INTRODUCTION

The British Society for Antimicrobial Chemotherapy (BSAC) Bacteraemia Resistance Surveillance Programme has monitored the antimicrobial susceptibility in the organisms commonly causing clinically significant bacteraemia in the UK and Ireland since 2001 (www.bsacsurv.org).

The latest 5 years of data (Jan 2013 – Dec 2017) are presented.

METHODS

Consecutive, non-duplicate isolates (n=16,178, Fig. 1) causing clinically significant bacteraemia were collected at 24-40 sites across the UK and Ireland.

Each site was asked to collect a set quota (7-20) isolates/species/season.

MICs were determined centrally by BSAC agar dilution.

EUCAST breakpoints (Version 8.1, 2018) were used and non-susceptibility was defined as including an intermediate (I) or resistant breakpoint (R).

RESULTS

- Rates of colistin resistance continue to increase in Enterobacteriaceae.
- Carbapenemase-producing Enterobacteriaceae and Pseudomonas spp. are intrinsically resistant to colistin.

• Rates of carbapenem-resistant Enterobacteriaceae and Klebsiella spp. (Fig. 1).

• Rates of resistance to vancomycin were 31% for Enterococcus faecium (0.1%, p=0.03), compared with E. coli (0.5%), Klebsiella spp. (0.3%), and P. aeruginosa (0.3%).

• The proportion of non-susceptible to penicillin in S. pneumoniae was 5.6% (all I). The collection comprised 48 serotypes; the most common types were 8 (16%), 12F (9%), and 22F (8%).

• The proportion of non-susceptible to penicillin in S. aureus was higher and increasing in Enterococcus faecalis (53% - 2013, 45% - 2017).

• The proportion of Group A streptococci decreased (53% - 2013, 45% - 2017). Rates of resistance to penicillin were 31% for E. faecium and 1% for E. faecalis.

• The proportion of Group A streptococci (BHS) (42% - 2013, 29% - 2017). All BHS were susceptible to penicillin.

• The proportion of MRSA among S. aureus was 0.1% (n=11) in Enterobacteriaceae [OXA-48 (5), KPC (3) and VIM (3)].

• The proportion of MRSA among S. aureus has continued to decrease, whereas the proportion of MR-CoNS remains unchanged.

• The proportion of non-susceptible to penicillin, whereas 14% of α- or β-haemolytic streptococci were non-susceptible to penicillin, with no high-level gentamicin-resistant isolates seen.

• The proportion of Gram-negative isolates is shown in Fig. 3. 98% were susceptible to cefotaxime-tazobactam; 89% were susceptible to cefotaxime (Enterobacteriaceae only).

• Rates of ESBL production were higher in Klebsiella and E. coli (10%) than in Enterobacter (6%), Proteus (0.5%) or Serratia (0.3%).

• Carbapenemases were rare - ≤1% (n=19) in Enterobacteriaceae [OXA-48 (5), KPC (3) and NDM (1)] and Pseudomonas spp. [VIM (1), NDM (1)].

• Colistin resistance was higher and increasing in Enterobacter (6% in 2013 to 12% in 2017, p<0.03), compared with E. coli (0.5%), Klebsiella spp. (1%) and P. aeruginosa (<0.1%, Fig. 3).

CONCLUSIONS

- The proportion of MRSA among S. aureus has continued to decrease, whereas the proportion of MR-CoNS remains unchanged.

- The proportion of Group A streptococci associated with bacteraemia has decreased, whereas the proportion of E. faecium has increased, importantly E. faecium is commonly more resistant than E. faecalis.

- Carbapenemase-producing Enterobacteriaceae and Pseudomonas spp. remain rare in this surveillance programme.

- Rates of colistin resistance continue to increase in E. cloacae complex.

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REFERENCES

2) http://www.eucast.org/clinical_breakpoints/

TO REQUEST ISOLATES FROM THE BSAC COLLECTION

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