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Abstract (poster session)

Trends in antibiotic resistance in Portugal: update of laboratory European Antimicrobial Resistance Surveillance Network (EARS-Net) results (2009-2011) and emergence of important resistance mechanisms

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Objectives: Several strategies for controlling the spread of antibiotic resistance (AR) have been suggested and implemented, where surveillance has an important role. The aim of this study was to highlight the results obtained by European Antimicrobial Resistance Surveillance Network (EARS-Net), in Portugal, for 7 bacterial pathogens causing invasive infections in humans. Methods: The data presented here were collected from Portuguese EARS-Net laboratories reporting antibiotic susceptibility results during the period from 2009 to 2011. Susceptibilities were evaluated with guidelines in use in the reporting laboratories. Overall, susceptibility data was reported by an average of 20 laboratories, covering 44 hospital units from 5 Portuguese regions, with a catchment population of ~ 77%. Results: Overall, AR and multidrug-resistance (MDR) to antibiotics are increasing in the bacteria studied. In contrast with the trends in Europe, the occurrence of methicillin-resistant S. aureus (MRSA) in Portugal continues to increase (from 49.1% in 2009 to 54.6% in 2011). Regarding S. pneumoniae, Portugal showed significant decreasing non-susceptibility trends both for penicillins, third-generation cephalosporins (3GC), and macrolides. In E. faecalis, non-susceptibility to aminopenicillins and vancomycin increased over 3 times in the last 3 years. Regarding E. faecium, decreased trend was observed with respect to high-level aminoglycoside non-susceptibility. The occurrence of AR and MDR in E. coli and K. pneumoniae continues to increase. The proportion of 3GC non-susceptible E. coli isolates has increased during the last 3 years, with 97.5% of them producing extended-spectrum beta-lactamase (ESBL), in 2011, which has been proved to be due to the CTX-M-15 production. Regarding K. pneumoniae, MDR increased from 13.7% (2009) to 20.7% (2011), with 93.3% of ESBL producers among the 3GC-resistant isolates, in 2011. Carbapenem non-susceptible E. coli (n=8) and K. pneumoniae (n=14) KPC-producers, were also detected in the study period. MDR P. aeruginosa increased from 13.8% (2009) to 16.2% (2011). Conclusion: These results show the importance of AR laboratory monitoring through EARS-Net, which are contributing to correlate non-susceptibility trends with respective antibiotic use, AR mechanisms and circulating clones (e.g., CTX-M-15-producing ST131 E. coli, carbapenem non-susceptible KPC-producing K. pneumoniae isolates, EMRSA-15 clone), to take action at local and national level.