

EV0268

ePoster Viewing

Antimicrobials: resistance surveillance

Epidemiology of antibiotic resistance of *E. coli*, *S. aureus* and *P. aeruginosa* isolated from bloodstream infections (BSI) across 5 centres in England during 2010-2012

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Objectives

To describe the resistance patterns of *E. coli*, *S. aureus* and *P. aeruginosa* isolated from patients with hospital and community acquired bloodstream infections from 5 hospitals across England participating in an NIHR funded study investigating risk factors associated with all causes of death in patients with BSI during from October 2010-May 2012.

Methods

1621 BSI isolates comprising of *E. coli* (ESBL –ve, 603), *E. coli* (139) and *Klebsiella* sp (23) ESBL +ve; MSSA (503), MRSA (123) and *P. aeruginosa* (230) were collected and tested by the central laboratory. Non susceptibility was determined using EUCAST breakpoints.

Results

Only one in four of the listed *E. coli* were collected hence the ratio of ESBL +ve to ESBL –ve is high. For ESBL +ve strains non susceptibility rates and MIC 90s were; co-amoxiclav 74.5%, >128mg/L; meropenem 0%, 0.03mg/L; gentamicin 13.9%, 64mg/L; ciprofloxacin 70.3%, 128mg/L; ceftriaxone 89.7%, >128mg/L and piperacillin/tazobactam 26.1%, 32mg/L. For ESBL –ve strains non susceptibility rates and MIC 90s were co-amoxiclav 38.35%, 128mg/L; meropenem 0.2%, 0.015mg/L; gentamicin 14.1%, 8mg/L; ciprofloxacin 15.3%, 16mg/L; ceftriaxone 5.1%, 0.12mg/L and piperacillin/tazobactam 4.1%, 4mg/L. *P. aeruginosa* susceptibility rates and MIC 90s were meropenem 5%, 4mg/L; gentamicin 1.3%, 4mg/L; ciprofloxacin 13.1%, 1mg/L; piperacillin/tazobactam 6.9%, 16mg/L; ceftazidime 7%, 8mg/L; no resistance was noted for colistin MIC 90 4mg/L. For all *S. aureus* no resistance was observed for vancomycin, teicoplanin, linezolid or daptomycin. For MRSA non susceptibility rates and MIC 90s were gentamicin 5%, 0.5mg/L; fucidin 22%, 8mg/L; erythromycin 72.4%, >128mg/L; ciprofloxacin 89.4%, >128mg/L and rifampicin 2.4%, 0.015mg/L. As expected MSSA rates were lower for gentamicin 0.8%, 0.5mg/L; fucidin 9.8%, 1mg/L; erythromycin 14.7%, >128mg/L; ciprofloxacin 5.6%, 1mg/L and rifampicin 0.8%, 0.015mg/L.

Conclusion

Resistant rates for common empirical therapies such as co-amoxiclav, ceftriaxone, gentamicin and piperacillin/tazobactam for Enterobacteriaceae were >5%. Similarly with *P. aeruginosa* piperacillin/tazobactam and ciprofloxacin resistance was >5%. MSSA strains were mainly susceptible to empirical therapy.

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