Is Combination Systemic Therapy Superior to Monotherapy for Enterococcal Prosthetic Joint Infection?

To the Editor—We commend El Helou et al. [1] for reporting the largest series of patients with enterococcal prosthetic joint infection to date. We read the article with interest, given the weak evidence base that currently exists for treatment of this condition. The authors compared the outcomes in patients treated with antibiotic regimens consisting of a cell wall–active agent (β-lactam or vancomycin) plus ≥14 days of aminoglycoside therapy (combination therapy) with the outcomes in patients treated with <14 days of aminoglycoside therapy (monotherapy). In fact, the monotherapy group received a median of 7 days (range, 5–13 days) of aminoglycoside therapy, and the combination therapy group received a median of 25 days (range, 15–28 days) of such therapy. In brief, the study compared patients who received short courses with those who received longer courses of aminoglycoside therapy.

Although the authors found no statistically significant difference in 2-year survival free of treatment failure between the 2 groups (88% in the monotherapy group and 72% in the combination therapy group; \( P = .1 \)), the monotherapy group surprisingly had a consistently lower incidence of treatment failure during the follow-up period than did the combination therapy group. However, the fact that more patients in the combination therapy group than in the monotherapy group experienced joint prosthesis loosening (79% vs. 35%; \( P = .004 \)) suggests that disease severity was greater in the combination therapy group. Furthermore, the combination therapy group appeared to have required more-intensive surgical treatment, compared with the monotherapy group: more patients in the combination therapy group than in the monotherapy group underwent 2-stage reimplantation (42% vs. 29%), and fewer patients in the combination therapy group than in the monotherapy group underwent debridement and retention (0% vs. 16%); however, these results did not reach statistical significance. Therefore, patients with the most severe disease received the longest courses of aminoglycoside therapy.

Because of this, outcomes in the combination therapy group would be expected to be worse than those in the monotherapy group.

The authors’ overall conclusion was that the findings suggest that monotherapy with a β-lactam (or vancomycin) may be sufficient when administered in combination with aggressive surgical therapy for penicillin-susceptible enterococcal prosthetic joint infection. However, in the absence of some form of stratification for severity of joint infection, we think that, most likely, these results arose from selection bias, with the outcomes determined not by antimicrobial strategy but by disease severity at outset. Therefore, we believe that the results of the study do not support the use of β-lactam or vancomycin monotherapy for enterococcal prosthetic joint infection.

Acknowledgments


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Reference


Reply to Nsutebu and Hobson

To the Editor—We appreciate the comments of Nsutebu and Hobson published in this issue of Clinical Infectious Diseases [1]. Enterococcal prosthetic joint infection is a rare entity, and the optimal treatment and outcome have been poorly defined. In our retrospective analysis [2], we attempted to clarify some of the controversies related to the treatment of this type of infection. With regard to the comparison between patients who received a short course of aminoglycoside and those who received a longer course, only 10 of 31 patients in the “monotherapy” group received aminoglycoside (median duration of therapy, 7 days), whereas the rest received “pure monotherapy.” We defined “combination therapy” as ≥14 days of aminoglycoside therapy combined with a cell wall–active agent, to limit our study population of patients who received combination therapy to those who received a longer duration of aminoglycoside treatment. We chose the cutoff of 14 days to define the combination therapy group on the basis of evidence extrapolated from the treatment of enterococcal endocarditis [3, 4]; whether this is a valid extrapolation is unknown.