Activity of Antimicrobial Agents against Staphylococci from Blood in the UK and Ireland in 2007

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Background

S. aureus is the second most common cause of bacteraemia in the UK after *E. coli*, causing >20,000 cases per year. The reported number of bacteraemias due to coagulase-negative staphylococci (CoNS) is increasing.

Methods

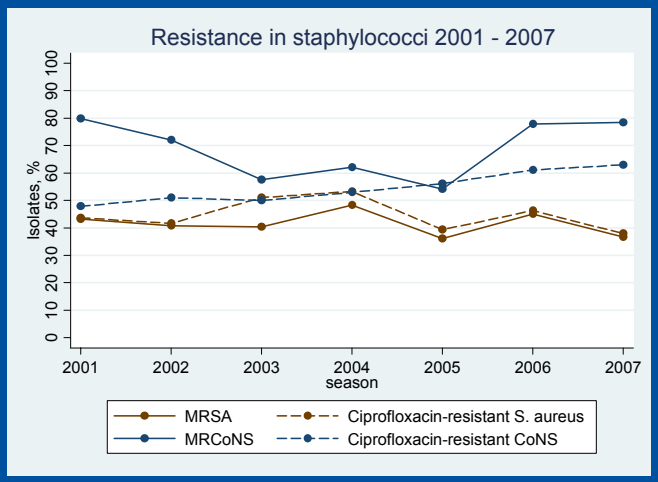
25 laboratories across the UK and Ireland have each supplied up to 10 isolates of *S. aureus* and 10 CoNS to the BSAC Bacteraemia Resistance Surveillance Programme each year since 2001. MICs are determined centrally by the BSAC agar dilution method.

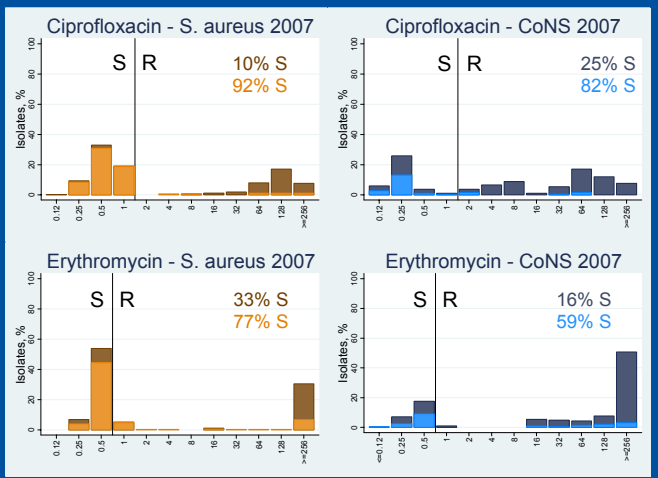
Results

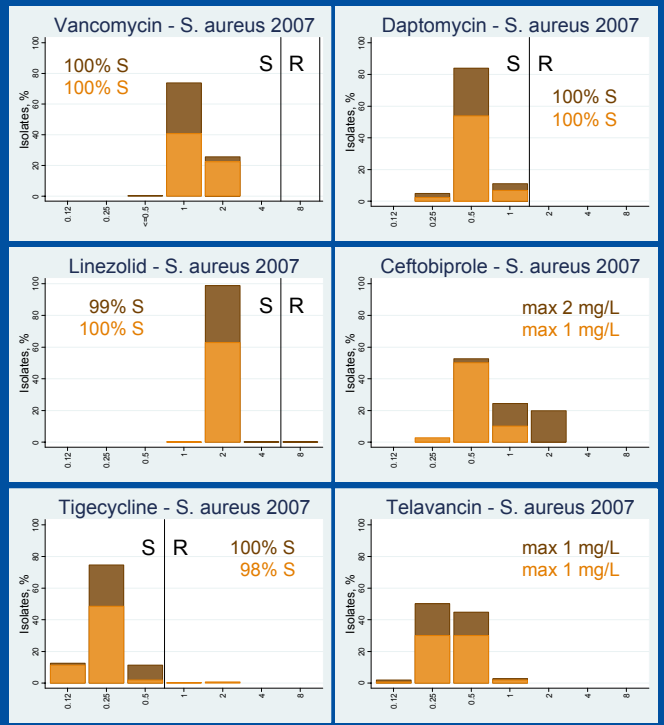
- 37% of 245 *S. aureus* and 78% of 181 CoNS were methicillin-resistant in 2007, compared to 42% and 65%, respectively, averaged over the previous 5 years.
- The fall in MRSA prevalence agrees with hospitals' own reports of a drop from 40-42% in 2000-2005 to 31% in 2007 (Health Protection Agency voluntary surveillance).
- Methicillin-resistance was strongly associated with resistance to ciprofloxacin and erythromycin (see graphs). In 2007, 24% of *S. aureus* and 52% of CoNS were resistant to all three of methicillin, ciprofloxacin and erythromycin.
- Vancomycin and newer anti-MRSA agents had narrow unimodal MIC distributions, showing a lack of widespread acquired resistance, with MICs for CoNS generally similar to those shown in the graphs for *S. aureus*.

Conclusions

- The prevalence of MRSA in staphylococci from blood in the UK and Ireland has fallen recently.
- Multi-resistance is still common.
- Vancomycin remains universally active.
- Some developmental and recently-licensed agents have greater *in vitro* activity than vancomycin.







- Ceftobiprole MICs were 1-2 dilutions higher for methicillin-resistant than -susceptible isolates of both *S. aureus* and CoNS, but always ≤ 4 mg/L.
- MICs of vancomycin, linezolid, tigecycline, daptomycin and telavancin were similar for methicillin-resistant and -susceptible isolates
- Telavancin MICs averaged 3·4-fold and 11-fold lower than vancomycin for *S. aureus* and CoNs respectively; MICs for tigecycline were also lower, but offset by its lower breakpoint.

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Organism ID and Susceptibility Testing 2007 collection: G. Brick[9], R. Hope[9].

Collecting Laboratories: *See* www.bsac.org.uk *or* White 2008, JAC 62 (Suppl 2) ii3 - ii14

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Methods: Reynolds 2008, JAC 62 (Suppl 2) ii15 - ii28; Reynolds 2008, JAC 62 (Suppl 2) ii29 - ii39

Central Laboratory: HPA, Centre for Infections, London.

Sponsors 2001 - 2007: Astellas, AstraZeneca, Cubist, Johnson & Johnson, MSD, Novartis, Pfizer, Theravance and Wyeth. **Support:** BSAC.

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