Trends in β-lactam resistance in community-acquired lower respiratory tract infection in the UK and Ireland

R. Reynolds, D. Felmingham and The BSAC Extended Working Party on Respiratory Resistance Surveillance

Introduction
Resistance to commonly-prescribed β-lactam antibiotics among the organisms responsible for community-acquired lower respiratory tract infections increased sharply during the 1990s. The BSAC Respiratory Resistance Surveillance Project has tracked resistance in the British Isles since 1999 to monitor current trends.

Methods
Isolates were collected in 4 winter seasons between Oct 1999 and April 2003, excluding duplicates (within 2 weeks of a previous isolate), cystic fibrosis and patients in hospital more than 48 hours. Results shown are for 2405 S. pneumoniae and 3197 H. influenzae isolates collected by seventeen laboratories that contributed in all four years (to avoid spurious trends due to laboratory replacement). MICs were determined and interpreted centrally by BSAC agar dilution methods and breakpoints.

Results
There were no significant linear trends in resistance for S. pneumoniae. For H. influenzae, there were significant trends to reduction of β-lactamase production and resistance to ampicillin, amoxicillin-clavulanate and cefuroxime in Ireland (Republic & Northern Ireland), and to reduction of resistance to cefuroxime in Great Britain (England, Wales and Scotland). As previously reported, the prevalence of β-lactam resistance (in S. pneumoniae only) was significantly higher in Ireland than in Great Britain.

Conclusion
β-lactam resistance in community-acquired S. pneumoniae and H. influenzae is no longer rising in the British Isles, and appears to be falling in H. influenzae in the island of Ireland.

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Department of Medical Microbiology, North Bristol NHS Trust; Bayer Pharmaceuticals, Newbury; Addenbrooke’s Hospital, Cambridge; GR Micro Ltd; Micron Research Limited, Wisbech; Health Protection Agency, London; Glasgow/Hartlepool; Freeman Hospital, Newcastle; St James’s Leeds; Royal Victoria, Liverpool; Bristol, Birmingham, Cardiff, Edinburgh, London; Freeman and Royal Victoria, Newcastle; Department of Medical Microbiology, Southmead Hospital, Bristol, England.

www.bsac.org.uk

Please address correspondence to: Dr. R. Reynolds, BSAC Resistance Surveillance Co-ordinator Department of Medical Microbiology, Southmead Hospital, Bristol, BS10 5NB, England.

14th ECCMID, Prague, 1 - 4 May 2004, P1134 rosy.reynolds@btinternet.com