

ABSTRACT

Background: Hollow viscus perforation is defined as the condition where the gastrointestinal wall loses its integrity and leakage of the enteric contents happens. The number of deaths due to hollow organ perforation is categorized as relatively high, around 20–40% due to septic shock and multi-organ failure. It is important to establish an accurate diagnosis and treat the patient comprehensively to prevent morbidity, prolonged hospital stays, and mortality due to peritonitis. Assessment indicators such as CPIRO and qSOFA are crucial in predicting the patient's length of stay (LoS).

Objectives: In this study, we aimed to determine the performance of CPIRO in comparison to the qSOFA scoring system as LoS predictors with hollow viscus perforation. This research also aims to provide better outcomes for hollow organ perforation patients.

Methods: This study is using a cross sectional study, utilizing electronic medical record data from patients to compare the performance of the CPIRO and qSOFA scoring system score as LoS predictors in patients with hollow viscus perforation in emergency department of RSUP dr. Sardjito during the treatment year from February 2022 to December 2024. The sample data that qualified for inclusion criteria but was not included in the exclusion criteria will be used as the sample size. Statistical calculations will be done by analyzing each score to determine the cut-off value of each scoring system, and then it will be compared and evaluated with the LoS of the patient.

Results: This study analyzed 58 patients with hollow viscus perforation at RSUP Dr. Sardjito from February 2022 to December 2024, assessing the utility of CPIRO and qSOFA scoring systems in predicting hospital length of stay (LoS). The majority of patients were male (67.2%) and over 60 years old (32.8%), with a high prevalence of comorbidities (96.6%), most commonly cancer, kidney failure, and pneumonia. No significant correlation was found between CPIRO and LoS ($p = 0.326$) or between qSOFA and LoS ($p = 0.259$). However, a weak but statistically significant positive correlation was observed between CPIRO and qSOFA scores ($r = 0.333$, $p = 0.011$), indicating that increases in chronic illness severity (CPIRO) tend to align with increases in acute physiological deterioration (qSOFA). Additionally, a non-significant trend suggested that patients with higher qSOFA scores had 3.2 times greater odds of prolonged hospitalization (OR = 3.235, $p = 0.103$), highlighting potential clinical relevance that warrants further investigation.

Conclusion: Neither CPIRO nor qSOFA scores are more reliable in predicting the length of hospital stay in patients with hollow viscus perforation within the studied population. However, the qSOFA scoring system may still have more potential as a clinical tool due to its practicality, rapid bedside applicability, and observed trend toward association trend.

Keywords: hollow viscus, perforation, CPIRO, qSOFA, LoS predictors