

# Impact of the Unasyn Shortage on Antibiotic Prescribing and Clinical Outcomes for Adult Inpatients with Aspiration Pneumonia

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## Background

Ampicillin/sulbactam is a recommended first-line agent for the treatment of aspiration pneumonia. Due to the ampicillin/sulbactam shortage, beginning in March 2019, alternative therapies, such as ceftriaxone plus metronidazole, have been utilized more frequently. The objective of this study is to examine clinical outcomes in adult inpatients treated with either ampicillin/sulbactam or ceftriaxone/metronidazole for aspiration pneumonia.

## Methods

An electronic health record report identified patients  $\geq 18$  years of age that received ampicillin/sulbactam (pre-March 2019) or ceftriaxone/metronidazole (post-March 2019) with the indication of aspiration pneumonia. The primary objective was to describe 30-day all-cause readmission rates for patients that received ampicillin/sulbactam compared to ceftriaxone/metronidazole. The secondary objectives included hospital length of stay (LOS), 30-day all-cause mortality, *C.difficile* infection (CDI) within 3 months, and total antibiotic costs.

## Results

A total of 86 patients (50 received ampicillin/sulbactam and 36 received ceftriaxone/ metronidazole) were included. Demographics were similar between groups. There was no significant difference in 30-day all-cause readmission rates (30% vs 19%,  $p=0.322$ ). The ampicillin/sulbactam group, however, was found to have a significantly higher rate of 30-day all-cause mortality (12% vs 0%,  $p=0.038$ ). Additionally, total duration of therapy was found to be significantly shorter in the ampicillin/sulbactam group (5 vs 7 days,  $p=0.002$ ) with reduced overall cost of therapy (\$130 vs \$235,  $p<0.001$ ). No differences were observed in hospital LOS or CDI within 3 months.

## Conclusions

No difference was observed in 30-day all-cause readmissions in patients receiving ampicillin/sulbactam compared to ceftriaxone/metronidazole for the treatment of aspiration pneumonia. Further analyses are recommended to evaluate the impact on 30-day all-cause mortality.