842. Comparative Effectiveness of Cloxacillin or Cefazolin Versus Vancomycin as Empiric Therapy in Patients With Methicillin-Susceptible Staphylococcus aureus (MSSA) Bacteremia

Davie Wong, MD; Titus Wong, MD, FRCPC; Marc G. Romney, MD, FRCPC; DTIM&H; Victor Leung, MD, FRCPC; Infectious Diseases, University of British Columbia, Vancouver, British Columbia, Canada; Pathology and Laboratory Medicine, Vancouver Coastal Health, Vancouver, British Columbia, Canada; Pathology and Laboratory Medicine, Providence Health Care, Vancouver, British Columbia, Canada; Pathology and Laboratory Medicine, Infectious Diseases, Providence Health Care, Vancouver, British Columbia, Canada

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Background. Prior studies suggested that vancomycin (VA) may be inferior to β-lactams (BL) for empiric treatment of methicillin-susceptible Staphylococcus aureus (MSSA) bacteremia. We assessed if empiric therapy with cloxacillin or cefazolin compared to VA was associated with improved survival and microbiological cure in patients with MSSA bloodstream infection.

Methods. We conducted a retrospective cohort study of adult inpatients with their first episode of monomicrobial MSSA bacteremia at two tertiary care hospitals in Vancouver, Canada between 2007 and 2014. Exposure was either empiric BL or VA therapy. Definitive therapy with cloxacillin or cefazolin was started within 72 hours after the first positive blood culture. The primary outcome was 28-day mortality. Secondary outcomes were 90-day mortality, duration of bacteremia and hospital length-of-stay (LOS). Multivariate analysis was adjusted for age, gender, Charlson-comorbidity index, Pitt bacteremia score, infectious diseases consultation, infective endocarditis (IE) and time to receipt of empirical antibiotics.

Results. Of 669 patients identified, 255 met inclusion criteria (β-lactam = 131, vancomycin = 124). The overall 28-day mortality was 7.06% (n = 18). IE was diagnosed in 14.1% (n = 36) of cases. The median duration of empiric and definitive therapy was 2.1 days and 4 weeks, respectively. Adjusted mortality at 28 days was similar between the BL and VA groups (OR: 1.03; 95% CI: 0.29-3.63). The duration of bacteremia was longer in the VA group compared to the BL group (97.1 versus 70.7 hours, p = 0.007). There was no difference in mortality at 90 days (OR: 1.02; 95% CI: 0.40-2.60) and hospital LOS (19 versus 22.5 days, p = 0.11). Transition to cloxacillin or cefazolin occurred within a median of 68.3 hours from the first positive blood culture in the vancomycin group.

Conclusion. Empiric therapy with cloxacillin or cefazolin was associated with earlier clearance of bacteremia by a median of 1 day compared to VA, but was not associated with lower all-cause mortality. VA monotherapy is adequate for the empirical treatment of MSSA bloodstream infections as long as definitive therapy can be initiated within 3 days from the onset of bacteremia.

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