



EUCAST news 2017

ECCMID 2017

Marina Ivanova

ECCMID 2017

- EUCAST workshop
- EUCAST GC meeting
- EUCAST posterid

EUCAST breakpoints - perspektiiv

- MIKi korrelatsioonid diskdifusiooni tsoonidega 2016-2017:
 - *Aeromonas* spp.
 - *Plesiomonas shigelloides*
- Meetodi väljatöötamine ja hinnang 2017:
 - *Vibrio* spp.
 - *Nocardia* spp.
 - Anaeroobid (fast-growing)

EUCAST breakpoints - perspektiiv

– Plaanis alates 2018.aastast:

- HACEK (v.a. *Kingella kingae*)
- *Streptomyces* spp.
- *Leuconostoc* spp.
- *Lactobacillus* spp.
- *Abiotrophia* ja *Granulicatella* spp.
- *Gemella* spp.
- *Achromobacter* spp.
- *Bacillus* spp. (v.a. *B. anthracis*)
- *Pediococcus* spp.

Expert rules

- Intrinsic resistance and exceptional phenotypes on valmis ja avaldatud
- Expert rules muu osa on plaanis arutada kohe pärast ECCMIDi (SC koosolekul) ning avaldada käesoleva aasta lõpuni
 - Sören Gatermann (Bochum, Saksamaa, EUCAST SC) on tutvustanud planeeritavaid muudatusi
 - Nt. D-testi fenomeeni rakendatavus osa korünebakterite liikide jaoks

08:45 - 12:45

Antimicrobial susceptibility testing with EUCAST breakpoints and methods

Chairs: Alasdair P. MacGowan
John D. Turnidge

10:01

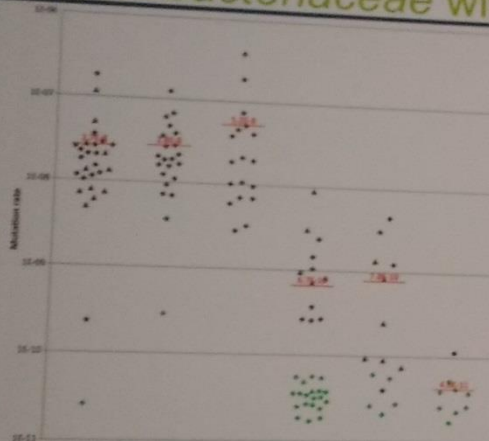
Saturday, 22 April 2017

Hall A

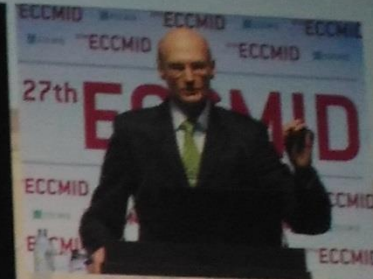
Expert Rules for Enterobacteriaceae with AmpC

RUB-UNIVERSITÄT BOCHUM

RUB



Kohlmann et al
Poster P0239 session P011



Sören G. Gatermann
(Bochum, DE)

Intrinsic resistance and expert rules

27th ECCMID

Vienna, Austria
22 - 25 April 2017

ESCMID

NB! Hetkel on karbapeneemide diskide tulemused (kalibratsioonid) on täpsemad, kui gradientribade omad (seega tulemused täpsemad)

... methods ... testing with EUCAST breakpoints

Chairs: Alasdair P. MacGowan
John D. Turnidge

RUHR-UNIVERSITÄT BOCHUM


Recognize carbapenemases

RUB

- if the MIC is low, then this drug – even a carbapenem – may be used
- therapy with carbapenems is less effective if carbapenemase is present
Hagihara et al JAC 68:161 (2013)
- efficacy depends on carbapenemase and dosing
Wiskirchen et al AAC 57:3936 (2013), AAC 58:1671 (2014)

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Sören G. Gatermann
(Bochum, DE)

Intrinsic resistance

RUHR-UNIVERSITÄT BOCHUM

Expert rule for carbapenemases

RUB

IF MIC of meropenem > 0.12 OR zone diameter < 27 mm
THEN

- test and report MIC
- check for presence of carbapenemase

IF carbapenemase positive

THEN

add comment that therapy may need combination



Sören G. Gatermann
(Bochum, DE)

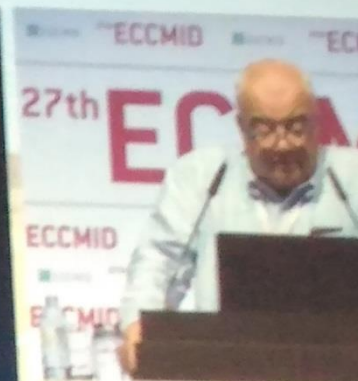
Intrinsic resistance

MT=Intermediate kategoria uus definiitsioon

Intermediate Proposed new definition 2017

- **Intermediate 2016:**
 - A microorganism is defined as intermediate by a level of antimicrobial activity associated with a high likelihood of therapeutic success but only when a higher dosage of the agent than normal can be used or when the agent is physiologically concentrated at the site of infection.
- **Intermediate 2017:**
 - A microorganism is categorised as intermediate when there is a high likelihood of therapeutic success because exposure (activity) is enhanced (1) by adjusting the dosing regimen, or (2) because the antimicrobial agent is concentrated at the site of infection.

