E004

4-hour Educational Workshop

Antimicrobial susceptibility testing with EUCAST breakpoints and methods

National introduction of EUCAST breakpoints and methods

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Objective

Presenting the introduction of EUCAST bacteriology breakpoints and methods in Slovenia.

Method

Description of the process.

Results

Introduction of EUCAST was coordinated by the Slovenian national antimicrobial susceptibility testing (AST) committee (SKUOPZ) where each clinical laboratory certified by the Ministry of Health is represented by at least one member. Key decision: only EUCAST breakpoints will be used and susceptible (S), intermediate (I) or resistant (R) categories will be given only if species specific or PK/PD interpretation criteria are available.

A joint symposium with clinicians was organised in June 2013 (with international speakers from EUCAST and Croatia), where it was agreed that EUCAST should be introduced.

Laboratory information system upgrade (LIS). All laboratories use the same LIS provided by a Slovenian software company. Considerable amount of work was necessary to upgrade LIS and combine guidelines and rules from different EUCAST documents into software rules and comments which are added to laboratory reports; 99 comments were entered in LIS. The breakpoint data was entered into LIS and validated by a dedicated clinical microbiologist.

Result of upgrade: all zones and MICs are entered in LIS, where interpretation into S, I or R is automatically performed – frequently, a comment based on EUCAST documents (e.g. dose of an agent) is automatically linked to the result. Very rarely, manual correction of the result is necessary (e.g. inducible macrolide resistance). LIS precludes S, I, R interpretation if there are no EUCAST breakpoints.

Laboratory methods. Procedures were based on original EUCAST documents. On national level only the document on disk diffusion method (the main method used in Slovenia) was translated and two additional detailed documents, based on EUCAST document on detection of resistance mechanisms, were written.

Training sessions were done locally and experiences shared at SKUOPZ meetings. Attention to numerous details was necessary; there were no major technical issues, with the exception of Mueller Hinton fastidious agar where considerable effort was spent selecting reagents, inoculation procedures and reading of growth. Advice from the EUCAST development laboratory was appreciated.

Information for clinicians. In addition to personal contacts, at the time of introduction of EUCAST guidelines, 1-page document of major changes was distributed and linked to a 15-page document on SKUOPZ website, where concise practical information was given.

In April 2014, after 10 months of intensive work, EUCAST was implemented in all laboratories except in one due to insufficient human resources. Process is assessed by internal and external quality control.

Conclusion

Introduction of EUCAST was a demanding national project, coordinated by the national AST committee. Three key areas were: changes in LIS, laboratory training using the EUCAST guide for implementation and providing information for clinicians. System was well accepted by both laboratories and clinicians.