A survey of the identification and susceptibility testing of anaerobes in diagnostic microbiology laboratories in Scotland, UK

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Keywords: antimicrobial susceptibility, RapID ANA, API 20A, Rapid 32A, disc diffusion

Sir,

The methodology and reproducibility of the susceptibility testing of anaerobes in routine diagnostic laboratories has frequently been identified as problematic.1,2 However, reports of reduced susceptibility of various anaerobes to a range of antimicrobial agents underlines the importance for some semblance of a surveillance programme to detect emerging patterns of resistance that may impact on clinical outcomes.3,4,5 It is fundamental in collating data for surveillance schemes that it is underpinned by accurate identification of clinical isolates. We aimed to assess the current status of laboratories in Scotland, UK.

All laboratories (n=29) were part of the UK Clinical Pathology Accreditation (CPA) scheme and based in NHS (n=25) or private sector (n=4) hospitals. Each laboratory was mailed a questionnaire consisting of predominantly closed-ended questions (available as Supplementary data at JAC Online (http://jac.oxfordjournals.org/)). Approximately 2 weeks later, the responses were collected by telephone. Each laboratory was telephoned a maximum of three times before exclusion.

Responses were received from 86% (25/29) of laboratories, representing all categories of hospital. Laboratories were asked to estimate the number of anaerobes isolated per week from the categories of 0–10, 10–20 or >20 for different specimens. Most laboratories isolated <10 anaerobes per week from respiratory (96%), blood culture (88%), acute/intensive care (76%), obstetrics and gynaecology (40%) and miscellaneous (50%) specimens. Eight laboratories reported isolating >20 anaerobes per week from obstetrics and gynaecology specimens. There was wide variation in the identification methods, with 56% of the laboratories using more than one technique while, conversely, 19% failed to identify anaerobes routinely. The use of proprietary biochemical tests such as RapID™ ANA (Oxoid, Cambridge, UK) and API 20A/Rapid 32A (bioMérieux, Basingstoke, UK) was reported by 16% and 60% of respondents, respectively. A further 28% emphasized their use was directed by clinical information. No laboratory reported using any molecular methods for the identification of isolates. Although metronidazole was used for susceptibility testing in nearly all laboratories (96%), there was little concurrence regarding the testing of other antibiotics. Susceptibility to penicillin (44%), co-amoxiclav (40%) and clindamycin (24%) was reported by less than half of the laboratories surveyed. All laboratories reported that susceptibility testing for a wider range of antimicrobials would be undertaken if the clinical circumstances warranted. The majority of laboratories (80%) used a disc diffusion method for antibiotic susceptibility testing, with BSAC and CLSI methodologies equally distributed. Worryingly, 12% of respondents used a non-standardized method. Only four laboratories used an Etest in addition to disc diffusion.

It is clear from these data that the wide range of identification methods (and associated limitations) and susceptibility testing protocols precludes the collection of rudimentary data on both the epidemiology of anaerobic infections and the surveillance of antimicrobial susceptibility.

The use of a single centre testing unslected prospective isolates may improve accuracy and consistency.1,5 Additionally, if improvements in molecular identification techniques are adopted, this will also improve accuracy for these fastidious organisms.

Funding
This study was conducted as part of our routine work.

Transparency declarations
None to declare.

Supplementary data
The questionnaire is available as Supplementary data at JAC Online (http://jac.oxfordjournals.org/).

References