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Evaluating Antipsychotic Prescribing in the Intensive Care Unit and Across the Continuum of Care

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Background

- Delirium is common in the critically ill with a prevalence of up to 80% in mechanically ventilated patients in the Intensive Care Unit (ICU)[1,2]
- ICU related delirium is a clinical diagnosis made based on screening tools such as the Confusion Assessment Method for the ICU (CAM-ICU)[3]
- Risk factors for delirium occurrence include benzodiazepine use, age, dementia, emergency surgery or trauma, and increasing severity of illness[3]
- The 2018 PADIS Guidelines published by the Society of Critical Care Medicine recommend against the routine use of both typical and atypical antipsychotic agents for either the prevention or treatment of delirium. Non-pharmacological strategies are preferred[3]
- Evidence suggests that the use of antipsychotics in patients with delirium is not associated with a shorter duration of delirium, mechanical ventilation or ICU length of stay. Antipsychotic use is also not associated with decreased mortality[3]
- Antipsychotics, when ordered in the ICU, are commonly inappropriately continued post transfer from the ICU and following discharge from the hospital[3,4,5,6]
- Many undesirable side effects accompany long-term use of antipsychotics such as weight gain, hyperlipidemia, QTc prolongation, extrapyramidal symptoms (EPS), and increased mortality in elderly patients with dementia related psychosis[7]

Objectives

- Determine the incidence of antipsychotic initiation in the ICU for delirium prevention or treatment at Baptist Hospital of Miami including the agent, dose, frequency, and duration of therapy
- Determine the rate of continuation of newly initiated antipsychotics following discharge from both the ICU and hospital
- Evaluate the use and documentation of CAM-ICU scores as a tool for initiating and discontinuing antipsychotic therapy appropriately
- Establish the foundation for the development of a pharmacist-driven protocol to aid in the discontinuation of antipsychotic agents when used for ICU-related delirium[8]

Methods

- Study design: Single-center, retrospective chart review of anti-psychotic naïve patients admitted to the ICU at Baptist Hospital of Miami and initiated on an antipsychotic between June 1, 2018 and July 1, 2019
- Inclusion criteria: Individuals ≥ 18 years old, patients initiated on a new-start antipsychotic in the ICU receiving at least 2 days of therapy
- Exclusion criteria: Patients ordered "as needed" or one-time antipsychotics, patients on antipsychotic prior to hospitalization or ICU admission, patients who did not survive to discharge, pregnant patients
- Primary outcome: Percentage of patients prescribed a new-start antipsychotic in the ICU that was continued post-hospital discharge based on the discharge medication reconciliation and discharge summary
- Secondary outcomes: Percentage of patients prescribed a new-start, standing antipsychotic in the ICU that was continued post-ICU discharge
- Antipsychotic agent, regimen, and duration
- CAM-ICU administration, documentation, and result

Confusion Assessment Method for the ICU (CAM-ICU)

1. Acute onset or fluctuating course compared to baseline or within the last 24 hours
2. Inattention (letters attention test)
3. Altered level of consciousness (Richmond Agitation-Sedation Scale)
4. Disorganized thinking

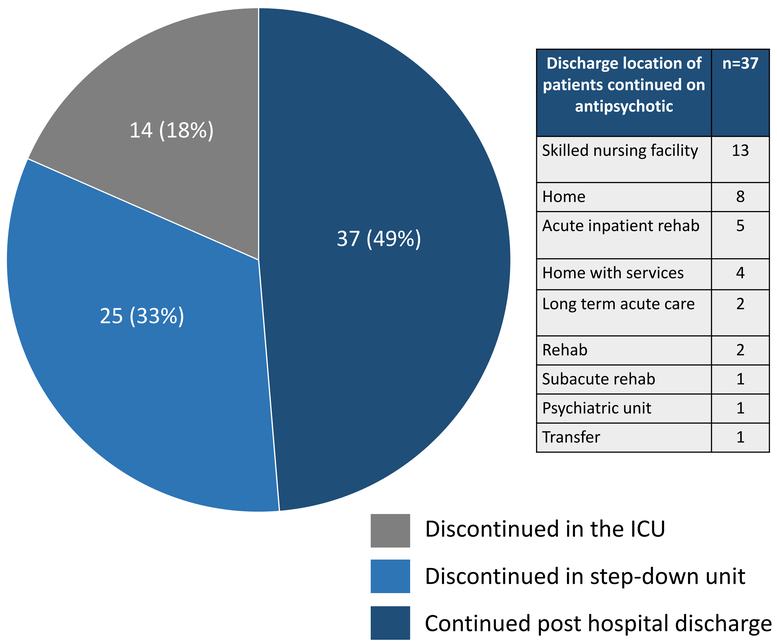
Delirium diagnosis if 1 and 2 are present with either 3 or 4. CAM-ICU should be reassessed at another time if RASS <-3

