

Antibiotic Delay and Mortality in Septic Shock in the Emergency Department: A Retrospective Study

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BACKGROUND

Septic shock is a life-threatening condition with high mortality. Current Surviving Sepsis Campaign guidelines¹ recommend broad-spectrum antibiotics **within one hour** of recognition. However, antibiotic delays remain common in clinical practice and may adversely affect outcomes. Identifying the prevalence and contributing factors of such delays is essential for improving emergency care.

OBJECTIVE

- Quantify the prevalence of first-dose antibiotic delay (>60 min) in septic shock patients presenting to the Emergency Department (ED)
- Identify clinical and operational factors associated with delay
- Examine factors independently associated with 7-day mortality

RESULTS

79.2 ± 12.98 yr
Mean Age

36.7% of cohort
Female

28.3% subsequently
Positive Cultures

FIGURE 1. MOST COMMON COMORBIDITIES

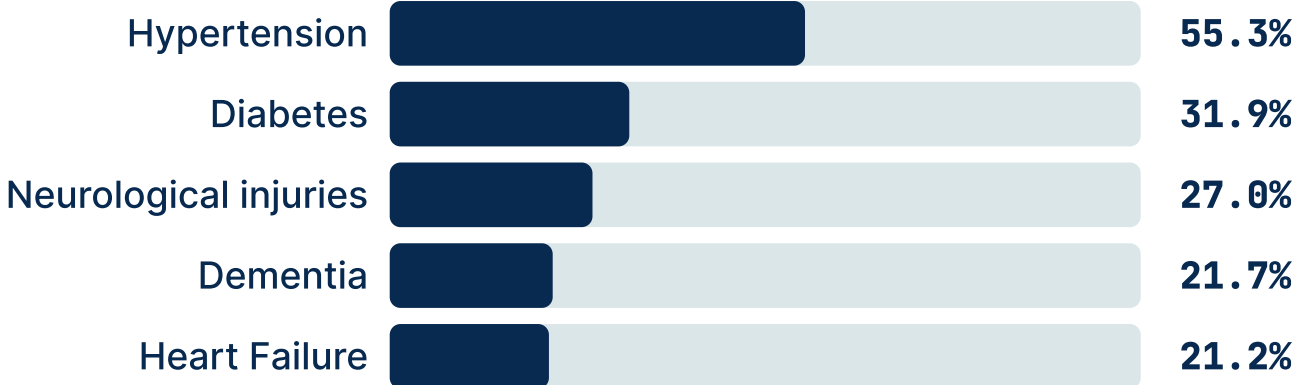
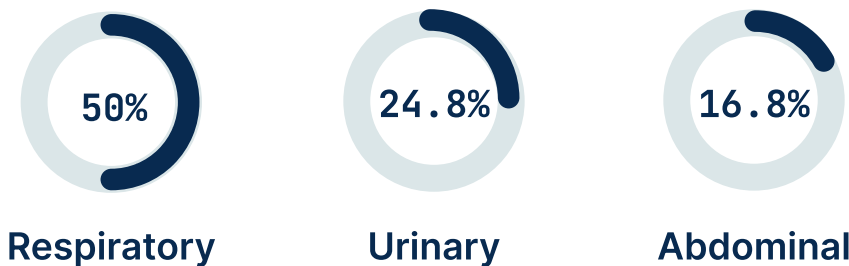


FIGURE 2. DISTRIBUTION OF PRIMARY INFECTION SOURCES (N=226)



*Note: Displaying primary sources; percentages do not sum to 100% due to overlapping sources in 25 patients (11.6%).

72.6%
of patients had antibiotic delay >60 min

Antibiotic delay >60 min **was not significantly associated** with 7-day mortality (p = 0.069)

FIGURE 3. MULTIVARIABLE PREDICTORS OF FIRST-DOSE ANTIBIOTIC DELAY (>60 MIN)

