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The Perils of Well-Intended Protocols

Story From the Front Lines:

A woman in her 30s with asthma and generalized anxiety disorder presented to the Emergency Department with acute-onset dyspnea and was admitted for asthma exacerbation. She was noted to be intoxicated on admission with an ethanol level of 125mg/dL. She reported that she drinks 1-2 times per month and has never experienced withdrawal symptoms. She was placed on SEWS protocol to monitor her clinical status due to concern that she may develop alcohol withdrawal syndrome. The day following admission, she was found to be drowsy and her respiratory status had not improved. She had received lorazepam overnight after scoring for nausea, anxiety, and tachycardia.

Teachable Moment:

Alcohol withdrawal syndrome is associated with significant morbidity and mortality, especially if untreated. Complicated alcohol withdrawal, defined as involving hallucinations, seizures, and/or delirium tremens, is present in up to 6% of patients hospitalized on general medicine services. We have validated tools such as CIWA to assess the severity of alcohol withdrawal. Patients are placed on protocols such as CIWA out of good intentions: to assess signs and symptoms of withdrawal, and if indicated, administer benzodiazepines to prevent the potentially fatal complications of alcohol withdrawal. However, these tools are not perfect as the signs and symptoms included in these scores such as nausea, anxiety, and tachycardia, overlap with other clinical syndromes. Administration of benzodiazepines to patients at risk for AWS but with only mild symptoms can result in unintended consequences such as sedation, falls, respiratory depression, and delirium (Maldonado 2015).

Though we have validated tools to assess severity of withdrawal, we have lacked tools to predict which patients will develop complicated alcohol withdrawal, and therefore which patients should be monitored using these protocols. The Prediction of Alcohol Withdrawal Severity Scale (PAWSS) was recently developed and studied at Stanford University as a tool to predict those individuals who will develop complicated alcohol withdrawal. The score involves eight questions asked of the patient, along with two pieces of objective data, with a maximum score of 10. A score of four or more is considered positive. “A detailed analysis demonstrates that the PAWSS has a 93.1% sensitivity (95% CI [77.2, 99.2]) and a 99.5% specificity (95% CI [98.1, 99.9%]); with a PPV of 93.1% (95% CI [77.2, 99.2]) and a NPV of 99.5% (95% CI [98.1, 99.9%]).” The Likelihood Ratio for complicated alcohol withdrawal based on a positive PAWSS is 174. Though this scoring system is rather new, its performance as a diagnostic test is impressive, and its utilization in clinical practice may aid us in predicting which patients will develop alcohol withdrawal syndrome requiring treatment.

An evidence-based approach to identifying patients at risk for alcohol withdrawal is imperative not only to monitor and treat those patients at high risk for withdrawal, but also to avoid the unintended but potential harms of benzodiazepine administration to low-risk patients.

References:

Prospective Validation Study of the Prediction of Alcohol Withdrawal Severity Scale (PAWSS) in Medically Ill Inpatients: A New Scale for the Prediction of Complicated Alcohol Withdrawal Syndrome.

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