EUCAST Workshop, ECCMID 2017



Gunnar Kahlmete
(Växjö, SE)

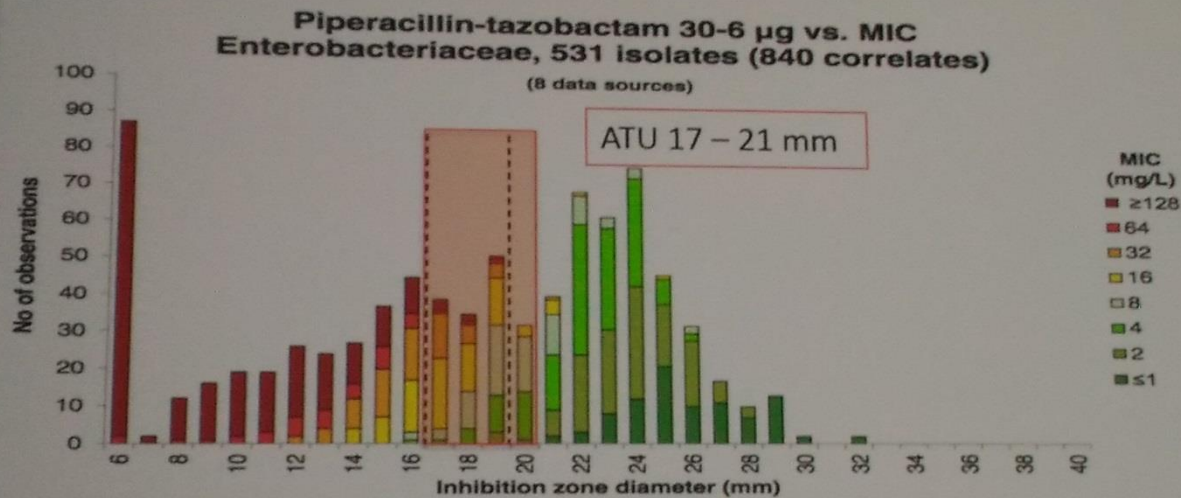
Now we know the meaning
"intermediate"!

ATU = area of technical uncertainty

and methods

John D. Turnidge

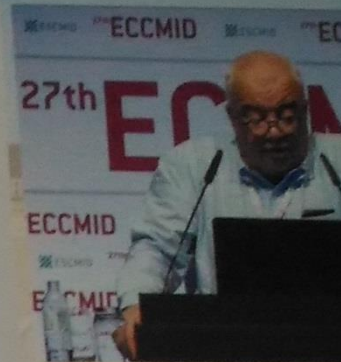
Piperacillin-tazobactam vs. Enterobacteriaceae



Breakpoints

MIC S≤8, R>16 mg/L
Zone diameter S≥20, R<17 mm

EUCAST Workshop, ECCMID 2017



Gunnar Kahlmetz
(Växjö, SE)

Now we know the mean
"intermediate"!

Olulisemad kombinatsioonid

08:45 - 12:45

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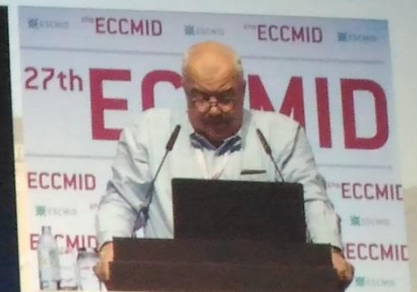
11:01
Saturday, 22 April 2017

Hall A

Species / Agent combinations in need of an ATU Preliminary list.

- **Enterobacteriaceae (5)**
 - Amox-Clav, Pip-taz, Ceftaroline, Ceftaz-avi, Ciprofloxacin
- **Pseudomonas aeruginosa (7)**
 - Pip-taz, Cefepime, Ceftaz, Ceftaz-avi, Aztreonam, Cipro, Levo
- **Staphylococci (4)**
 - Ceftaroline, Ceftobiprol, Amikacin, Linezolid
- **Enterococci (1)**
 - Vancomycin
- **Viridans streptococci (1)**
 - Benzylpenicillin
- **Haemophilus influenzae (6)** – all related to the problems caused by PBP3 mutations
 - Ampicillin, amoxicillin-clavulanic acid, cefepime, cefotaxime, ceftriaxone, cefuroxime.


EUCAST Workshop, ECCMID 2017



Gunnar Kahlmeter
(Växjö, SE)

Now we know the meaning of
"intermediate"!