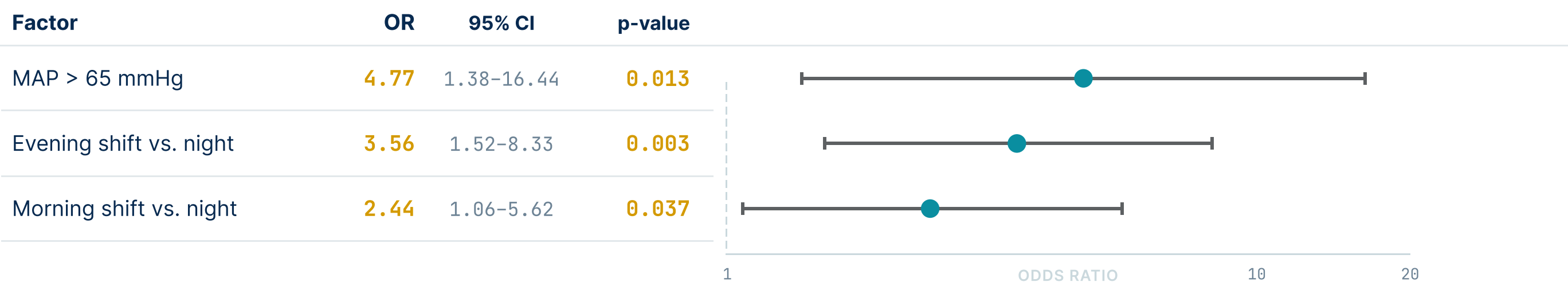
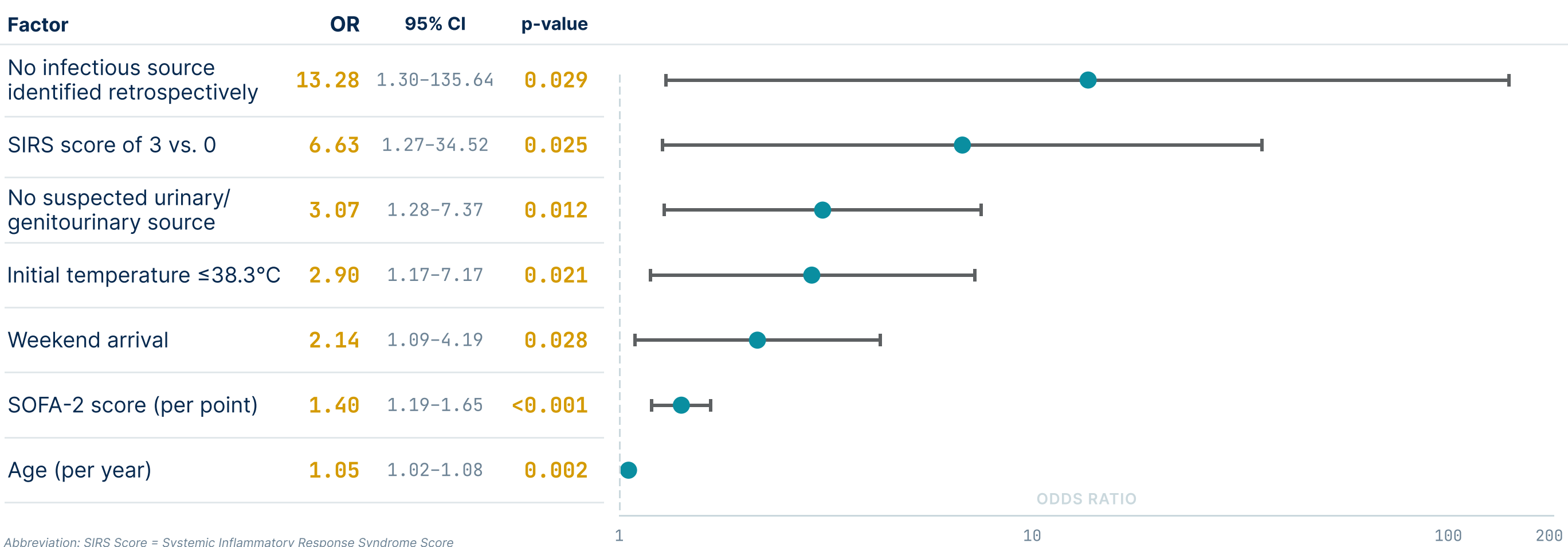


FIGURE 4. MULTIVARIABLE PREDICTORS OF 7-DAY MORTALITY



CONCLUSIONS

72.6% of septic shock patients received antibiotics with a delay exceeding one hour. Notably, antibiotic delay itself was not associated with 7-day mortality in this cohort; rather, mortality was driven by clinical risk factors, such as higher SIRS and SOFA-2 scores and older age, as well as weekend arrival. These findings suggest that patient-level risk stratification may be as important as time-to-antibiotic in predicting outcomes in septic shock.

REFERENCES

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