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Paper Poster Session

STI due to *Chlamydia trachomatis* and *Neisseria gonorrhoeae*

Antimicrobial resistance of *Neisseria gonorrhoeae* towards ceftriaxone and cefixime remains low in Germany

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Background: *Neisseria gonorrhoeae* (NG)-infections are not reportable in Germany and limited data on NG-epidemiology and antimicrobial resistance (AMR) are available. The first line therapy according to German guidelines includes ceftriaxone or cefixime together with azithromycin. With Gonococcal Resistance Network (GORENET) we monitor the NG-AMR in Germany to guide treatment algorithms and targeted prevention strategies.

Material/methods: Between April 2014 and June 2015 data on NG-AMR-tests and patient related information was collected from participating laboratories nationwide.

Laboratories were asked to send isolates to the consiliary laboratory for AMR-testing towards ceftriaxone, cefixime, azithromycin, ciprofloxacin, and penicillin by using E-Test, and beta-lactamase by using Nitrocephin test. Results were interpreted according to EUCAST 4.0.

We characterized isolates tested in consiliary laboratory by resistance patterns. We calculated proportions, medians, and interquartile range (IQR). We compared medians by Wilcoxon-Mann-Whitney-Test and proportions by Chi-squared test or Fisher's exact tests, where applicable.

Results: In total 23 laboratories submitted data on 729 samples collected between April and December 2014 and 463 samples collected between January and June 2015. Altogether, 90% isolates were from men. Median age of tested men was 33 (IQR 25-44) and women 26 (IQR 22-41) years, p-value<0.001. Most frequently tested materials among men were urethral (90%) and rectal swabs (2%), among women mainly endocervical (51%) and vaginal swabs (22%). Distribution by sex, age, and tested material did not differ between years 2014 and 2015.

Consiliary laboratory tested 261 isolates from 2014 and 168 from 2015. None of the isolates was resistant towards ceftriaxone. In 2014 and 2015, respectively, 1.9% and 0.6% of isolates were resistant towards cefixime (p-value=0.245), 11.9% and 11.9% towards azithromycin, 72.0% and 56.0% towards ciprofloxacin (p-value=0.001), and 29.1% and 19.6% towards penicillin (p-value=0.066). Further 33.7% and 35.7% isolates showed intermediate susceptibility to azithromycin in

2014 and 2015, respectively. As well as 60.5% and 66.1% showed intermediate susceptibility to penicillin in 2014 and 2015, respectively. From 201 isolates tested for beta-lactamase in 2014, 24.9% were positive.

Conclusions: Isolates tested for NG-AMR were mostly from men. A substantial proportion may be attributable to men having sex with men. Among men urethral swabs are most frequently tested for NG-AMR, as urethral infections are more often symptomatic. NG-AMR to ceftriaxone was not detected and to cefixime remains low, while resistance and intermediate susceptibility to azithromycin, ciprofloxacin and penicillin is substantial. Except decrease in AMR towards ciprofloxacin, no substantial changes in AMR pattern between 2014 and 2015 could be detected. Comparison between years is limited by a low number of the tested isolates. Low level of AMR towards cefixime could be explained by the effect of the therapy guidelines. Monitoring of NG-AMR should be highly prioritised and number of collected and tested isolates increased.