

43.7% resistant) and erythromycin (9% intermediate and 75% resistant) respectively. MIC₉₀ of penicillin and erythromycin were 2 mg/liter and >128 mg/liter. 75% of the isolates showed multidrug resistance.

PCR results showed 95% of the strains had at least one altered pbp in which 82% had all 3 altered pbps, 89% had macrolide resistance genes erm(B) and/or mef(A), 73% contained erm (B) gene, 17% contained both mef(A)and erm(B).

Conclusion: Penicillin and macrolide resistances among pneumococcal isolates have been increasing in the Northern part of Vietnam with an alarming level of macrolide resistance. Erm(B) mediated mechanism was predominant with a high level resistance in the region. This study emphasizes the need to have an active and larger laboratory-based surveillance for monitoring antibiotic resistance of pneumococci and other respiratory pathogens in Vietnam.

doi:10.1016/j.ijid.2008.05.741

44.052

In Vitro Antimicrobial Sensitivity Trends of Enterococci Isolated at An Italian Teaching Hospital: A 2004–2007 Prospective Report Including Over 2,700 Examined Microbial Strains

A. Nanetti¹, R. Manfredi^{2,*}

¹ Department of Microbiology, University of Bologna, S. Orsola Hospital, Bologna, Italy

² Department of Infectious Diseases, University of Bologna, S. Orsola Hospital, Bologna, Italy

Background: The increasing temporal trend of antimicrobial resistance among Gram-positive cocci (including Enterococci) is of concern, especially among inpatients.

Materials and Methods: The temporal trend of the in vitro antibiotic susceptibility rates was examined for all *Enterococcus faecalis* and *Enterococcus faecium* strains, isolated at our General Teaching Hospital during the years 2004–2007. The same pathogen isolated more than once from the same patient within one month, has been considered once.

Results: Among *Enterococcus faecalis* isolates (2,736 strains tested on the whole), the greater activity rate was achieved by linezolid (100% of tested strains), followed by teicoplanin (97.9–100% of strains), nitrofurantoin (96.4–98.3%), vancomycin (81.0–100%), ampicillin (90.2–91.9%), penicillin (88.8–91.5%), while irregular variations of sensitivity occurred over time for gentamicin (>60% of tested strains), streptomycin (>70% of strains), and tetracyclines (<20% of strains). When considering *Enterococcus faecium* strains (626 overall isolates), only linezolid maintained a 100% in vitro activity, followed by teicoplanin (87.7–100% of tested strains), vancomycin (78.4–86.2% of strains), tetracyclines (56.8–81%), and gentamicin (59.1–71.0%), while unpredictable efficacy was shown by streptomycin (27.6–69.8% of tested strains). Sixty-six strains of vancomycin-resistant Enterococcal strains were detected, with a clearly increased trend from 2004 (7 cases) to 2007 (21 cases) ($p < .001$). An increased *in vitro* resistance rate was also detected for tetracyclines, during the four-year study period ($p < .01$).

Conclusions: A prospective surveillance monitoring of the in vitro antimicrobial sensitivity figures of Enterococci as

relevant hospital pathogens, plays an useful role to target antimicrobial treatment and prophylaxis strategies, on local and regional basis. The emerging of resistance to the reference compounds, and that of vancomycin-resistant organisms in particular, may be also well assessed on these temporal basis, in order to address the clinical choice according to the local epidemiology and antimicrobial testing features.

doi:10.1016/j.ijid.2008.05.742

Mycoses (Poster Presentation)

45.001

Influence of Systemic Antifungal Therapy on the Candida Colonization in Medical Intensive Care Patients

A. Gloeckner^{1,*}, K. Zimmermann², P. Abel³

¹ NRZ Greifswald, Greifswald, Germany

² Institute for Medical Microbiology, University of Greifswald, Greifswald, Germany

³ Department of Internal Medicine, University of Greifswald, Greifswald, Germany

Background: The incidence of systemic fungal infections caused by non-albicans species is increasing. Colonization with *Candida* has been identified as an independent risk factor for invasive Candidiasis.

Methods: In a prospective study for 30 month, we analysed samples weekly over a period of four weeks from an initial count of 411 patients (mean APACHE-II-Score 20.8) admitted to our ICU. Swabs from nostril, throat and anus and specimens of tracheal secretions and urine were taken and cultured on CHROM- or CANDID- Agar at 36 °C.

Results: 41 of the patients in the study stayed in the ICU for at least 4 weeks. Of these, 24 received systemic antimycotics (mean duration 15.9 days) for proven or probable fungal infection. In the untreated group, *Candida* species were cultured from 29% of specimens at baseline (71% *Candida albicans*, 13% *Candida glabrata*, 17% *Candida tropicalis*, 4% *Candida parapsilosis*, 0% *Candida krusei*) and in 42% after 4 weeks (66% *Candida albicans*, 16% *Candida glabrata*, 0% *Candida tropicalis*, 16% *Candida parapsilosis*, 0% *Candida krusei*). In the group with systemic antimycotic therapy, *Candida* species were cultured from 66% of specimens at baseline (59% *Candida albicans*, 46% *Candida glabrata*, 6% *Candida tropicalis*, 3% *Candida parapsilosis*, 11% *Candida krusei*) and in 39% after 4 weeks (29% *Candida albicans*, 60% *Candida glabrata*, 0% *Candida tropicalis*, 13% *Candida parapsilosis*, 7% *Candida krusei*).

Conclusions: Antimycotic therapy results in a reduction in *Candida* colonization. This is due to a decrease in the fraction of *Candida albicans* whereas *Candida glabrata* is left unchanged. In the absence of antimycotics, *Candida* colonization increase and the fractions of *Candida albicans* and *Candida glabrata* remain unchanged.

doi:10.1016/j.ijid.2008.05.743