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Abstract (poster session)

Surprisingly high prevalence of colistin-resistance in *Enterobacter* spp. in the UK and Ireland

R. Reynolds*, A. Kidney, S. Mushtaq on behalf of BSAC Working Party on Resistance Surveillance

Objectives: Colistin is used increasingly as prevalence and awareness of infections caused by multi-resistant Gram-negative pathogens has increased, but information on the extent of resistance to colistin was not widely available, except for isolates multi-resistant to other agents. The BSAC Resistance Surveillance Project, covering the UK and Ireland, has measured colistin MICs for Enterobacteriaceae from blood since Jan 2011 and from hospital-onset (>48 hours) lower respiratory tract infections (LRTI) since Oct 2010. Methods: 38 centres contributed 957 isolates of *E. coli*, *Klebsiella* and *Enterobacter* from blood in 2011, and 633 from LRTI between Oct 2010 and Sept 2011. MICs were determined centrally by BSAC agar dilution and interpreted by BSAC/EUCAST breakpoints. Results: Colistin resistance (MIC>2mg/L) was uncommon in *E. coli* (0.2% of 522 blood and 2.2% of 274 LRTI isolates) and in *Klebsiella* (0.8% of 256 blood and 3.7% of 218 LRTI isolates), but was surprisingly prevalent in *Enterobacter*, being found in 5.6% of 179 blood and 14.9% of 141 LRTI isolates. These colistin-resistant *Enterobacter* were geographically widespread: the 21 isolates from LRTI were from 17 centres, and the 10 from blood were from 9 centres; altogether, 22 of 38 centres contributed colistin-resistant *Enterobacter*. All but one of the 31 resistant isolates were of *E. cloacae* complex. MICs were ≥ 8 mg/L for 27/31 isolates and over half (17/31) had high-level resistance, with MIC ≥ 64 mg/L. Among LRTI *Enterobacter*, colistin resistance appeared less widespread in intensive care (4/53) than in other specialities (17/ 87) but the difference was not significant ($p=0.06$). There was no evidence that colistin resistance among *Enterobacter* was associated with patient age or sex, or with non-susceptibility to ceftazidime, cefotaxime, ciprofloxacin, gentamicin, piperacillin/tazobactam or tigecycline; all 320 were susceptible to imipenem and meropenem. All 31 colistin-resistant isolates were susceptible to ciprofloxacin, gentamicin and imipenem, and 25 were also susceptible to cefotaxime. Conclusion: Colistin can be a useful agent in the case of multi-resistant infections, and over 96% of *E. coli* and *Klebsiella* from bacteraemia and hospital-onset LRTI in the UK and Ireland were susceptible. Clinicians should be aware of higher rates of resistance in *Enterobacter*, particularly in hospital-onset LRTI (15%).