A survey of susceptibility testing of anaerobes in the United Kingdom

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Sir,
The susceptibility testing of anaerobes requires special expertise, particularly for those isolates that require prolonged incubation for growth. The recent Journal of Antimicrobial Chemotherapy Supplement giving British Society for Antimicrobial Chemotherapy (BSAC) guidelines for susceptibility testing offers recommendations for susceptibility testing of anaerobes, but these are based on the use of Wilkins & Chalgren agar. Increasingly, diagnostic laboratories are purchasing pre-poured media, and therefore the facility to pour media for ‘ad hoc’ purposes is no longer available, which has meant that some laboratories are using media that were not intended for anaerobic organisms.

It is unclear to what extent the susceptibility testing of anaerobes is undertaken in the UK and what procedures are used for testing. To obtain this information, the BSAC Working Party on Sensitivity Testing, with the help of the National External Quality Assurance Scheme (NEQAS), has posed questions about testing to those UK diagnostic laboratories (∼318).

Of the 108 replies to the questionnaire, 63 were from district general hospitals, 16 from private laboratories, 11 from teaching hospitals, six from public health laboratories, four from associate teaching hospitals, one from a reference laboratory and seven from other institutions. Twenty-eight per cent of laboratories that replied said that they identified anaerobes, 45% said they only identified anaerobes if they were from blood cultures, cerebrospinal fluid or a sterile site, and 27% said that they never identified anaerobes. As for susceptibility testing, six of the laboratories said that they never undertook testing. Twenty-six per cent of laboratories tested metronidazole on the primary isolation plate and, unless there was a pure culture of the organism from a site of interest, e.g. blood culture or sterile site, or if the organism appeared resistant, then no further investigation was carried out. Where testing was undertaken, the most commonly used media were Iso-Sensitest agar supplemented with 5% horse blood (ISA; 48%) and fastidious anaerobe agar (FAA; 21%). Only 5% of the laboratories used media specially designed for testing anaerobic organisms (Wilkins & Chalgren agar). Ninety-nine per cent of laboratories used a disc testing method and 15% used a combination of disc testing and a gradient method of determining an MIC (Etest). The antibiotics most often tested, other than metronidazole, were penicillin (91%), clindamycin (48%), erythromycin and co-amoxiclav (both 44%). Fourteen per cent and 3% of responding laboratories said that they tested carbapenems (usually imipenem) and piperacillin/tazobactam, respectively.

It is clear from these data that the susceptibility testing of anaerobes is limited to isolates from sites of special interest. Although rare, resistance in Bacteroides fragilis to carbapenems and metronidazole has been observed. If, in the future, resistance to these agents increases, routine testing may be necessary. Given that the majority of laboratories answering this questionnaire used either ISA or FAA, the BSAC is taking a pragmatic approach by undertaking a study to see how reliable these media are when testing fast-growing anaerobes. Further advice will be given when the results are analysed.

References