CRITICAL CARE CONGRESS
FEBRUARY 23-25, 2025 | ORLANDO, FLORIDA
Society of Critical Care Medicine
The Intensive Care Professionals
CRITICAL CARE CONGRESS

Submission Title: Comorbidities and Delirium in Critical Care: A Comprehensive Analysis

SUBMISSION PREVIEW: COMORBIDITIES AND DELIRIUM IN CRITICAL CARE: A COMPREHENSIVE ANALYSIS

Comorbidities and Delirium in Critical Care: A Comprehensive Analysis

Submission ID: **1894276**

Submission Format: **Abstract Submission**

Submission Category: **Research**

Submission Status: **Complete**

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Abstract Content

INTRODUCTION

Delirium is a common and serious complication in critically ill patients, associated with increased mortality and long-term cognitive impairment. While various risk factors have been identified, the relationship between comorbidities and delirium outcomes remains unclear. This study investigates the association

between Charlson Comorbidity Index (CCI) components, RASS scores, and delirium occurrence in critical care patients.

METHODS

We conducted a retrospective cohort study using electronic health records from adult ICU patients. Delirium was assessed using the Confusion Assessment Method for ICU (CAM-ICU). Comorbidities were categorized based on CCI components. RASS scores were used to classify delirium as hypoactive (≤-2), hyperactive (≥2), or mixed. Data analysis included calculating delirium rates for each comorbidity with 95% confidence intervals, logistic regression for CCI scores, and chi-square tests for associations between comorbidities, RASS scores, and delirium types.

RESULTS

The study included 38,021 patients (43% females; median age 64 years, IQR: 52-74). Delirium rates varied significantly across comorbidities, with AIDS (32.74%, $p< 0.0001$), liver disease (31.06%, $p< 0.0001$), and peptic ulcer (27.80%, $p=0.0002$) showing the highest rates. Logistic regression revealed a significant association between CCI scores and delirium occurrence (coef=0.0636, $p< 0.0001$). Delirium types were distributed as: no delirium (78.38%), mixed (18.40%), hypoactive (2.71%), and hyperactive (0.52%). Chi-square tests showed significant associations between most comorbidities and delirium types ($p< 0.01$), except for MI ($p=0.0650$) and malignancy ($p=0.0573$). RASS scores were strongly associated with delirium occurrence ($\chi^2=1623.91$, $p< 0.0001$).

CONCLUSIONS

Our findings demonstrate significant associations between specific comorbidities, CCI scores, and delirium in ICU patients. AIDS, liver disease, and peptic ulcer were identified as high-risk factors. The strong relationship between RASS scores and delirium highlights the importance of sedation management. These results can inform risk assessment and targeted prevention strategies for delirium in critical care settings.

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Patient Type
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Category Alternate 2

Keywords
delirium

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