MANAGEMENT
STAPHYLOCCUS AUREUS BAKTERIÄMIE

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ÖSTERREICHISCHE
GESELLSCHAFT FÜR
ANTIMIKROBIELLE
CHEMOTHERAPIE

Are all beta-lactams similarly effective in the treatment of methicillin-sensitive *Staphylococcus aureus* bacteraemia?

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Retrospektive Kohortenstudie, n=541

treatment. Empirical treatment with cloxacillin or cefazolin (*n* = 131) was associated with lower 30-day mortality as compared with cefuroxime (*n* = 98, p 0.058), ceftriaxone or cefotaxime (*n* = 194, p 0.008) and beta-lactam-beta-lactamase combinations (*n* = 61, p 0.013), with adjusted odds ratios (OR) for death ranging from 1.98 to 2.68. Definitive treatment with cefazolin (*n* = 72) was not significantly different from cloxacillin (*n* = 281); adjusted OR for 90-day mortality 0.91 (95% confidence interval 0.47–1.77). Treatment with cefazolin both in the empirical and definitive periods was not significantly different from cloxacillin; adjusted OR 0.81 (95% confidence interval 0.18–3.62). Treatment of MSSA bacteraemia with cefazolin is not significantly different from treatment with cloxacillin, while treatment with other beta-lactams, including second and third generation cephalosporins, might be associated with higher mortality.

TABLE 2. Multivariable logistic regression analysis for 30-day mortality: empirical antibiotic treatment[a]

Variable[b]	OR, 95% CI *n* = 541 patients, deaths = 202	p-value
Empirical antibiotic treatment		
Oxacillin/cefazolin	Reference	
Cefuroxime	1.98 (0.98–4.01)	0.058
Ceftriaxone/cefotaxime	2.24 (1.23–4.08)	0.008
Beta-lactam-beta-lactamase	2.68 (1.23–5.85)	0.013
Other beta-lactams	0.81 (0.35–1.9)	0.629

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Original article

Comparative outcomes of cefazolin versus antistaphylococcal penicillins in methicillin-susceptible *Staphylococcus aureus* infective endocarditis: a *post hoc* analysis of a prospective multicentre French cohort study

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ABSTRACT

Objectives: Current guidelines recommend cefazolin as an alternative to antistaphylococcal penicillins (ASPs) in methicillin-susceptible Staphylococcus aureus (MSSA) infective endocarditis despite the lack of comparative study. The objective of this study was to evaluate the comparative outcomes of cefazolin vs. ASPs in MSSA infective endocarditis.

Methods: This was a retrospective analysis of an observational multicentre cohort study using prospectively collected data from patients with MSSA endocarditis confirmed by endocarditis team and treated either with cefazolin or ASPs between July 2013 and December 2018. Patients were excluded if they received both treatments. The primary outcome was 90-day all-cause mortality.

Results: Of 210 patients included, 53 patients (25.2%) received cefazolin and 157 (74.8%) received ASPs. The overall 90-day mortality rate was 27.6% (58/210 patients), 24.5% (13/53) in the cefazolin group vs. 28.7% (45/157) in the ASP group (p 0.561). Premature antimicrobial discontinuation due to adverse events occurred less frequently with cefazolin than with ASPs (0/53 vs. 13/157 patients; p 0.042). In multivariate analysis, there was no difference in 90-day mortality between cefazolin and ASPs (adjusted odds ratio (aOR), 1.2; 95% confidence interval (CI), 0.49–2.91; p 0.681), while age (aOR, 1.06; 95% CI, 1.03–1.09; p < 0.001), Charlson comorbidity index (aOR, 1.18; 95% CI, 1.02–1.36 p 0.023), cerebral embolism (aOR, 2.83; 95% CI, 1.33–6.14; p 0.007) and intensive care unit admission (aOR, 4.16; 95% CI, 1.89–9.59; p 0.001) were factors significantly associated with higher mortality.

Conclusions: Cefazolin seems to be a possible alternative to ASPs in MSSA endocarditis. More studies are needed to confirm these results and determine which treatment should be recommended as first-line therapy. **Raphaël Lecomte, Clin Microbiol Infect 2020;▪:1**

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