

## INTRODUCTION

Prescribing antibiotics for febrile patients without proof of bacterial infection contributes to antimicrobial resistance. Lack of clinical response in these patients often leads to antibiotic escalation, although data supporting this strategy are scarce. This retrospective, multicenter, cohort study evaluated the prognostic benefit of modifying antibiotic treatment compared to withholding or continuing the same empiric regimen among such in-hospital patients.

## METHODS

Febrile or hypothermic hemodynamically stable patients with suspected infection, unresponsive to at least 48 h of empiric antibiotics, admitted to one of 15 internal medicine departments in three hospitals during a five-year study period, were included. Patients with an obvious clinical, microbiological or radiological evidence of bacterial infection were excluded. Participants were divided into groups based on treatment strategy determined 72 h after antibiotic initiation: antibiotic modified, withheld or continued. Outcomes measured included in-hospital and 30-day post-discharge-mortality rates, length of hospital stay (LOS) and days of in-hospital systemic antibacterial therapy (DOT).

## CONCLUSION

Withholding antibiotic treatment as compared to modifying it, in febrile patients with no clear evidence of bacterial infection, unresponsive to empiric antibiotics, is a safe strategy associated with decreased length of hospital stay and days of in-hospital systemic antibacterial therapy.

## OBJECTIVES

To evaluate the impact of three different antibiotic treatment strategies on the following clinical outcomes among study population:

- ❑ Mortality rate during hospitalization
- ❑ Mortality rate 30 days after discharge
- ❑ Length of hospital stay (LOS)
- ❑ Days of in-hospital systemic antibacterial therapy (DOT)

## RESULTS

A total of 486 patients met the inclusion criteria and were divided into three groups: Antibiotic modified (N=124), Antibiotic withheld (N=67) and Initial antibiotic continued (N=295). Patient characteristics were similar among groups with no differences in mortality rates in-hospital (23% vs. 25% vs. 20%, p=0.58) and within 30 days after discharge (5% vs. 3% vs. 4%, p=0.83). Changing antibiotics led to longer LOS (9.0 ± 6.8 vs. 6.2 ± 5.6 days, p=0.003) and more DOT (8.6 ± 6.0 vs. 3.2 ± 1.0 days, p<0.001) compared to withholding treatment. Multivariable analysis supported these results. Dementia and low performance status were found as predictors for in-hospital mortality (OR 2.79, 95%CI 1.14/6.84, p=0.025 and OR 0.21, 95%CI 0.1/0.46, p<0.001, respectively).

