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Oral Session

Improving treatment of severe infections

CROSS-SECTIONAL STUDY: AN INTERNATIONAL SURVEY ON CONTROVERSIAL ANTIBIOTIC OPTIONS IN INFECTIVE ENDOCARDITIS.

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Objectives: US (2005) and European (2009) guidelines on infective endocarditis (IE) treatment are based on experts' opinion. As a consequence, some physicians question these guidelines and adopt alternative therapeutic strategies that have been supported by the scientific literature. Therefore, we conducted a survey focusing on controversial therapeutic options, i.e. gentamicin use, iv-oral switch of antibiotic therapy, first-line treatment of MRSA endocarditis and first-line treatment of *Enterococcus faecalis* endocarditis, aiming at describing self-reported practices in IE.

Methods: We conducted in 2013 an international cross-sectional web-based survey among ESCMID members, as well as members of scientific societies involved in IE and authors cited in Pubmed because of previous publications on IE. The 15-item standardised questionnaire was based on a literature review and validated by a panel of experts.

Results: Eight hundred thirty seven physicians answered the survey (625 answered all 15 questions), 70% from Europe, 11% from America, 11% from Asia, 6% from the Middle East and 2% from Africa. Three hundred fifty seven (57%) were infectious diseases specialists, 127 (20%) were clinical microbiologists and 32 (5%) were intensivists. 63% of the respondents worked in a university hospital.

Only 63% prescribed gentamicin for IE using a 3 mg/kg/day dose regimen, the other physicians using higher doses. For *Staphylococcus* and *Streptococcus* IE, 34% and 23% of the physicians respectively did not use aminoglycosides whereas 33% and 40% respectively used a once-a-day regimen; these percentages were 10% and 30% respectively for *Enterococcus* IE. Forty-five percent and 24% respectively declared never monitoring gentamicin peak and trough levels.

Proportions of physicians following guidelines-based or literature-based regimens varied according to the micro-organism (table).

One hundred eight physicians (31.4%) declared sometimes switching to oral therapy (when the clinical evolution is favourable) for left-sided endocarditis; iv-oral switch mainly concerned uncomplicated (81.4%), native valve (61.7%) or streptococcal endocarditis (61.2%), rather than staphylococcal (35.1%), enterococcal (21.8%) or prosthetic-valve endocarditis (12.8%).

Vancomycin-based regimen (as a single therapy [24.7%], or associated with gentamicin [50.9%] or with rifampicin [14.0%]) was the preferred first-line treatment for MRSA infective endocarditis. Some physicians also mentioned daptomycin associated with rifampicin (6.6%) or gentamicin (7.7%), as well as linezolid (2.8%) as a single therapy.

Two hundred and three (33.4 %) of the respondents declared sometimes using iv ceftriaxone combined with iv amoxicillin for *Enterococcus faecalis* left-sided endocarditis.

Specialty of the respondent was the main factor influencing practices, while experience and location of practice had less influence.

Conclusion: A significant proportion of the surveyed physicians did not follow IE guidelines but often used literature-based therapeutic strategies. An update of IE guidelines would be much welcome, and may take into consideration the controversial points raised in our study.

