

Improving Patient Outcomes for Aspiration Pneumonia

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Abstract : Pneumonia is the most common infectious cause of hospitalizations in the United States, with more than one million admissions annually and costs of \$10 billion every year, making it the 8th leading cause of death. Aspiration pneumonia is an aggressive type of pneumonia that results from inhalation of oropharyngeal secretions and/or gastric contents and is preventable. The authors hypothesized that an evidence-based aspiration pneumonia clinical care pathway could reduce 30-day hospital readmissions and mortality rates, while improving the overall care of patients. We conducted a retrospective chart review on 979 patients discharged with aspiration pneumonia from January 2021 to December 2022 at Overlook Medical Center. The authors identified patients who were coded with aspiration pneumonia and/or stable sepsis. Secondly, we identified 30-day readmission rates for aspiration pneumonia from a SNF. The Aspiration Pneumonia Clinical Care Pathway starts in the emergency department (ED) with the initiation of antimicrobials within 4 hours of admission and early recognition of aspiration. Once this is identified, a swallow test is initiated by the bedside nurse, and if the patient demonstrates dysphagia, they are maintained on strict nothing by mouth (NPO) followed by a speech and language pathologist (SLP) referral for an appropriate modified diet recommendation. Aspiration prevention techniques included the avoidance of straws, 45-degree positioning, no talking during meals, taking small bites, placement of the aspiration wrist band, and consuming meals out of the bed in a chair. Nursing education was conducted with a newly created online learning module about aspiration pneumonia. The authors identified 979 patients, with an average age of 73.5 years old, who were diagnosed with aspiration pneumonia on the index hospitalization. These patients were reviewed for a 30-day readmission for aspiration pneumonia or stable sepsis, and mortality rates from January 2021 to December 2022 at Overlook Medical Center (OMC). The 30-day readmission rates were significantly lower in the cohort that received the clinical care pathway (35.0% vs. 27.5%, $p = 0.011$). When evaluating the mortality rates in the pre and post intervention cohort the authors discovered the mortality rates were lower in the post intervention cohort (23.7% vs 22.4%, $p = 0.61$) Mortality among non-white (self-reported as non-white) patients were lower in the post intervention cohort (34.4% vs. 21.0% , $p = 0.05$). Patients who reported as a current smoker/vaper in the pre and post cohorts had increased mortality rates (5.9% vs 22%). There was a decrease in mortality for the male population but an increase in mortality for women in the pre and post cohorts (19% vs. 25%). The authors attributed this increase in mortality in the post intervention cohort to more active smokers, more former smokers, and more being admitted from a SNF. This research identified that implementation of an Aspiration Pneumonia Clinical Care Pathway showed a statistically significant decrease in readmission rates and mortality rates in non-whites. The 30-day readmission rates were lower in the cohort that received the clinical care pathway (35.0% vs. 27.5%, $p = 0.011$).

Keywords : aspiration pneumonia, mortality, quality improvement, 30-day pneumonia readmissions

Conference Title : ICNH 2024 : International Conference on Nursing and Healthcare

Conference Location : New York, United States

Conference Dates : August 08-09, 2024