INTRODUCTION AND PURPOSE

Methicillin-resistant Staphylococcus aureus (MRSA) and negative coagulase Staphylococci (CoNS) are a leading cause of hospital-diagnosed bacteremia. They are increasingly involved in infective endocarditis. Antibiotic treatment is a real problem for clinicians and bacteriologists because of the diffusion of multiresistant strains all around the world. Four molecules with an anti-Gram positive cocci activity are particularly monitored: the glycopeptides: vancomycin and teicoplanin, whose resistance has emerged in 1997 with Glycopeptide Intermediary resistance phenomenon and to adapt therapeutic and prophylactic therapies. This study aimed to assess the epidemiology of antibiotic resistance of MRSA and CoNS isolates responsible for bacteremia in French hospitals.

RESULTS

MRSA: During the study period, we included 197 MRSA isolates from the 57 participating hospitals. Bacteremia were related to central (15.2%) and peripheral (11.2%) catheters. And were nosocomial in 73% of cases. Hetero-GISA were suspected for 20 positive cases of MRSA with at least one of the 3 screening methods. Susceptibility to antibiotics and details of vancomycin, teicoplanin, linezolid and daptomycin MICs were as follows in the tables 1 and 2.

CoNS: We included 446 CoNS isolates from bloodstream infections. The origin mainly implicated in bacteremia was central catheters (65.9%) and peripheral catheters (13.5%). S. epidermidis accounts for 74.2% of CoNS. The percentage of the others species of CoNS were: S. haemolyticus (9.3%), S. hominis (6.3%), S. capitis (4.0%), S. lugdunensis (2.3%), S. cohnii (0.5%), S. warneri (0.5%), S. xylosus (0.2%), S. pasteurii (0.2%), S. saprophyticus (0.2%), S. schleiferi (0.2%), S. sciuri (0.2%), S. simulans (0.2%). The percentage of methicillin resistance was 77.8% (center data). Susceptibility to antibiotics and vancomycin, teicoplanin, linezolid and daptomycin MICs were as follows in Table 1 and 3.

CONCLUSION

The results of the susceptibility study showed that several agents were active against the isolates tested. MRSA strains isolated from bloodstream infections in France are very susceptible to vancomycin, teicoplanin, linezolid and daptomycin, four anti-Gram positive antibiotics used by intravenously. Hetero-GISA strains seem to have disappeared, in relation with emergence of the gentamicin-susceptible MRSA clone. This study brings recent and quantitatively important data on CoNS resistance to antibiotics in France. Linezolid resistance of CoNS is limited (1.6%). The good in vitro activity of daptomycin in the present study, together with its potent bactericidal activity suggests that this agent represents a useful therapeutic option in the treatment of staphylococcal bacteremia. These national data must be taken into consideration when selecting empirical treatments. Even if the susceptibility of many antibiotics is preserved today, we have to stay vigilant regarding the emergence of resistance in staphylococcal strains.