

local availability of specific types in local metagenomes and dissemination of specific genetic elements among different reservoirs. Reasons underlying Tn1546 diversity needs further research.

P815 Bactericidal activity of daptomycin against European staphylococci and enterococci

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Objective: Daptomycin is a novel lipopeptide antibiotic with very good *in vitro* activity against Gram-positive cocci. We compared the bactericidal activity of daptomycin with that of other agents against European staphylococci and enterococci including methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant enterococci (VRE).

Methods: A total of 18 isolates including methicillin-susceptible *S. aureus* (MSSA), MRSA, vancomycin-susceptible and -resistant *E. faecium* and *E. faecalis* were selected. Killing studies were performed using daptomycin and quinupristin/dalfopristin, vancomycin, linezolid, and oxacillin as comparators. Each isolate was incubated with one, two and four times the MIC of the antibiotic used. Viable cells were determined after 0, 1, 3, 6 and 24 h. Bactericidal activity was defined as a 3 log₁₀ reduction in viable CFU/mL.

Results: Bactericidal activity of oxacillin against MSSA required at least 2× MIC for 6 h. Vancomycin showed bactericidal activity against both MSSA and some MRSA in 6–24 h for 2 and 4× MIC, but some isolates showed regrowth after 24 h. No bactericidal activity against enterococci was observed. Linezolid was bactericidal after 24 h for three of the four MSSA isolates tested at 4× MIC. A comparable result was obtained for MRSA. No bactericidal activity against enterococci was observed, except for one vancomycin-resistant *E. faecium*. Quinupristin/dalfopristin showed very good bactericidal activity against MSSA within 1 h with 1× MIC, but required longer times for MRSA (up to 24 h). A similar pattern was observed for *E. faecium* where vancomycin-resistant isolates were killed more slowly. Quinupristin/dalfopristin is ineffective against *E. faecalis*. Daptomycin showed excellent bactericidal activity against enterococci. This was slightly more efficient for *E. faecium* than *E. faecalis* isolates. Vancomycin resistance did not have any influence. Bactericidal activity against staphylococci including MRSA was generally achieved within 3–6 h at 2× the MIC of daptomycin.

Conclusion: Daptomycin showed excellent bactericidal activity against enterococci and *S. aureus* isolates including VRE and MRSA. None of the comparators achieved similar results.

P816 Biofilm production and antibiotic resistance of human and veterinary *Staphylococcus* strains

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Staphylococcus spp. is widely distributed in medical and veterinary pathology and represents one of the most important causes of infection. Many strains are antibiotic-resistant even for the presence of an eso-polysaccharide matrix. The aim of this work was to individuate, among 396 different *Staphylococci* of human and animal origin, the slime producing strains and to correlate the presence of biofilm to the resistance to eight antibiotics. A total of 185 coagulase negative staphylococci (CNS) and 211 *S. aureus* isolated from different sources and identified with Sceptor System, were tested for antibiotic susceptibility (Kirby Bauer method) and for slime production (Polystyrene plates – stained with Alcian blue – Spectrophotometric reading at 450 nm). The strains were classified as weak, strong and no slime-producing on the basis of OD results. The results were submitted to statistical analysis using Student's *t*-test and chi-square tests. Evaluating the differences of slime production among medical and veterinary strains, we found different statistical frequencies ($P > 0.001$). No statistical differences were

obtained between *S. aureus* and the other CNS. Instead, the statistical analysis on *S. epidermidis* vs. the other staphylococci has shown no statistical differences among average values using Student's *t*-test ($P < 0.052$) and significant frequency differences using chi square tests ($P < 0.02$). Finally in the CNS, between *S. epidermidis* and the other strains, no statistical differences were found. The relation between slime production and the origin of strains was evaluated and no correlation was found. About the correlation between antibiotic-resistance and slime production a resistance increment of about 30% was obtained in strongly slime producing strains. *Staphylococcus* spp. is often involved in nosocomial infections as complication of post-surgery wounds, catheters and orthopaedic devices. The presence of antibiotic-resistant strains interferes in the therapy successes and seems to be strictly related to biofilm production beyond that genetically acquired. Human and veterinary strains have shown a similar behaviour towards biofilm production and antibiotic-resistance. The results confirm that *S. epidermidis* is one of the most slime-producer and introduce *S. aureus* as a new high slime-producer.

P817 Phenotypic characterisation of macrolide resistance in *S. agalactiae*

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Objective: In this study, we aimed to record the current trend regarding macrolide resistance in *S. agalactiae* (GBS) as well as to determine the phenotypes of resistance.

Methods: We investigated a total of 86 non-duplicated *S. agalactiae* strains collected over a period of 2 years (2001–2002). The bacteria were obtained from clinical specimens as follows: 20 strains from vaginal secretions of healthy asymptomatic pregnant women, 30 strains from vaginal secretions of women with the clinical suspicion of vaginitis, 30 strains from urine and six strains from cases of invasive GBS infection. The identification to the species level was achieved by Gram stain, catalase test, colony morphology on blood agar and determination of the group B antigen by latex agglutination technique. The pattern of susceptibility to erythromycin, clindamycin, penicillin G and vancomycin was examined for all the strains performing the disk diffusion method according to the NCCLS (2000) recommendations. The macrolide resistance phenotypes were determined using the erythromycin-clindamycin double disk test.

Results: All the *S. agalactiae* isolates tested were found susceptible to penicillin G and vancomycin while the resistance rate to erythromycin was 8.1% (seven strains). The expression (%) of the macrolide resistance phenotypes among the resistant strains as they were evaluated by the double disk test were: constitutive (cMLS_B) phenotype 57% (four isolates) and inducible (iMLS_B) phenotype 43% (three isolates). No *S. agalactiae* strain was assigned to the M resistance phenotype. The overall resistance rate to clindamycin was 8.1%.

Conclusions: Our findings demonstrate that *S. agalactiae* remains fully susceptible to penicillin and vancomycin while there are relatively low resistance values to macrolides and lincosamides. The MLS_B phenotype predominated among the macrolide-resistant strains, a finding that raises concern about the use of clindamycin instead of erythromycin in prophylaxis or treatment of *S. agalactiae* infection in patients allergic to beta lactams. However, continuing surveillance is needed to detect any change in susceptibility patterns.

P818 Survival of antibiotic-resistant *Propionibacterium acnes* in the environment

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Objectives: Antibiotic treatment for acne is aimed at reducing levels of the anaerobe, *Propionibacterium acnes*, on skin. Treatment can