Information from the June 2009 Clinical Laboratory Standards Institute Committee Meeting on Antimicrobial Susceptibility Testing

Susan Sharp, Chair of the PSAB Committee on Laboratory Practices, attended the Clinical Laboratory Standards Institute (CLSI) Antimicrobial Susceptibility Testing (AST) Subcommittee Meeting that occurred June 28-30, 2009 in Boston, MA. Dr. Sharp is ASM’s representative to the CLSI. A summary of meeting highlights is included below:

**Enterobacteriaceae:**
- New breakpoints for the cephalosporins will be published early in 2010 in the M100 document. The following new comment will be included in Table 2A-Enterobacteriaceae in both the CEPHEMs and MONOBACTAMS categories (this comment will be followed by dosage comments): “Following evaluation of PK-PD properties and limited clinical data, new (revised) interpretive criteria for cephalosporins (cefazolin, cefotaxime, ceftazidime, and ceftriaxone) and aztreonam were established and are listed in this table. Cefepime and cefuroxime (parental) were also evaluated, however, no change in interpretive criteria was required with the dosages indicated below. When using the new interpretive criteria, routine ESBL testing is no longer necessary before reporting results (e.g.; it is no longer necessary to edit results for cephalosporins, aztreonam or penicillins to resistant). However, until laboratories implement the new breakpoints, ESBL testing should be performed as described in Supplemental Table 2. ESBL testing may still be useful for epidemiologic or infection control purposes.”
- Text changes will also be made for cephalothin interpretative criteria as follows: “Cephalothin interpretative criteria should only be used to predict results to the oral agents, cefadroxil, cefpodoxime, cephalalexin, and loracarbef. Older data which suggest that cephalothin results could predict susceptibility to some other cephalosporins may still be correct but there are no recent data to confirm this.”
- There is still strong consideration being given to decreasing breakpoints for the carbapenems (imipenem, meropenem, etc.), which may obviate the need for confirmatory testing for KPC-containing organisms with a carbapenemase inactivation test (ie; the Modified Hodge Test [MHT]). This consideration is due to: 1) an urgent need for interpretative criteria for carbapanem MICs when the MHT is positive, 2) the need to avoid continuing a screening test paradigm for detection of resistance, and 3) the perceived low frequency use of the MHT.
- There will also be a re-evaluation of the quinolone and fluoroquinolone breakpoints for the Enterobacteriaceae.

**Staphylococci:**
- Comment 11 in the section on tests for cefoxitin and oxacillin on staphylococci giving discrepant results, will be changed in 2010 to: “Cefoxitin is used as a surrogate for oxacillin resistance; report oxacillin susceptible or resistant based on the cefoxitin result. If both cefoxitin and oxacillin are tested against S. aureus or S. lugdunensis and either result is resistant, the organism should be reported as oxacillin resistant.”
- Revision to Comment 10 will read: “An induced b-lactamase test should be performed on staphylococcal isolates for which the penicillin MICs are ≤ 0.12 mg/mL or zone diameters ≥ 29 mm before reporting the isolates as susceptible. {NEW} However, the
prevalence of penicillin-susceptible S. aureus strains is low. Isolates that test as susceptible to penicillin may still produce b-lactamase, which is usually detected by an induced b-lactamase test. Thus, for serious infections, laboratories should consider performing MIC tests for penicillin and testing for induced b-lactamase production on subsequent isolates from the same patient.”

- Penicillin breakpoints for staphylococci will also be reconsidered as the current breakpoint is considered to be too high.
- Linezolid/Daptomycin: CLSI will include new breakpoints for linezolid of: $\leq 4$ mg/ml, susceptible; $\geq 8$ mg/ml, resistant. No changes were made yet to the “S only” breakpoint for daptomycin, but they will ask the drug sponsor to bring new clinical information to help design new I and R breakpoints.

Enterococci and b-Lactamase Tests:
- Statement 8 concerning this testing will be modified in 2010 to the following: “Penicillin or ampicillin resistance among enterococci due to $\beta$-lactamase production has been reported very rarely. $\beta$-lactamase production is not reliably detected with routine disk or dilution methods, but is detected using a direct, nitrocefin-based $\beta$-lactamase test. Because of the rarity of $\beta$-lactamase positive isolates, this test need not be performed routinely, but can be used in selected cases. A positive $\beta$-lactamase test predicts resistance to penicillin, as well as amino- and ureidopenicillins.”

Anaerobes:
- A ‘national’ antibiogram for anaerobic organisms will be added to the M100 and the anaerobic M11 documents in 2010.

CFS – Antimicrobial Testing:
- Cephamycins will be added to the “Warning” box in Table 1 of antibiotics not to be reported on organisms isolated from the CSF.

Intrinsic Resistance Table:
- An Intrinsic Resistance Table was approved and will be added to the M100 tables as an aid to clinical laboratories. This table will include known and globally accepted antimicrobial agent and organism combinations.

The next meeting of the CLSI AST subcommittee will be in Tampa, Florida, January 24-26, 2010. The meeting is open to the public; interested clinical microbiologists are encouraged to attend. For more information, go to http://www.clsi.org. For information on this summary, contact Susie Sharp at susan.e.sharp@kp.org