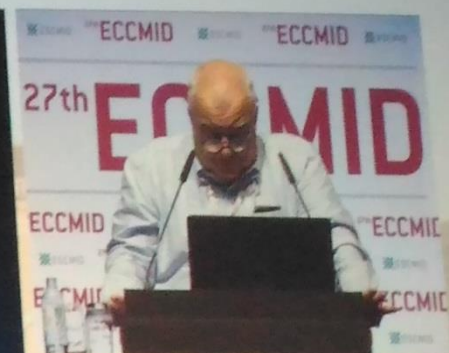
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In summary

- Intermediate will be used to signify a need for higher exposure
- The need for a buffer (identifying an area of technical uncertainty) to prevent errors is limited and possible to identify – it is the responsibility of the laboratory and should be solved before reporting AST results.
- EUCAST breakpoints which have both S/I- and I/R breakpoints will have at least two significantly different dosages.

EUCAST Workshop, ECCMID 2017



Gunnar Kahlmeter
(Växjö, SE)

Now we know the meaning of
"intermediate"!

08:45 - 12:45

Antimicrobial susceptibility testing with EUCAST breakpoints
and methods

Chairs: Alasdair P. MacGowan
John D. Turnidge

11:43

Saturday, 22 April 2017

Hall A

Sources of errors in disk diffusion

- Disks
 - Incorrect disk potency
 - Incorrect handling and storage
 - Disk quality
- Media
 - Quality of agar base
 - Supplements
 - pH, agar depth
 - Excess humidity



Erika Matuschek

(Växjö, SE)

Technical problems and controversies
in antimicrobial susceptibility testing

27th **ECCMID** Vienna, Austria
22 - 25 April 2017



Colistin

08:45 - 12:45

Antimicrobial susceptibility testing with EUCAST breakpoints and methods

Chairs: Alasdair P. MacGowan
John D. Turnidge

11:54
Saturday, 22 April 2017

Hall A

EUCAST evaluation of colistin MIC methods

- 75 Gram-negative bacteria with varying colistin MICs (0.25-128 mg/L)
 - *E. coli*, *K. pneumoniae*, *P. aeruginosa* and *Acinetobacter* spp.
- BMD (ISO 20776-1 and EUCAST/CLSI recommendations)
 - Frozen panels as references
 - Commercial freeze-dried panels
 - Sensititre, MICRONAUT-S, MICRONAUT MIC Strip
- Gradient tests
 - Etest (Oxoid, BBL and MHE Mueller-Hinton agar)
 - MIC Test Strip (Oxoid and BBL Mueller-Hinton agar)




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(Växjö, SE)

Technical problems and controversies
in antimicrobial susceptibility testing

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Colistin kui metoodiliselt probleemne antibiootikum

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Hall A

Results colistin MIC methods

- Correlation with reference MICs was good for all BMD methods.
- Gradient tests generally underestimated colistin MICs resulting in false susceptibility (very major errors).
 - Problems probably related to poor diffusion of colistin in agar.
- The poor performance of gradient tests could not be detected with QC strains.



Erika Matuschek
(Växjö, SE)

Technical problems and controversies
in antimicrobial susceptibility testing

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P 165 Proposed breakpoints for rapid antimicrobial susceptibility testing with disk diffusion tests direct from positive blood cultures for *Escherichia coli*, *Klebsiella pneumoniae*, *Staphylococcus aureus* and *Streptococcus pneumoniae*

- **The objectives** of this study was to
 - i) evaluate RAST with disk diffusion directly from positive blood culture bottles and
 - ii) to shorten the time even further compared to using a McFarland 0.5 inoculum
- Disk diffusion following direct inoculation of susceptibility plates from positive blood cultures with reading after 4, 6 and 8 hours incubation is possible if an “Area of Technical Uncertainty” (ATU) is introduced. Isolates with results within ATU after 4 or 6 hours incubation should be reincubated up to a total of 8 hours. Isolates with results within the ATU also after 8 hours incubation must be retested with standard methodology.
- The method has also been evaluated for *Enterococcus faecalis*, *Enterococcus faecium*, *Pseudomonas aeruginosa* and *Haemophilus influenzae*, with promising results. Evaluation of the proposed method and breakpoints for clinical isolates at additional laboratories is in progress.

Uued tehnoloogiad

- Accelerate Pheno System
 - FISH samastamiseks ja kiire AST määramiseks
 - 15 mikroobi (gram-pos ja gram-neg) ja 2 pärmseent (ID 1,5 tunniga)
 - MIK ja interpretatsioon 18 antibiootikumi jaoks ning MRSA ja MLSb fenotüüpiline detekteerimine (kuni 7 tundi)
 - FDA registratsioon veebruaris 2017
 - Lahendatud monokultuuri jaoks, polümikroobne kasv on lahendamata