to non-compliance and recidivism. As a result, improved detection and earlier recognition of delirium in the ED has the potential to improve patient outcomes.

We observed that under recognition of delirium by emergency physicians is secondary to the absence of routine delirium screening in the ED. There are several potential reasons for this.

Emergency physicians have little didactic training in geriatric medicine, especially in assessing for delirium.[37] Several bedside delirium assessments are available[38,39] and the CAM is the most widely used in the clinical and research setting.[24] However, the CAM may be not feasible in the busy ED environment as it requires up 10 minutes to perform.[40] The CAM-ICU used in our study is a modification of the CAM and requires 30 seconds to 2 minutes to perform. However, spending even an additional 30 seconds to 2 minutes on the typical patient assessment may be difficult in the ED setting, especially during periods of high demand.

Therefore, we attempted to identify patients who are high risk for presenting to the ED with delirium. Performing delirium assessments on selected high risk patients may potentially improve ED delirium screening. We identified dementia, functional dependence, and hearing impairment as independent risk factors for presenting to the ED with delirium. Our findings are consistent with studies conducted in hospitalized patients. Dementia is the strongest and most consistently observed risk factor for delirium.[18,34,41,42] Similarly, independent associations between functional or hearing impairment and delirium have been reported.[34,43]

Our study is the first ED study to characterize delirium by its psychomotor subtypes. The vast majority of the older ED patient population presented with hypoactive symptomotology, whereas hyperactive delirium was rarely observed. Our findings are consistent with hospital-based studies.[28,44,45] Distinguishing delirium by its psychomotor subtypes is essential for several reasons. The etiology and pathophysiology of delirium may differ between the various psychomotor subtypes.[46] In addition, delirious patients with hypoactive symptomatology are significantly more likely to be unrecognized and misdiagnosed for psychiatric illnesses.[20] In our study, 78.3% of patients with hypoactive delirium were not recognized by emergency physicians. However, our study sample was too small to make any firm conclusions. The different psychomotor subtypes of delirium also have important prognostic implications. In hospitalized medical patients, hypoactive delirium is associated with prolonged hospital length of stay[7] and higher mortality.[47] However, in older patients who receive hip fracture repairs, hypoactive delirium is associated with lower rates of death and is less likely to be placed in a nursing home compared to patients with any hyperactivity.[45] Given the heterogeneity of these findings and the limited size of our study sample, it is unclear how specific psychomotor subtypes of delirium affect ED patient outcomes; future research in the ED setting is required to clarify this relationship.

Deficiencies in our understanding of delirium in the ED patient still remain. It is unclear if missing delirium in the ED is associated with poorer outcomes and if early detection and treatment of delirium in the ED will improve delirium's adverse effects on long-term mortality, cognitive and functional impairment, and quality of life. Furthermore, there is no universally accepted treatment for delirium in the ED and hospital interventions for delirium have not proven to be successful in thwarting delirium's negative consquences.[48] As a result, a multi-faceted line of future investigations must be conducted to address this dearth of knowledge and improve the quality of care delivered to the older ED patient.[49]

Limitations

Our study has several notable limitations. First, given the constraints of the busy ED environment and limited length of stays (~5 hours), we had to balance the amount of prospective data collected against feasibility. Consequently, we used the CAM-ICU to assess for delirium, because of its ease of use, brevity (less than 2 minutes), and high reliability. However, the CAM-ICU has not been formally validated in the ED setting. McNicoll et al. compared the CAM-ICU with the CAM and found that the CAM-ICU was 73% sensitive and 100% specific compared to the CAM.[50] It is possible that the proportion of older patients with delirium was underestimated. However, the proportion of our cohort with delirium is comparable to prior studies using other instruments.[5,11-15] Second, only 27.0% had their 3-hour CAM-ICUs performed. Patients with missing 3-hour assessments were more likely to be discharged from the ED. Because our definition of delirium was a positive CAM-ICU assessment at either 0- or 3-hours, we may have underestimated the proportion of patients with delirium. Third, this was a convenience sample as we were only able to enroll patients during the daytime and early evening hours, potentially introducing selection bias. Older patients who present to the ED during the early morning or late evening hours may have been missed; these patients may have had a higher acuity of illness and may have been more likely to present with delirium. Therefore, the proportion of delirious ED patients may have been underestimated. Fourth, the proportion of delirium that was unrecognized by emergency and hospital physicians was obtained from the medical record. It is possible that physicians may have recognized delirium, but failed to document their findings, possibly overestimating the proportion of missed delirium. However, interviewing the physician would most likely have modestly affected our delirium recognition rate. Elie et al. performed chart review and physician interview to determine how often emergency physicians recognized delirium; the physician interview increased the absolute recognition rate by 11.8%.[15] Even if our proportion of unrecognized delirium was overestimated by 25%, a 50% miss rate would still be clinically significant. Fifth, our analysis of the usefulness of the number of delirium risk factors to improve screening efficiency was exploratory in nature and has not been validated. Future multi-center studies will be performed to validate these findings. Sixth, our sample size was relatively small. We limited the number of covariates included in the multivariable model in order avoid over-fitting. As a result, certain delirium risk factors may have been excluded from the multivariable model. However, our small model achieved a c-statistic of 0.83 indicating that our multivariable model had very good predictive ability. We were also unable to adequately address how the psychomotor subtypes affect recognition of delirium in the ED. Seventh, this study was performed at a single center, and our findings may not be generalizable to rural, non-academic, or non-tertiary care centers.

