

Abstract

BACKGROUND: Due to high prevalence of delirium and the adverse outcomes associated with delirium, preventing delirium in the intensive care unit (ICU) is key to enhancing the quality of care in ICUs. It is unknown at this time whether a delay in restarting a patient's home neuropsychiatric medications contribute to the occurrence of delirium.

METHODS: This is a retrospective analysis comparing timing of the re-initiation of home neuropsychiatric medications (NPM) of all patients admitted to the ICU between March 1, 2019 and September 30, 2019. Patients were included if they were 18 years of age or older, admitted to the intensive care unit, and were receiving at least one neuropsychiatric medication (anti-depressant, benzodiazepine, antipsychotic, or gabapentinoid) prior to admission. Exclusion criteria included baseline delirium, acute encephalopathy, home NPM indicated for non-neuropsychiatric reason, discharged within 72 hours of ICU admission, traumatic brain injury or stroke, admission for alcohol withdrawal treatment, status epilepticus, admission for benzodiazepine withdrawal, or admission for overdose of NPM. The early-start group encompassed patients who restarted home NPM within 3 days of ICU admission, and the delayed-start group encompassed patients who restarted home NPM greater than 3 days after ICU admission. The primary outcome of this study is the incidence of delirium, and secondary outcomes included the duration of delirium and length of ICU stay.

RESULTS: Thirty-eight patients were considered in the analysis of clinical outcomes. There were 27 patients included in the early-start group and 11 in the delayed-start group. Five of 27 patients developed delirium in the early-start group, and 7 of 11 developed delirium in the delayed-start group. There was a statistically significant difference in the incidence of delirium between the early-start group and the delayed-start group (18.5% vs. 63.6%; $p = 0.0174$). The mean duration of delirium was 5.6 days in the early-start group and 1.5 days in the delayed-start group. The mean ICU length of stay was 6.3 and 6.6 days in the early-start group and delayed-start group, respectively.

CONCLUSION: Based on this retrospective chart review, delayed resumption of home NPM was associated with an increased incidence of delirium.

Objective

To investigate the effects of timing of initiating home neuropsychiatric medications on incidence of delirium in the first 7 days of intensive care unit (ICU) admission

Methods

- Retrospective chart review
- All patients admitted to ICU from March 1, 2019 to September 30, 2019
 - Early-start group: restart within 3 days
 - Delayed-start group: restart > 3 days

Inclusion Criteria

- Age \geq 18 years
- ICU admission
- Patients who received at least one or more of the following neuropsychiatric medications prior to admission:
 - Anti-depressant
 - Benzodiazepine
 - Antipsychotic
 - Gabapentinoid

Exclusion Criteria

- Baseline delirium, moderate to severe traumatic brain injury, acute encephalopathy
- Benzodiazepine, opioid, alcohol withdrawal
- Overdose of neuropsychiatric medications
- NPM indicated for as needed reason, discharged within 72 hours of admission, heavy sedation within first 7 days of ICU admission (RASS < -3)

Outcomes

- Primary:
 - Incidence of delirium
- Secondary:
 - Duration of delirium
 - Length of ICU stay

