

However, despite exceedingly rare in most countries spectinomycin resistance is annually identified in Russia, and accordingly the level of this resistance is crucial to monitor. Continuous, quality assured and quality controlled gonococcal AMR surveillance in Russia is crucial. RU-GASP now also works under WHO protocols.

**P1-S1.43** **ANTIMICROBIAL SUSCEPTIBILITY AND MOLECULAR EPIDEMIOLOGICAL CHARACTERISTICS OF *NEISSERIA GONORRHOEA* IN 2009–2010 IN BELARUS**

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**Background** Antimicrobial resistance (AMR) in *Neisseria gonorrhoeae* is a global concern, and gonorrhoea may become untreatable. However, AMR data from Eastern Europe are scarce beyond Russia, and in Belarus no AMR data or other characteristics of gonococci have been published in over 20 years. The aim was to describe the AMR and molecular epidemiological characteristics of gonococci circulating in 2009 and 2010 in Belarus.

**Methods** *N gonorrhoeae* isolates cultured in 2009 (n=80) and 2010 (n=78) in the two different cities Minsk (n=45) and Mogilev (n=113) were examined using Etest for nine antimicrobials and nitrocefin solution for  $\beta$ -lactamase production. Where available, breakpoints for susceptibility and resistance according to The European Committee on Antimicrobial Susceptibility Testing (EUCAST; <http://www.eucast.org>) were used. Moreover, screening for penA mosaic alleles, full-length porB gene sequencing, and *N gonorrhoeae* multiantigen sequence typing (NG-MAST) were performed.

**Results** The levels of resistance in 2009–2010 to antimicrobials evidently used in the gonorrhoea treatment in Belarus were—ceftriaxone 0%, spectinomycin 0%, azithromycin 14.4%, tetracycline 30.9%, ciprofloxacin 34.6%, and erythromycin 59.2% (only tested in 2009). The levels of resistance to other antimicrobials of international interest but not used in Belarus were—cefixime 0%, gentamicin 1.3%, and penicillin G 9.9% (only tested in 2009). Extraordinarily, no  $\beta$ -lactamase producing isolates were detected. The circulating *N gonorrhoeae* population identified was very heterogeneous and contained many divergent NG-MAST STs, of which more than half have not been previously described worldwide.

**Conclusions** Due to the high levels of resistance to all antimicrobials previously recommended as first-line treatment, only ceftriaxone and spectinomycin can be recommended for empirical gonorrhoea treatment in Belarus. Continuous and quality assured gonococcal AMR surveillance in Eastern Europe is crucial, in Belarus this surveillance is now initiated using WHO protocols.

**P1-S1.44** **ANTIMICROBIAL SUSCEPTIBILITY PROFILE OF *NEISSERIA GONORRHOEA* ISOLATES IN THE PROVINCE OF QUÉBEC - 2010**

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**Background** Regular monitoring of antimicrobial resistance of *N gonorrhoeae* is necessary to detect the trend in antimicrobial resistance, increases in minimum inhibitory concentrations (MICs) and to assist in the development of treatment guidelines.

**Methods** In 2010, all *N gonorrhoeae* strains isolated in clinical laboratories throughout the province were submitted to the Laboratoire de santé publique du Québec where their susceptibility profile to azithromycin, cefixime, ceftriaxone, ciprofloxacin and spectinomycin was determined by the agar dilution method.

**Results** A total of 831 strains isolated from 607 males and 224 females were tested. The strains were recovered from (data available for 819 strains) the following specimens—urethra, 432; cervix, 191; anus, 100; throat, 90; eye, 4; and synovial fluid, 2. All strains were susceptible to cefixime, ceftriaxone and spectinomycin, 270 (32.5%) were resistant to ciprofloxacin and 11 (1.3%) were resistant to azithromycin (MIC  $\geq$  2 mg/l). The azithromycin resistant isolates were retrieved from 11 males aged 16–55 years (mean, 30) from the Montreal area (urethra, 8; throat, 3). The azithromycin MIC distribution was as follows—4 mg/l (n=1), 8 mg/l (n=6), 16 mg/l (n=4). No highly resistant organism (MIC > 128 mg/l) was identified. Among the azithromycin resistant isolates, one was resistant to ciprofloxacin but all were susceptible to cefixime, ceftriaxone and spectinomycin. In 2010, 68 (8.2%) isolates exhibited decreased susceptibility to cefixime (MIC=0.125 mg/l [n=62] and 0.25 mg/l [n=6]). Of these 68 isolates, all were susceptible to azithromycin and ceftriaxone but all were resistant to ciprofloxacin. Only one isolate showed decreased susceptibility to ceftriaxone (MIC=0.125 mg/l)—this isolate also showed decreased susceptibility to cefixime.

**Conclusions** As observed elsewhere, *N gonorrhoeae* strains are showing a worrisome drift in susceptibility to cefixime, a first line treatment for gonococcal infections associated with resistance to ciprofloxacin. Furthermore, resistance to azithromycin, a second line treatment option, is emerging. Sustained collaborative laboratory surveillance programs are mandatory for the design of public health interventions to prevent and control gonococcal infections.

**P1-S1.45** ***NEISSERIA GONORRHOEA* ANTIMICROBIAL SUSCEPTIBILITY IN LATIN AMERICA AND THE CARIBBEAN (2000–2009) - A CONTRIBUTION TO THE TREATMENT GUIDELINES REVISION**

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**Background** Active surveillance of the antimicrobial susceptibility (AS) of *Neisseria gonorrhoeae* (Ng) isolates was carried out by the Gonococcal Antimicrobial Surveillance Program (GASP) in Latin America and the Caribbean (LAC) during the 1990s. A retrospective analysis of surveillance activities undertaken during the 2000s was conducted to describe trends in Ng AS and to re-initiate the GASP network.

**Methods** Ng isolates were collected and tested for AS to penicillin (Pen), tetracycline (Tet), ciprofloxacin (Cip), ceftriaxone (Cef), azithromycin (Azi) and spectinomycin (Spe) in 11 countries between 2000 and 2009. Agar dilution, disc diffusion and Etest methods were used as described by CLSI and previously established in the GASP-LAC network. Trends in AS were retrospectively analysed in each country and aggregated at the GASP-LAC Coordinating Centre.

**Results** 6 countries collected data over the entire study period and five countries tested for AS sporadically. In total, 9026 Ng isolates were tested. Cip resistance first appeared in 2000 with 2%, (19/784) and resistant per cent increased to 30% (297/975) in 2009. Cip resistance was observed in 10 countries. Azi resistance per cent increased from 6% (41/646) in 2000 to 27% (224/842) in 2009; one country reported no resistance. Pen resistance per cents ranged between 29% (299/1035) in 2000 and 33% (256/772) in 2006. Tet resistance percents declined from 61% (633/1041) in 2000 to 35%