Abstract

**Background:** In 2013, the Society of Critical Care Medicine (SCCM) released treatment guidelines for pain, sedation, and delirium in the ICU. A two-part protocol was designed and implemented at the hospital to address delirium in the ICU. The delirium prevention protocol includes screening for delirium, optimizing analgesia and sedation and non-pharmacological prevention measures. The second part of the protocol addresses treatment of delirium using antipsychotics.

**Objectives:** Develop and evaluate the implementation of a delirium prevention and treatment protocol on the number of delirious days in the surgical trauma intensive care unit (STICU).

**Methods:** This was an IRB approved, retrospective, observational study. The protocol used the Confusion Assessment Method for the intensive care unit (CAM-ICU) to assess delirium in patients as well as both the Critical Care Pain Optimization Tool (CPOT) and Richmond Agitation-Sedation Scale (RASS) to titrate and optimize pain and sedation, respectively. The protocol included non-pharmacologic interventions as well the use of haloperidol and quetiapine or olanzapine. The primary endpoint was number of delirious days. Secondary endpoints included ICU length of stay (LOS), amount of atypical and typical antipsychotic medications, amount of analgesia, sedation medications, and adverse events including hypotension, bradycardia, somnolence, and QTc prolongation. Investigators followed patients from time of delirium onset until discharged from ICU.

**Results:**
Overall, 38 patients were included in the pre-implementation cohort and 51 in the post-implementation cohort. Implementation of a delirium protocol in the STICU significantly reduced the number of delirious days from 8.2 to 4.5 (p = 0.001). Use of the delirium protocol also led to a significantly reduced length of stay in the ICU from 11.0 days in the pre-implementation group to 7.0 days in the post-implementation group (p=0.003). The protocol also demonstrated a decrease in pain, sedation, and atypical antipsychotic medication use.

**Conclusion:**

Implementation of a delirium protocol with non-pharmacologic and pharmacologic interventions decreased the number of days a patient spent delirious in the surgical trauma intensive care unit.