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**Title: Initiation of antipsychotic treatment for amphetamine induced psychosis and its impact on length of stay**

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**Background:** Approximately 1.9 million people used methamphetamine in 2018, per the National Survey on Drug Use and Health. One risk of using amphetamines is amphetamine-induced psychosis (AIP). Symptoms of AIP include hallucinations, delusions, and agitation. There are currently no FDA approved pharmacotherapies for AIP and there are insufficient data to provide evidence-based guidelines for medications in AIP. Psychosis from amphetamines may resolve with abstinence. However, antipsychotics are commonly used for symptoms of AIP, with aripiprazole, haloperidol, quetiapine, olanzapine, and risperidone being the most commonly cited in the literature.

We aim to investigate if antipsychotics are beneficial in AIP. We will compare patients who receive antipsychotics to those who do not. We will determine if time to initiation of antipsychotics improves patients' course of symptoms. We will use length of stay (LOS) as a surrogate for improvement of AIP.

**Objectives:** (1) Compare LOS for patients with AIP treated with antipsychotics versus untreated. (2) Determine antipsychotic prescribed, mean dose, number of as needed doses and time to initiation. (3) Evaluate readmissions – 30-day, 90-day, and 1-year psychiatric readmissions; urine drug screen (UDS) positive for amphetamines on readmission; and reason for readmissions. (4) Evaluate psychiatric emergency department (ED) visits within 30 days, 90 days, and 1 year.

**Methods:** Participants will be identified via retrospective chart review from an academic medical center. An online collection tool, RedCap®, will be used to store and report patient data. Inclusion criteria are patients diagnosed with AIP between 1/1/2017-9/30/2020, admitted to inpatient psychiatry service, with a UDS positive for amphetamines, and 18 years of age or older. Exclusion criteria include patients already taking an antipsychotic, active prescriptions for amphetamine salts, or patients in the ED for more than 48 hours prior to intake. Statistical tests used include Kruskal-Wallis for LOS comparison, as well as chi-square and binomial logistic regression for analysis of AIP development.

**Results:** Median LOS patients treated with antipsychotics (n=35) was longer than untreated patients (n=34), (5 days vs. 2.5 days, p = 0.001). Secondary outcomes did not affect LOS (type of antipsychotic used and time to initiation of antipsychotic). There was also no difference in readmissions.

**Conclusion:** Our study found that initiation of antipsychotics increased LOS compared to those patients not treated with antipsychotics. Future studies are needed to evaluate antipsychotic use in AIP.