

Streptococci other than *S. pneumoniae* - 12-Year Resistance Trends in Bacteraemia in the UK and Ireland

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BACKGROUND

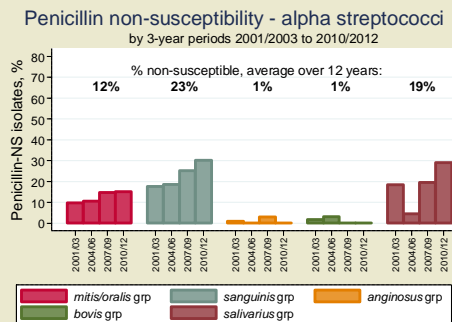
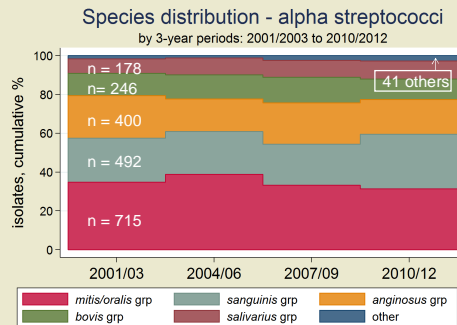
Alpha- and non-haemolytic streptococci cause about 9% of bacteraemias in the UK. Beta-haemolytic streptococci cause 5%. The BSAC Resistance Surveillance Project¹ has monitored their resistance in blood in the UK and Ireland since 2001.

METHODS

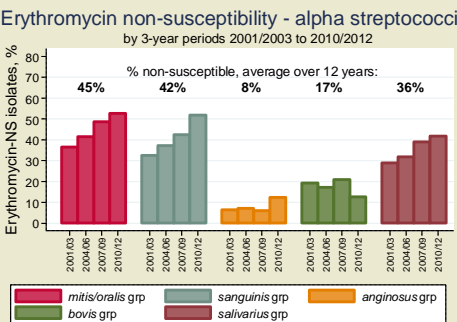
Each year, 25-40 clinical laboratories across the UK and Ireland contributed isolates from blood. Isolates were re-identified centrally by biochemical and Lancefield tests. MICs were determined by BSAC agar dilution and interpreted by BSAC / EUCAST breakpoints.

RESULTS - ALPHA-HAEMOLYTIC STREPTOCOCCI: 2001 - 2012 (N = 2078)

Proportions of different species appeared steady over 12 years; see graph for total numbers. All isolates were susceptible to imipenem, teicoplanin, vancomycin and linezolid.

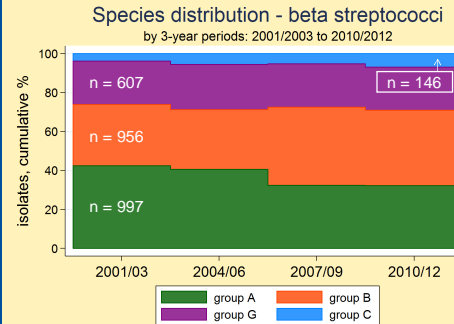


- Among *mitis/oralis*, *sanguinis* and *salivarius* groups, non-susceptibility increased substantially to erythromycin, and to a lesser extent to penicillin and amoxicillin.
- Over 99% of *anginosus* and *bovis* group isolates were susceptible to penicillins, and 92 and 83%, respectively, to erythromycin.
- Fewer isolates (6-11%) were resistant to clindamycin than erythromycin (8-45%).
- Inducible clindamycin resistance was tested only in 2012 and was rare - found in 2/190 isolates, both *bovis* II.

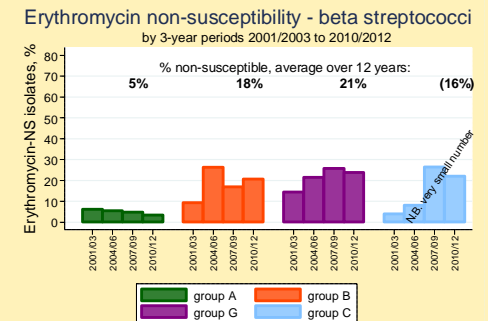
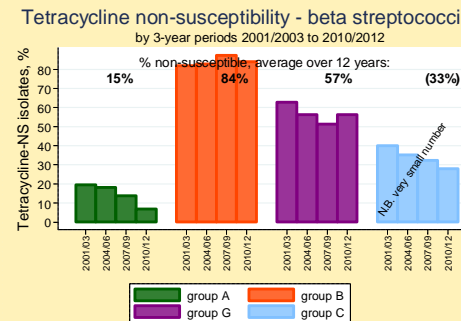


RESULTS - BETA-HAEMOLYTIC STREPTOCOCCI: 2001 - 2012 (N = 2706)

Group B increased from 31 to 39% of all beta-haemolytic isolates, at the expense of group A. All isolates were susceptible to vancomycin, >99% to penicillin & teicoplanin, and >98% to linezolid.



- Non-susceptibility was less prevalent in group A than other groups, and tetracycline non-susceptibility fell from 19% to 7%.
- Tetracycline non-susceptibility remains widespread in groups B, C and G, especially group B (84%).
- Groups B and G now have around 20% erythromycin non-susceptibility, and around 15% inducible clindamycin resistance.
- Isolates non-susceptible to linezolid (30/2706=1.1%) were of various groups and were all intermediate with MIC 4 mg/L.



CONCLUSIONS

- Streptococci in the UK and Ireland remain widely susceptible to established antimicrobials.
- Different species and groups have very different susceptibility profiles.
- Erythromycin non-susceptibility has increased among *S. mitis*, *S. sanguinis* & *S. salivarius* groups over the last twelve years, and there is a similar trend for penicillin (from a lower baseline).

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Organism ID and Susceptibility Testing: S. Mushtaq⁴ and staff at Public Health England.

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

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Central Laboratory: Public Health England, London.

Sponsors 2001-2012: Astellas, AstraZeneca, Basilea, Cembra, Cerexa, Cubist, Johnson & Johnson, Merck, Novartis, Pfizer, Theravance.

Support: BSAC.

*www.bsac.org.uk



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