EARS-Net ja NEQAS 2019 Eesti tulemused

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06.10.2020

Üldandmed

- 09.09.2019 väljastatud NEQAS-I poolt
- Eestist osales 10 laborit (hetkel on osaliselt puudu Kuressaare andmed)
- 2020.aastal NEQAS ei väljasta EARS-Net teste
- Edaspidised plaanid esialgu lahtised
- Laborite tase resistentsuse tuvastamisel on hea
- 50% laboritest kasutab automatiseeritud lahenduse mikroobide samastamiseks (ITK, PERH, TÜK, TA mass-spektromeetria; LTKH TA laboris)
- Järgmisel aastal lisandub IVKH, veel mõni labor?

EARS-Net 2019 andmed

- Verekülvi setide arv 1000 patsiendipäeva kohta:
  - Eesti 33,4 (100% population coverage PC)
  - Läti 9,5, Leedu 6,1 (100% PC)
  - Rootsi 105,6 (78% PC), Norra 86,7 (94% PC)

5582 *Acinetobacter baumannii* complex

- International clone II *Acinetobacter baumannii* complex which was resistant to carbapenems (imipenem and meropenem), ciprofloxacin, levofloxacin and gentamicin but susceptible to amikacin, tobramycin and colistin
- In this strain, the carbapenem resistance was due to the native, chromosomal OXA-51-like oxacillinase with increased expression due to ISAbaI
- 7 laborit määrasid kolistiini tundlikkust, kõik tulemused õiged ja identsed (MIK 2)

Acinetobacter spp., 16 tüve

- Carbapenem (imipenem/meropenem) resistance 50%
- Fluoroquinolone (ciprofloxacin/levofloxacin) resistance 80%

5583 *Escherichia coli*

- This specimen contained an *Escherichia coli* resistant to ampicillin, amoxicillin, amoxicillin/clavulanic acid and piperacillin/tazobactam
  - Meil amoxicillin-clavulanate 2 laboris tundlik
  - Meil piperacillin-tazobactam 3 laboris tundlik
- Resistance to the aminopenicillins, amoxicillin/clavulanate and piperacillin/tazobactam is conferred by hyper expressed TEM-1 β-lactamase
- The isolate was either susceptible, increased exposure (I, EUCAST) to ceftazidime
  - Meil 6 laboris tundlik, 1 resistentne ja 1 tundlik kõrgemas kontsentratsioonis
  - For ceftazidime (4mg/L) the intended result was susceptible, increased exposure (I), with the MIC close to the breakpoint. Participants provided the following results: 60.4% susceptible; 30.6% susceptible, increased exposure / intermediate (I); and 9% resistant. Only 32.6% of participants following EUCAST methods provided the correct category of “I”.

E. coli, 910 tüve

- Third-generation cephalosporin (cefotaxime/ceftriaxone/ceftazidime) resistance 11,5%
- Fluoroquinolone (ciprofloxacin/levofloxacin/ofloxacin) resistance 17,1%
- Combined resistance to third-generation cephalosporins, fluoroquinolones, and aminoglycosides 2,1%

5584 *Klebsiella pneumoniae*

- This specimen contained a *Klebsiella pneumoniae* isolate resistant to ampicillin, amoxicillin, amoxicillin/clavulanate, ciprofloxacin, levofloxacin, ofloxacin, gentamicin and tobramycin
  - Meil on 4 laboris amoxicillin-clavulanate tundlik, 1 laboris MT (kusjuures selline interpretatsioon on võimatu BP tabelite järgi)
- The isolate was susceptible/susceptible, increased exposure/intermediate (I) to piperacillin/tazobactam and susceptible to amikacin, cefotaxime, ceftazidime, ceftriaxone, ertapenem, imipenem, meropenem and colistin
  - Meil 2 laboris ei testitud ceftazidime?

K. pneumoniae, 179 tüve

- Third-generation cephalosporin (cefotaxime/ceftriaxone/ceftazidime) resistance 10,6%
- Fluoroquinolone (ciprofloxacin/levofloxacin/ofloxacin) resistance 16,2%
- Combined resistance to third-generation cephalosporins, fluoroquinolones, and aminoglycosides 5,6%

5585 *Pseudomonas aeruginosa*

- This specimen contained a *Pseudomonas aeruginosa* resistant to amikacin, gentamicin, tobramycin, ciprofloxacin, levofloxacin, piperacillin/tazobactam, imipenem and meropenem and susceptible to ceftazidime
- For colistin the MIC spanned the breakpoints and so was variably susceptible/resistant
- Carbapenem resistance was due to reduced porin expression, efflux systems and increased chromosomal ampC β-lactamase production

P. aeruginosa, 70 tüve

- Piperacillin+tazobactam resistance 7,1%
- Ceftazidime resistance 4,5%
- Carbapenem (imipenem/meropenem) resistance 5,8%
- Fluoroquinolone (ciprofloxacin/levofloxacin) resistance 5,9%
- Combined resistance to ≥3 antimicrobial groups (among piperacillin+tazobactam, ceftazidime, carbapenems, fluoroquinolones and aminoglycosides) 2,9%

5586 *Staphylococcus aureus*

- This specimen contained a *Staphylococcus aureus* resistant to benzlypenicillin, cefoxitin, clindamycin, linezolid and tetracycline and susceptible to ciprofloxacin, erythromycin, fusidic acid, gentamicin, rifampicin, teicoplanin and vancomycin
- For linezolid the intended result was resistant (16mg/L). Participants provided the following results: 84% resistant and 16% susceptible
  - Meil 1 laboris tundlik ja 2 laborit ei määranud?

Gram-positiivsed mikroobid

- *S. aureus*, 366 tüve MRSA 3%
- *E. faecalis*, 93 tüve, HLR 12,9%
- *E. faecium*, 74 tüve, VRE 4,1%
- *S. pneumoniae*, 161 tüve, Penicillin non-wild-type 4,3%

5587 *Streptococcus pneumoniae*

- This specimen contained a *Streptococcus pneumoniae* which was categorised as susceptible, increased exposure / intermediate (I) to cefotaxime/ceftriaxone.
  - Meil kõik 10 laborit määrasid tundlikuks
  - 58,4 % muudest laboritest määrasid ka tundlikuks
- The strain was susceptible to levofloxacin/moxifloxacin and resistant to clindamycin, erythromycin and penicillin
  - Norfloxacin skriiningut kasutab 6 laborit, neist 5 määrasid tundlikuks, aga eeldatud tulemus oli R

Tänud kõigile osalejatele