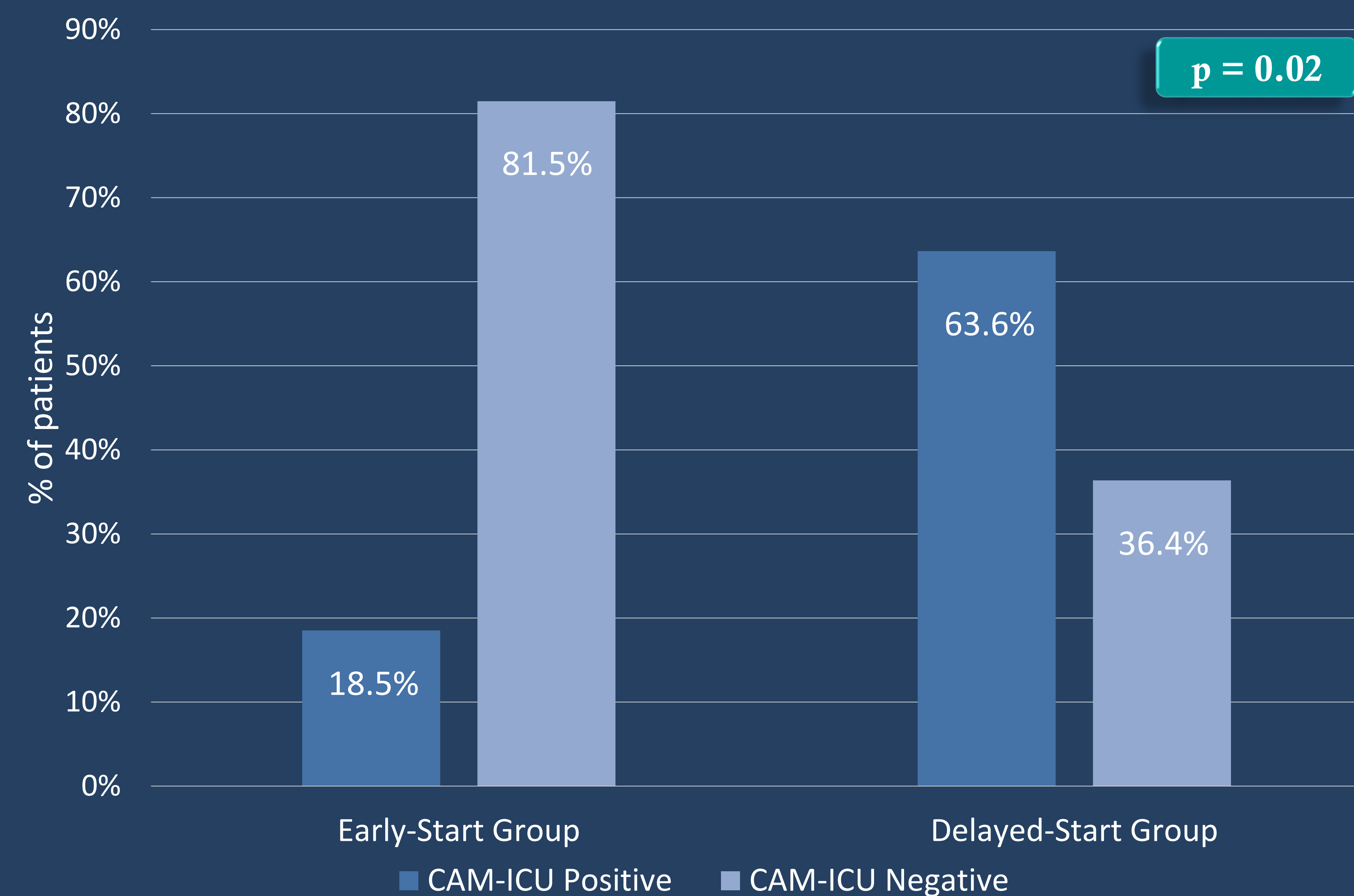
Statistical analyses

- Categorical data: χ^2 test or Fisher's exact test
- Continuous data: Unpaired t-test
- GraphPad QuickCalcs ©2018 (GraphPad Software, Inc. La Jolla, CA)

Results

Baseline Characteristics	Early-Start Group (n=27)	Delayed-Start Group (n=11)	P-value
Age – mean (\pm SD)	70.59 (9.1)	61.55 (17.7)	0.04
Female Sex – n (%)	15 (55.6)	6 (54.5)	1.00
Prior to Admission Medications			
Antidepressant – n (%)	21 (71.8)	7 (63.6)	0.43
Gabapentinoid – n (%)	11 (40.7)	6 (54.6)	0.49
Benzodiazepine – n (%)	2 (7.4)	1 (9.1)	1.00
Antipsychotic – n (%)	4 (14.8)	0 (0)	0.30

Incidence of Delirium



Secondary Outcomes	Early-Start Group (n=27)	Delayed-Start Group (n=11)	P-value
Duration of delirium, days – mean (\pm SD)	5.60 (6.99)	1.57 (0.79)	0.15
ICU length of stay, days – mean (\pm SD)	6.33 (6.65)	6.64 (4.48)	0.89

Conclusions

- Delayed resumption of home neuropsychiatric medications was associated with an increased incidence of delirium
- No significant difference in:
 - Duration of delirium
 - ICU length of stay

Study Critique

Strengths

- Identification of confounding variables
- Baseline characteristics broadly similar
- Stringent exclusion criteria

Limitations

- Retrospective chart review
- Single center
- Limited external validity
- Small sample size
- Comparing groups not balanced

References

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