

## Ampicillin-Sensitive, Imipenem-Resistant Strains of *Enterococcus faecium*

Weinstein has in an interesting paper (3) suggested that testing the susceptibilities of isolates of enterococci to penicillin or ampicillin accurately predicted the in vitro activity of imipenem, and also pointed out that there are no NCCLS guidelines for testing the susceptibility of enterococci to imipenem. However, we found three strains of *Enterococcus faecium* that were sensitive to ampicillin but resistant to imipenem in blood and an abdominal abscess from an elderly patient being treated with imipenem at an intensive care unit (ICU) in a Swedish hospital. MICs of ampicillin were from 0.25 to 1 µg/ml, and those of imipenem were 4 to 16 µg/ml. Resistance to imipenem in these strains was caused by increased production of PBP5 with decreased affinity to imipenem (1). Similar strains have been isolated in Switzerland from the blood of eight hospitalized patients (V. Brandt, A. Wenger, and J. Bille, 10th Eur. Congr. Clin. Microbiol. Infect. Dis., poster WeP14, 2000), and studies on their resistance mechanisms are in progress. MICs of ampicillin ranged from 0.5 to 6 µg/ml, while MICs of carbapenems (imipenem and meropenem) were ≥16 µg/ml. Interestingly, six of the strains were benzyl penicillin resistant by NCCLS standards, making benzyl penicillin a better, though not perfect, indicator of decreased susceptibility to carbapenems. In a recent investigation, hospitals (2), ampicillin-sensitive, imipenem-resistant strains were found in ICUs in Swedish hospitals (2), but since breakpoints for imipenem have not been defined by NCCLS, it is hard to estimate how frequently, if at all, these strains occur outside ICUs. In conclusion, we feel that sensitivity testing with carbapenem should be done whenever treatment of enterococcal infections with this type of drug is considered.

### REFERENCES

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### Author's Reply

The letter of Amin et al. provides important additional information that supplements the observations in my recent report (1). Their observations appear to be limited to *Enterococcus faecium* only. Although the authors report that three *E. faecium* strains from Sweden and eight from Switzerland (V. Brandt, A. Wenger, and J. Bille, 10th Eur. Congr. Clin. Microbiol. Infect. Dis., poster WeP14, 2000) were susceptible to ampicillin but not to imipenem, denominator data are not provided. Thus, it is not clear whether such strains are sufficiently common to cause problems if ampicillin or penicillin is tested in vitro against enterococci as a surrogate for the carbapenems. In the report from my institution, only 24 *E. faecium* strains were tested (1), too small a sample from which to draw conclusions. Data from multiple geographically separated institutions and a larger number of strains, including species other than *E. faecalis* and *E. faecium*, are still needed before conclusions can be made. Both MIC and disk diffusion data as well as the correlation between methods should be reported.

### REFERENCE

1. Weinstein, M. P. 2001. Comparative evaluation of penicillin, ampicillin, and imipenem MICs and susceptibility breakpoints for vancomycin-susceptible and vancomycin-resistant *Enterococcus faecalis* and *Enterococcus faecium*. *J. Clin. Microbiol.* 39:2729-2731.

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