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ePoster Viewing

Resistance surveillance & epidemiology: MRSA, VRE & other Gram-positives

Bacteriological data from a French regional centre for healing wounds: an analysis of 5996 isolates

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Background: There are few recent publications, including a large number of strains associated with chronic wound infection. The aim of our study is to identify the most frequent bacteria associated with chronic wounds infection of lower limbs and to determine their rate of antimicrobial resistance.

Material/methods: We conducted a retrospective study over a 5-year period [2011- 2015 (10 first months)] among patients managed in a reference center for chronic wounds of lower limbs. According to internal protocols of good practice (avoiding swabs), bacteriological samples were performed in all patients with clinical signs of infection.

Results: The average age of the study population was 77 years, the male/female ratio was 0.92, 1772 patients had at least one positive sample, with an average of 1.8 positive samples/patient (3250 positive samples). An average of 1.8 bacterial strains / positive sample was found (5996 strains). *Staphylococcus aureus* was the predominant species: 2267 stains were identified (38% of all bacterial strains). Among them, 1272 (44%) were resistant to methicillin over the 5-year period. From 2011 to 2014, the rate of resistance to methicillin increased progressively (from 37% in 2011 to 49% in 2014). The rate of resistance to other antibiotics was: 42% for levofloxacin, 13% for gentamicin, slightly less than 3% for cotrimoxazole and 0% for vancomycin. *Pseudomonas aeruginosa* represented 14% of all strains (n = 840). Among them, 15% were resistant to ceftazidime and 15% to imipenem. From 2011 to 2014, the rate of resistance to ceftazidime decreased from 20% to 11%, and to imipenem from 28% to 10%. The rate of resistance to ciprofloxacin over 5 years was 44%. Enterobacteriaceae accounted for 16% of all strains (n = 959), the 4 predominant species were *E. coli* (5% of all strains, n = 283), *M. morganii*, *E. cloacae* and *P. mirabilis*, each accounting for about 3% of all strains. Among all Enterobacteriaceae, 17% produced ESBL. Among gram positive bacteria, *Enterococcus faecalis* and *Streptococcus agalactiae* represented approximately 5% (n = 298) and 1.5% (n = 85) of all strains.

Conclusions: In our population, mainly including patients with a long history of trophic disorders of the lower limbs, the rate of resistance to methicillin, among *S. aureus* strains associated with infection were more than 2 times higher than that of the general population. Therefore, in these patients, when empirical antibiotic treatment is initiated because of a severe infection, it should cover MRSA. The rate of ESBL-producing Enterobacteriaceae was also high. The need for ongoing surveillance of bacterial ecology in this population is obvious.