

Category :[ICU organization](#)

A106 - Predictors of mortality in intensive care unit respiratory failure patients with blood stream infection caused by klebsiella pneumoniae carbapenemase-producing klebsiella pneumoniae

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Introduction:

The Klebsiella pneumoniae carbapenemase-producing Kp (KPC-Kp) strain infection is gradually emerging as a significant problem contributing to the mortality of intensive care unit (ICU) patients, especially blood stream infection (BSI). The aim of this study was to identify risk factors associated with mortality in ICU patients with BSI caused by KPC-Kp.

Methods:

All data from patients who suffered from BSI caused by KPC-Kp in ICU from January 2017 to December 2021 were retrospective analyzed in Chang Gung Memorial Hospital, Taoyuan, Taiwan. All patients simultaneously suffered with respiratory failure and were all received mechanical ventilation. We analyzed outcome of BSI with KPC-Kp in ICU patients.

Results:

A total of 168 patients were identified during the study period. The 30 days mortality rate was 61.9%. Higher Pitt bacteremia score, SOFA score and Charlson morbidity score were found in our patients. The most frequent infection source of BSI was pneumonia (112, 66.7%). The result of multivariate analysis showed Ceftazidime-Avibactam (CAZ-AVI) based regimen (Hazard ratio (HR) 0.312, 95% Confidence interval (CI) 0.151-0.648; $P < 0.002$) and appropriate antibiotic treatment within 48 hours after KPC-Kp BSI onset (HR 0.623; 95% CI 0.408-0.950; $P < 0.028$) were independently associated with favorable outcomes.

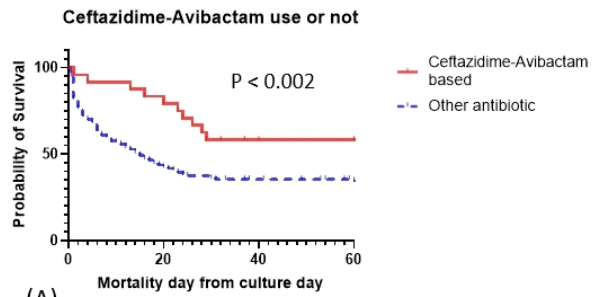
Conclusion:

We found that appropriate antibiotic treated within 48 hours after KPC-Kp blood stream infection onset and CAZ-AVI treated were crucial factor in favorable outcome among patients with respiratory failure in ICU. We recommend the utilize of novel rapid molecular test in high risk of hospital acquired KPC-Kp infections patients. Subsequently, it is advisable to treat with effective antibiotics such as CAZ-AVI as soon as possible.

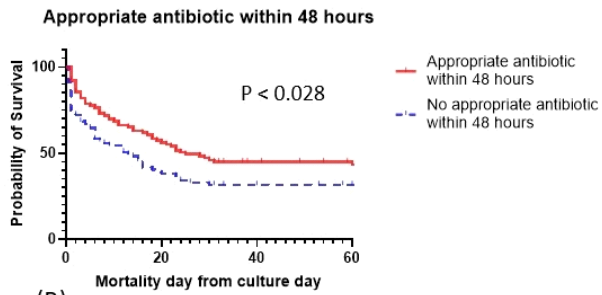
References:

Satlin MJ. Impact of a Rapid Molecular Test for Klebsiella pneumoniae Carbapenemase and Ceftazidime-Avibactam Use on Outcomes After Bacteremia Caused by Carbapenem-Resistant Enterobacterales. Clin Infect Dis. 2022 Dec 19;75(12):2066-2075.

Image :



(A)



(B)

Kaplan-Meier curves for survival of patient with Ceftazidime-Avibactam based regimen treated or not (A); Appropriate antibiotic treated within 48 hours or not(B)