

P1591

Poster Session VI

Resistance surveillance: Gram-positives and others

STREPTOCOCCI OTHER THAN S. PNEUMONIAE - 12-YEAR RESISTANCE TRENDS IN BACTERAEMIA IN THE UK AND IRELAND

R. Reynolds¹, S. Mushtaq², D.M. Livermore³

¹Department of Medical Microbiology, Southmead Hospital, Bristol, United Kingdom ; ²ARHAI, Public Health England, London, United Kingdom ; ³Medical School, University of East Anglia, Norwich, United Kingdom

Objectives: Alpha- and non-haemolytic streptococci (alpha strep) other than pneumococci now account for about 9% of bacteraemias in the UK, and beta-haemolytic streptococci (beta strep) for 5%. The BSAC Resistance Surveillance Project, covering the UK and Ireland, has monitored resistance in these organisms from blood since 2001.

Methods: 59 centres contributed 2078 isolates of alpha strep and 2706 isolates of beta strep from blood between 2001 and 2012. MICs were determined centrally by BSAC agar dilution and interpreted by BSAC/EUCAST breakpoints. Inducibility of clindamycin resistance was tested from 2012.

Bacteraemia 2001 - 2012, combined data			Non-susceptibility (% of isolates)				
Alpha streptococci	N	Age (IQR)	ERY	CLI	PEN	AMX	CTX
<i>mitis/oralis</i> group	715	26 - 70	45	6	12	9	8
<i>sanguinis</i> group	492	31 - 76	42	9	24	23	5
<i>anginosus</i> group	400	45 - 74	8	4	1	0	1
<i>bovis</i> group	246	63 - 83	17	11	1	0	1
<i>salivarius</i> group	178	29 - 75	36	8	19	6	2
others	41	46 - 82	0	0	5	0	0
Beta streptococci	N	Age (IQR)	ERY	CLI	PEN	TET	
A	997	31 - 74	5	1	0	15	
B	956	0 - 73	18	8	0.2	84	
C	146	46 - 82	16	3	0	33	
G	607	59 - 83	21	4	0	57	

ERY erythromycin, CLI clindamycin, PEN penicillin, AMX amoxicillin, CTX cefotaxime, TET tetracycline. IQR = interquartile range

Results: The proportions of different species groups of alpha strep appeared steady. All alpha strep were susceptible (S) to imipenem, teicoplanin, vancomycin and linezolid. Over 99% of *S. anginosus* and *S. bovis* groups were S to beta-lactams; 8% and 17%, respectively, were non-S (NS) to erythromycin. Among *S. mitis*, *sanguinis* and *salivarius* groups, penicillin-NS (mostly low level) rose from 10, 18 and 18%, respectively, in 2001-03 to 15, 30 and 29% in 2010-12, with similar trends for amoxicillin. Erythromycin-NS was very prevalent in these three groups and rose from 37, 32 and 29% in 2001-03 to 53, 52 and 42% in 2010-12. Clindamycin-NS was less common, at 6-11%, and only 2/190 isolates -both *S. bovis* II- had inducible clindamycin resistance in 2012.

Group A declined as a proportion of beta strep from 42% in 2001-03 to 32% in 2010-12, while group B increased from 31 to 39%. All beta strep were S to vancomycin, >99% S to penicillin and teicoplanin, and >98% S to linezolid (with 30/2706 intermediate at 4 mg/L). Tetracycline-NS fell from 19% (2001-03) to 7% (2010-12) in group A, but remained common in groups B (especially), C and G at 84, 33 and 56%, respectively. Erythromycin-NS, too, was common in groups B, C and G, averaging 18, 16 and 21%, with some indication of increase in group G (from 14 to 24%), and perhaps also in the very small group C. In 2012, 1/85 (1%) of group A, 4/27 (15%) of group C and 9/63 (14%) of group G isolates had inducible clindamycin resistance.

Conclusion: Streptococci remain widely susceptible to established antimicrobials, although erythromycin non-susceptibility has clearly risen over the last twelve years in *S. mitis* and *S. sanguinis* groups, and perhaps also in groups G and C. Penicillin non-susceptibility, too, seems to have increased among alpha-haemolytic streptococci. Resistance patterns differ greatly between streptococcal species and groups.