



Methamphetamine Use is Associated with an Increased Risk of Infection in Hospitalized Patients

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Background

- Methamphetamine use is rising nationally
 - In Washington State, rates of death from methamphetamine use rose by 560% between 2008-2018
 - Nationally, hospitalization rates were up 270% between 2005-2015
- Intoxication with methamphetamines presents a challenge to clinicians in its many effects on physiology, including its ability to cause the Systemic Inflammatory Response Syndrome (SIRS)
- We hypothesized that hospitalized patients with methamphetamine use and SIRS are less likely to have an infection than those with SIRS without methamphetamine use

Methods

- **Retrospective observational study of 11,452 admissions**
 - All adults admitted to Harborview Medical Center 2015-18
 - Fulfilled SIRS criteria & tested for methamphetamine
- **Primary outcome: infection rate**
 - Defined by antimicrobial tx for >48h from admission, or discharge <48h w/ Rx for antimicrobials

Results

- **Rate of Infection**
 - 16% of meth(+) pts. w/ infection
 - 13% of meth(-) pts. w/ infection
 - Relative risk was 1.17 (95% CI 1.05-1.32, $p = 0.006$)
 - Adjusted for age, language, sex, HIV status, and race
- **SIRS and Lactate**
 - Meth(+) group had higher average SIRS values, but a lower average lactate and rate of lactate elevation

Discussion

- Despite methamphetamine's propensity to cause SIRS, patients with SIRS who test positive for methamphetamines are more likely to have infection than those who test negative
- Clinical parameter differences
 - More extreme SIRS values in meth(+) group
 - Lower lactate values in meth(+) group
- Limitations include:
 - Definition of infection
 - Urine tox screen
 - Other confounders
 - No information about route or timing of use