New antibiotic susceptibility testing definitions: «I» no longer means intermediate susceptibility☆

Novedades en el antibiograma: «I» ya no significa sensibilidad intermedia

Dear Editor:

Antibiotic susceptibility testing is an essential tool for adjusting antibiotherapy to the isolated bacteria. The minimum inhibitory concentration (MIC), defined as the lowest concentration of an antimicrobial that can inhibit the growth of a microorganism, was traditionally used to classify the isolate as *susceptible* (''S''), *resistant* (''R'') or with *intermediate susceptibility* to the antimicrobial (''I''). The latter category encompassed bacteria with MICs for which antimicrobial activity was uncertain based on the available evidence.[1]

Every year, the European Committee on Antimicrobial Susceptibility Testing (EUCAST) publishes a document reviewing the evidence and updating the breakpoints that define each of these categories. A growing number of microbiology laboratories in Spain have been applying these standards in adherence with the recommendations of the Spanish Committee on Antibiotic Susceptibility Testing (Comité Español del Antibiograma, COESANT).

In 2019, the EUCAST published an important update, changing the definition of ''I''. Since then, both ''S'' and ''I'' refer to susceptible isolates. The difference is that isolates classified as susceptible could be treated with a standard dosing regimen, while those classified as intermediate would require an enhanced dosage. Thus, isolates classified as ''I'' are defined as susceptible to the antimicrobial as long as exposure is increased. Increased exposure may be achieved by changing the route of administration, dose, interval between doses or rate of infusion or by using agents with a distribution, metabolism and elimination that are favourable based on the location and severity of infection. Thus, ''I'' would stand for *increased exposure* as opposed to *intermediate susceptibility.*[2]

This change is based on mounting evidence that there is a MIC range that corresponds to a high probability of therapeutic success using an increased dose of the antimicrobial. Exposure to each antimicrobial is optimised based on its pharmacokinetics and pharmacodynamics, establishing different objectives for different antibiotic classes.[3,4]

On behalf of the Working Group on antimicrobial stewardship of the Sociedad Española de Infectología Pediátrica (Spanish Society of Paediatric Infectious Diseases, SEIP), we want to promote awareness and understanding of this change, as its incorrect interpretation may result in an increase in the inappropriate use of restricted antimicrobials.[5] For example, a *Pseudomonas aeruginosa* isolate with a MIC of 8 mg/L or less of ceftazidime used to be considered susceptible, but it would now be classified as ''I'' based on recent updates. The rational is the recommendation of using a dose higher than the standard dose for some β-lactam antibiotics (ceftazidime, cefepime or piperacillin-tazobactam) for treatment of *P. aeruginosa* infections.[6] Thus, with the new classification system, the EUCAST aims to avoid the use of the standard dose and promote the use of the optimised dose.[7] Consequently, the ''I'' classification does not indicate a need to use broader-spectrum antibiotics, such as carbapenems, but to increase the dosage of the antimicrobial, administering higher doses and possibly even using extended or continuous infusion.

We ought to highlight that the EUCAST has developed a table that includes the standard and the increased doses for different antibiotics.[8] However, this table did not address the dosage for the paediatric population. For this reason, the Working Group on antimicrobial stewardship for the SEIP, with the collaboration of the Sociedad Española de Farmacia Hospitalaria (Spanish Society of Hospital Pharmacy, SEFH), has taken the initiative to make a paediatric adaptation of the table (https://www.seipweb.es/dosisantibioticos/), to be updated periodically based on the current evidence. We hope that it will contribute to improving antimicrobial use, reducing associated risks, the development of microbial drug resistance and the incidence of adverse events. We also encourage readers to consult and check with the laboratory of microbiology of each facility about the integration of the new guidelines in everyday clinical practice.

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Conflicts of interest

The authors have no conflicts of interest to declare in relation to this article.

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[1] Appendix A Lists the members of the PROA-SEIP working group.

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Gestational and pregestational diabetes: Perinatal characteristics and neonatal morbidity☆

Diabetes gestacional y pregestacional: características perinatales y morbilidad neonatal

Dear Editor,

In the context of epidemiological trends in maternal obesity and type 2 diabetes, the incidence of gestational diabetes has increased significantly in recent decades, increasing the risk of foetal, neonatal and long-term complications in the offspring.[1]

Maternal diabetes can be classified as gestational diabetes (GD) or pregestational diabetes (PGD), with a prevalence of 7.5% (90% of pregnant women with diabetes) and 1.8% (10% of pregnant women with diabetes), respectively. Gestational diabetes is defined as diabetes first detected during pregnancy, although it could be pre-existing or persist after delivery. Pregestational diabetes includes diabetes type 1 and type 2 diagnosed before pregnancy.[2]

In Spain, routine screening for diabetes is recommended for all pregnant women between weeks 24 and 28 of gestation with the O'Sullivan test, with performance of a glucose tolerance test if the results are positive or in the presence of risk factors. The end of pregnancy does not differ from all other pregnancies unless diabetes is severe or poorly controlled.[3]

Children of mothers with GD are at increased risk of macrosomia, hypoglycaemia, jaundice, respiratory distress and hypertrophic cardiomyopathy. On the other hand,

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