Category :**Sepsis/septic shock: management**

A179 - ***The risk-adjusted association between antibiotic timing and mortality among clinical sepsis phenotypes***

A Yang [1] ; JN Kennedy [2] ; G Phillips [3] ; KM Terry [3] ; MM Levy [4] ; CW Seymour [5]

[1]UPMC, Department of Internal Medicine, Pittsburgh, United States, [2]University of Pittsburgh, Critical Care Medicine, Pittsburgh, United States, [3]IPRO, IPRO, Lake Success, United States, [4]Brown University School of Medicine, Department of Pulmonary and Critical Care Medicine, Providence, United States, [5]University of Pittsburgh, Department of Critical Care Medicine and Emergency Medicine, Pittsburgh, United States

Introduction:

Sepsis is a common, deadly, and heterogeneous syndrome. Four clinical phenotypes of sepsis are proposed, yet the association between sepsis phenotypes and treatment response is unknown. To address this knowledge gap, we investigated the relationship between antibiotic treatment delay and mortality when modified by clinical sepsis phenotype.

Methods:

We analyzed a retrospective cohort of adult patients with sepsis and septic shock as reported to the New York State Department of Health (2015 to 2017), and identified clinical sepsis phenotypes (α,ß,y,∂) using a modified approach from the Sepsis ENdotyping in Emergency Care (SENECA) algorithm [1]. We used multivariable logistic regression to understand association between time to antibiotic administration and in-hospital mortality by sepsis phenotype.

Results:

We studied 55,169 encounters (median age 72 years, [IQR 60-83 years]; 52% male, 22% in-hospital morality) and found 34% α-type, 30% ß-type, 19% y-type, and 17% ∂-type. The α-type was younger with the lowest in-hospital mortality, the ß-type was older with more renal dysfunction, and ∂-type had elevated lactate levels with the highest proportion of septic shock. Antibiotic treatment delay was associated with increased risk-adjusted in-hospital mortality across all phenotypes, but effect size varied by phenotype (α: OR 1.03, 95%CI 1.00-1.05, p=0.08; ß: OR 1.04, 95%CI 1.02-1.06, p<0.01; *y*: OR 1.02, 95%CI 0.99-1.05, p=0.18; ∂: OR 1.07, 95%CI 1.05-1.10, p<.01; Interaction p-value 0.045).

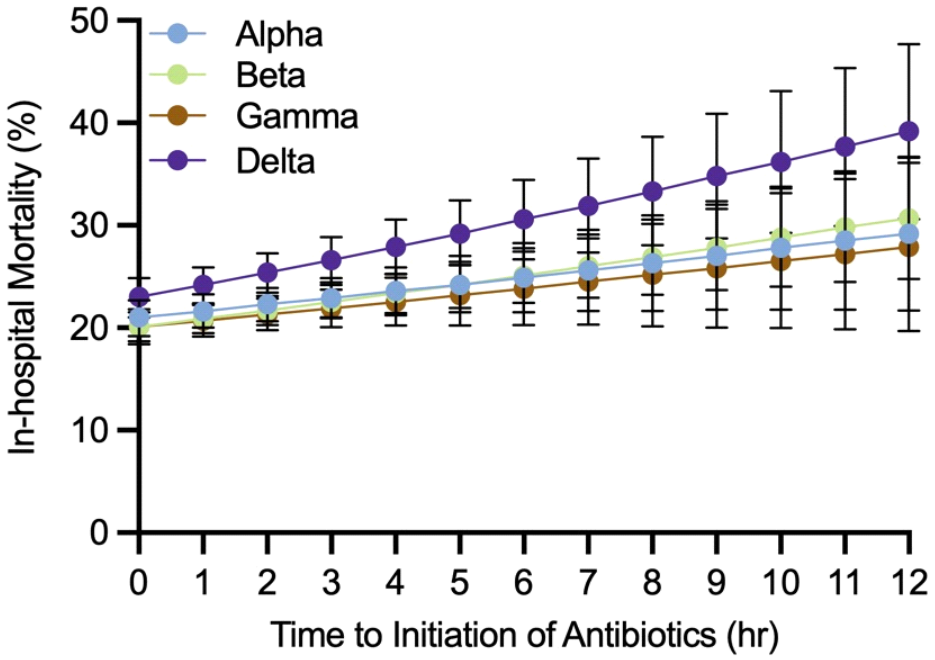
Conclusion:

More rapid completion of administration of antibiotics, particularly among the delta clinical phenotype, were associated with lower risk-adjusted in-hospital mortality.

References:

1. Seymour CW et al. JAMA Vol 321: 2003-2017.

Image :



Predicted risks of risk-adjusted in-hospital death by clinical sepsis phenotype across time after protocol initiation, for initiation of antibiotics. Bars represent 95% confidence intervals.