Results

Baseline Characteristics	N=76
Mean age, years	67
Gender - male, n (%)	56 (74)
Antipsychotic, n (%):	
Quetiapine	67 (88)
Risperidone	5 (7)
Olanzapine	4 (5)

CAM-ICU	N=76
Patients with at least one documented positive CAM-ICU score, n (%)	0 (0)
Number of patients with no documented CAM-ICU score, n (%)	13 (17)
Number of patients "unable to assess", n (%)	7 (9)
Number of patients with at least one negative documented CAM-ICU score, n (%)	56 (74)
Reason for unable to assess	
"Non-English speaking"	
"RASS -4/-5"	
"Extremely hard of hearing"	
"Refused"	
"Severe mental disability"	
"Blind"	

Antipsychotic Prescribing Trends



Discharge location of patients continued on antipsychotic	n=37
Skilled nursing facility	13
Home	8
Acute inpatient rehab	5
Home with services	4
Long term acute care	2
Rehab	2
Subacute rehab	1
Psychiatric unit	1
Transfer	1

Quetiapine Regimen	n=67
Initial daily dose, n (%):	
12.5 mg	7 (10)
25 mg	26 (39)
50 mg	28 (42)
100 mg	6 (9%)
Maximum daily dose, n (%):	
12.5 mg	5 (8)
25 mg	16 (24)
37.5 mg	1 (2)
50 mg	25 (37)
75 mg	1 (2)
100 mg	14 (21)
125 mg	1 (2)
150 mg	2 (3)
200 mg	1 (2)
450 mg	1 (2)

Timing of Therapy and Length of Stay

	Overall population N=76	Discontinued in ICU n=14	Discontinued in step down n=25	Continued post hospital discharge n=37
Mean ICU day of anti-psychotic initiation	**ICU day 8.2**	ICU day 10.0	ICU day 8.0	ICU day 7.5
Mean ICU LOS (days)	**12.9**	17.8	11.7	11.9
Mean duration of antipsychotic therapy (days)	**12.0 (1-51)**	5.5	10.8	15.2
Mean duration of sedation/opioid (days)	**6.0**	7.0	6.0	6.0
Mean duration of intubation (days)	**7.0**	9.9	6.0	6.4

Conclusions

- Antipsychotic-naïve patients who are initiated on an antipsychotic in the ICU are continued on the agent at a rate of 49% at hospital discharge
- Antipsychotics initiated in the ICU are continued in the step-down units at a rate of 82%
- Quetiapine is the most commonly prescribed antipsychotic agent in the ICU
- Patients prescribed antipsychotic agents in the ICU are commonly on prolonged courses of sedation. On average, antipsychotics are started on day 8 of ICU admission
- Longer ICU length of stay was associated with a higher likelihood of antipsychotic discontinuation prior to discharge
- Patients were most commonly initiated on quetiapine at a total daily dose of 25 mg or 50 mg and titrated up to 50 mg or 100 mg respectively
- Antipsychotic initiation and discontinuation was not associated with CAM-ICU scores
- CAM-ICU scores were documented in 83% of patients however all results were either "negative" or "unable to assess"
- Justification for inability to assess CAM-ICU scores included barriers to communication and high levels of sedation

Limitations

- Small sample size
- Lack of documentation of antipsychotic indication
- Inconsistent documentation or administration of CAM-ICU

Future Implications

- Opportunity for education regarding the appropriate documentation and utility of CAM-ICU scores
- Potential implementation of a pharmacist-driven protocol to ensure patients are not discharged inappropriately on antipsychotic therapy

Disclosures

- All authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have direct or indirect interest in the subject matter of this presentation

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