Conclusions

Delirium commonly occurs in older ED patients, and the vast majority is of the hypoactive subtype. Emergency physicians miss delirium at a high rate because they do not routinely screen for this diagnosis. For a subset of admitted patients, if delirium is missed in the ED, there is a high likelihood that it will go unnoticed by hospital physicians at the time of

admission. Delirium screening in the ED may be best focused on patients with one of the following risk factors: dementia, a Katz ADL ≤ 4, and hearing impairment.

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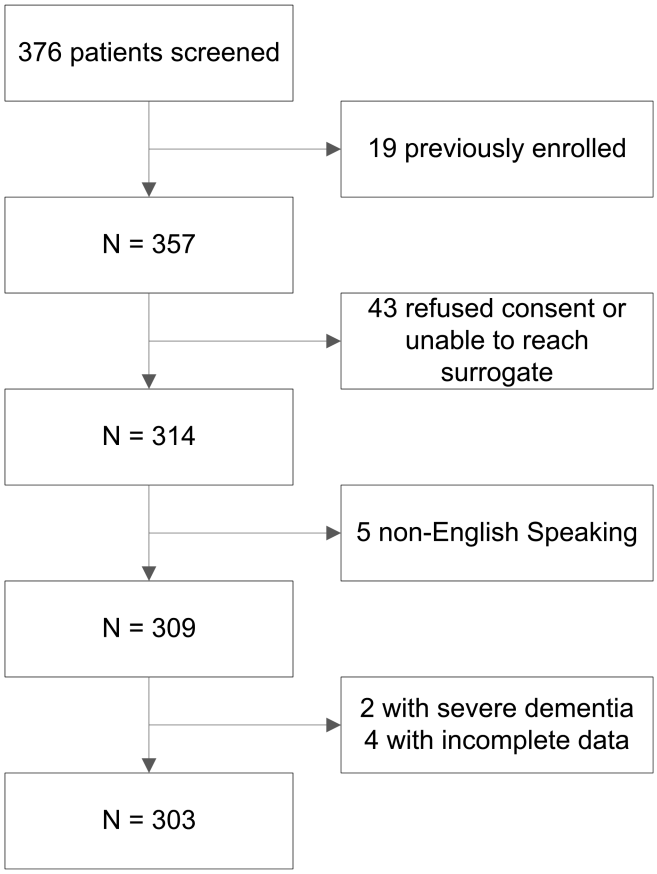

Figure 1.
Patients meeting inclusion and exclusion criteria.

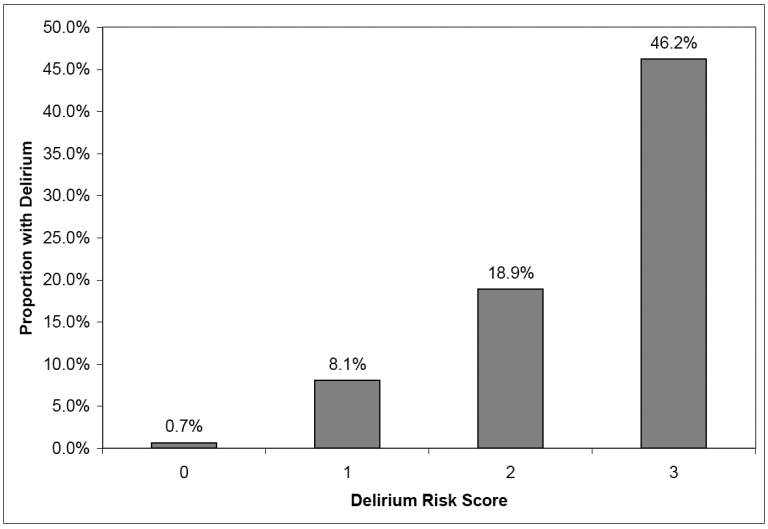

Figure 2.

Proportion of older emergency department patients with delirium categorized by delirium risk score.

Table 1

Patient demographics stratified by delirium status. Continuous variables are represented as median (interquartile range), and categorical variables are represented as absolute number (proportion).

Variable	Delirium Positive N=25	Delirium Negative N=278	P-value
Median Age (IQR)	80 (72, 85)	74 (69, 79)	0.009
Male	10 (40.0)	124 (44.6)	0.657
Non-white	43 (15.5)	7 (28.0)	0.106
Residence			
Home alone	2 (8.0)	75 (27.0)	<0.001
Home with others	11 (44.0)	185 (66.6)	
Assisted Living	2 (8.0)	3 (1.1)	
Nursing Home	9 (36.0)	11 (4.0)	
Rehabilitation	1 (4.0)	0 (0.0)	
Homeless	0 (0.0)	1 (0.4)	
Other	0 (0.0)	3 (1.1)	
Median Charlson (IQR)	2 (1, 4)	2 (1, 3)	0.165
Median Total Medications (IQR)	10 (8, 13)	7 (4, 11)	0.013
Dementia	19 (76.0)	106 (38.1)	<.001
Katz ADL≤4	16 (64.0)	46 (16.6)	<.001
Visual Impairment	11 (44.0)	61 (21.9)	0.013
Hearing Impairment	9 (36.0)	36 (13.0)	0.002
Hospitalized Within Past Week	4 (16.0)	17 (6.1)	0.062
SIRS Criteria	18 (72.0)	120 (43.2)	0.006
Triage ESI			
1	0 (0.0)	0 (0.0)	0.815
2	18 (72.0)	177 (63.7)	
3	7 (28.0)	94 (33.8)	
4	0 (0.0)	6 (2.2)	
5	0 (0.0)	1 (0.4)	
EP Diagnosed Infection	12 (48.0)	41 (14.8)	<.001

IQR, interquartile range. ADL, activities of daily living; SIRS, systemic inflammatory response syndrome; ESI, emergency severity index; EP, emergency physician.