

Polysubstance Use and the Utilization of Atypical Antipsychotics following Severe Traumatic Injury

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Introduction

- Delirium increases the risk of prolonged hospital stay, cognitive impairment, and mortality¹⁻³
- Post-traumatic delirium with traumatic brain injury (TBI) can present as akathisia, aggression, disinhibition, and emotional lability⁴
- Antipsychotics are prescribed to treat post-traumatic agitation and delirium despite limited literature to support utilization in this population⁵

Methods

Single-center, retrospective cohort study

Inclusion criteria: admission to ICU, Injury Severity Score (ISS) ≥ 15 , hospital length of stay ≥ 5 days

Primary outcome: percentage of patients receiving an atypical antipsychotic (quetiapine, olanzapine, ziprasidone)

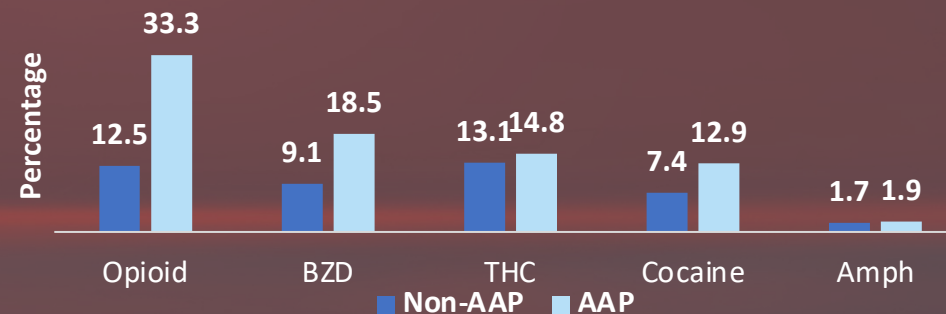
Secondary outcomes: agent prescribed, dosing regimen

Results

Table 1: Baseline Patient Characteristics (N=229)

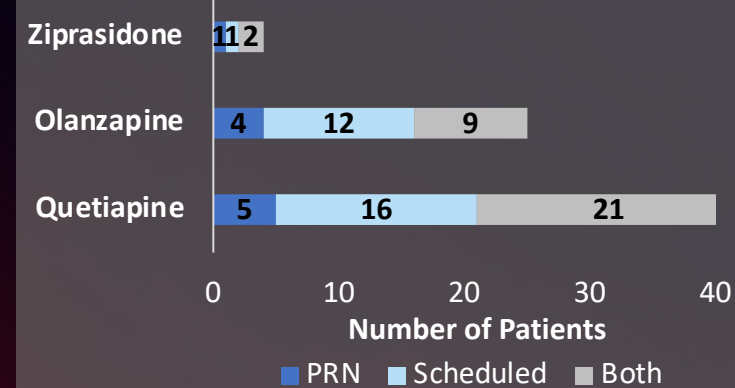
Variable	Non-AAP (n=175)	AAP (n=54)	p-value
Age, median (IQR)	36 (36.0)	32.5 (21.5)	0.032
Gender, male (%)	122 (69.7)	44 (81.5)	0.091
Race, n (%)			
Black	98 (56.0)	36 (66.7)	0.164
White	60 (34.3)	14 (25.9)	0.251
Other	17 (9.7)	4 (7.4)	0.608
Penetrating injury, n (%)	35 (20.0)	18 (33.3)	0.042
Traumatic Brain Injury, n (%)	81 (46.3)	32 (59.3)	0.096
ISS, median (IQR)	23.5 (12.0)	24.5 (11.0)	0.655
Positive Alcohol Screen, n (%)	55 (31.4)	15 (27.8)	0.611
Urine Drug Screen, n (%)	52 (29.7)	25 (46.3)	0.024
Positive Urine Drug Screen, n (%)	36 (20.6)	23 (42.6)	<0.001

Figure 1: Substances on Urine Drug Screen



BZD: benzodiazepine, THC: cannabinoid, Amph: amphetamine

Figure 2: Antipsychotic Prescribing



Conclusion

- Positive urine drug screen and penetrating trauma were associated with AAP prescribing
- Positive urine drug screen had a two-fold increase in AAP prescribing, and may reflect sub-optimal withdrawal management
- AAP prescribing tended to be on a scheduled basis, which may have increased the risk of AAP continuation beyond resolution of delirium

References

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