

Implementation of a Phenobarbital-based Alcohol Withdrawal Pathway in Critical Care

The Problem

- Alcohol abuse/dependence affects 20% of inpatients and 50% of trauma patients
- 9-30% of inpatients with alcohol withdrawal syndrome (AWS) require intensive care unit (ICU) management
- ICU admissions complicated by AWS have increased ICU and hospital length-of-stay (LOS), hospital acquired infections (HAIs), sepsis, and in-hospital mortality
- Alcohol dependence is associated with poor outcomes in the trauma population (2-3 fold increase in mortality, 50% longer LOS, inferior 3-month post-operative outcomes)
- Symptom based administration of long-acting benzodiazepines is the current standard of care at BIDMC
- Problems:
 - Resource intensive
 - Assessment confounded by co-incident diseases (e.g. alternative etiologies of delirium, mechanically ventilated patients)
 - Difficult to differentiate between AWS and benzodiazepine intoxication
 - Cross tolerance with alcohol

Aim/Goal

To implement a standardized phenobarbital pathway for the treatment and prevention of severe alcohol withdrawal in critically ill patients at BIDMC.

The Team

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The Interventions

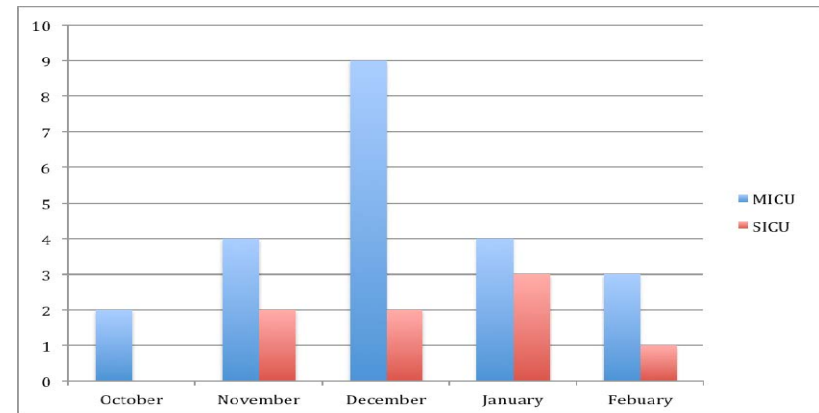
- Development of a phenobarbital guideline for the treatment and prevention of severe AWS in critically ill patients
- Identification of unit-based nursing champions, in-service training of ICU nursing
- Attending and housestaff education
- Development of a POE order set
- Rolling implementation in all BIDMC ICUs

The Results/Progress to Date

Timeline

- October, 2013: Finard ICU implementation
- December, 2013: TSICU implementation
- February, 2014: Implementation of pathway in all MICUs and SICUs

Patients Treated with Phenobarbital



Lessons Learned

- With a staggered, unit-based implementation, there is the risk of contamination as the intervention can be utilized in non-implementation locations
- Identification of stakeholders is critical in the implementation of a multidisciplinary treatment guideline

Next Steps/What Should Happen Next

- Complete implementation of the guideline in all ICUs at BIDMC
- Pre-post evaluation of the intervention, with assessment of:
 - Time to resolution of AWS
 - ICU and hospital length-of-stay
 - Hospital-acquired infections
 - Mean arterial blood pressure and heart rate
 - Rates of delirium as assessed by the Confusion Assessment Method for the ICU (CAM-ICU)

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