

***Escherichia coli* and Amoxicillin/clavulanate Resistance at the University Hospital of the West Indies 1994 versus 2003**

The Editor

Sir,

Amoxicillin/clavulanate is widely used for the treatment of *Escherichia coli* infection. However, resistance has emerged in the Caribbean (1–3).

The laboratory methodology in 1994 (disc diffusion with measured zones of inhibition) and in 2003, for selected isolates (Vitek GNS 118 and GNS 204 cards), allowed categorization of the susceptibility of strains of *E. coli* into susceptible, intermediate and resistant. We compared the distribution of results for the two years. The study was designed to detect a shift towards increased resistance.

Several major assumptions had to be made: first that the spectrum of patients seen at the University Hospital of the West Indies had not changed over the nine years; secondly, that the sampling of specimens was representative of the patients seen in 1994 and 2003; thirdly, that the selection of isolates for Vitek testing in 2003 did not introduce a selection bias; fourthly, that the use of the GNS 118 card for non-urinary isolates, which contained ampicillin/sulbactam, did not influence the results.

In 1994 susceptibility testing was by the disc-diffusion method with amoxicillin/clavulanate. In 2003 susceptibility testing, the GNS 204 card containing amoxicillin/clavulanate was used for urinary isolates, whilst the GNS 118 card containing ampicillin/sulbactam was used for isolates from other sites. *E. coli* ATCC 25922 was the control strain.

Statistical analysis was by chi-squared with two degrees of freedom, $p < 0.05$ was considered significant.

The 1994 survey included 520 isolates and the 2003 sample 165 isolates. In 1994, isolates susceptible to amoxicillin/clavulanate numbered 314 (60.4%), intermediate susceptibility, 138 (26.5%) and resistant 68, (13.1%). In 2003, isolates susceptible to amoxicillin/clavulanate or ampicillin/sulbactam numbered 108 (65.5%), intermediate susceptibility 36 (21.8%) and resistant 21 (12.7%). Chi-square was 1.55 with two degrees of freedom, $p > 0.3$, considered not significant.

Only a limited analysis can be made of the 1994 versus 2003 findings. This is because of the major assumptions made. The rates of resistance of *E. coli* to amoxicillin/clavulanate are similar to previous studies from Jamaica and Trinidad and Tobago (1–3).

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REFERENCES

1. Bodoaik NC, Sue-Ho RW. Augmentin susceptibility in 3564 commonly encountered gram negative bacilli in a Tertiary Care Teaching Hospital; 1984-1994. Abstract of the paper presented in the 33rd Annual Conference of the Infectious Diseases Society of America (33rd IDSA) in San Francisco, California September 1995. Clin Infect Dis 1995
2. Orrett FA, Shurland SM. The changing patterns of antimicrobial susceptibility of urinary pathogens in Trinidad. Singapore Med J 1998; **39**: 256–9.
3. Orrett FA, Shurland SM. Prevalence of bacterial pathogens and susceptibility patterns from clinical sources in Trinidad. West Indian Med J. 2000; **49**: 205–9.