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FACTORS ASSOCIATED WITH *NEISSERIA GONORRHOEA* AZITHROMYCIN RESISTANCE IN THE QUEBEC SENTINEL NETWORK, 2015–2017

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Background *N. gonorrhoeae* azithromycin resistance (MIC ≥ 2 mg/L) increased from 1.7% to 30.9% between 2013 and 2017 in Quebec, Canada. The Quebec sentinel network aims to 1) maintain a sufficient number of cultures for antimicrobial resistance surveillance; 2) link antimicrobial susceptibility surveillance to epidemiological and clinical information; and 3) monitor treatment failures. We herein examine the associations between *N. gonorrhoeae* azithromycin resistance and epidemiological/clinical characteristics.

Methods Three regions participated: Montréal (two clinics recruiting mostly men having sex with men (MSM)), Montérégie (22 clinics recruiting mostly heterosexuals) and Nunavik (participated only in 2016, recruited mainly heterosexual Inuit people). One strain per year, per individual was selected. When data was presented for 2015–2017 (2015 was incomplete), the most recent strain per individual was considered. Proportions were compared using chi-square tests.

Results Between September 2015 and December 2017, 68% of episodes (840/1240) had a culture performed and 571 strains were obtained, including all duplicates. This analysis includes 190 strains in 2016, 270 strains in 2017 and 469 strains for 2015–2017. Most isolates were collected in MSM (349/469; 76%). Sampling sites were urethra (329/469; 70.2%), rectum (90/469; 19.2%) and pharynx (50/469; 10.7%). Azithromycin resistance was significantly higher in MSM (25.5% vs 9.2% in heterosexuals, $p < 0.001$), in cases who reported previous gonorrhea (27.3% vs 15.3%, $p = 0.004$), syphilis (29.5% vs 19.8%, $p = 0.045$), HIV (31.8% vs 20.1%, $p = 0.035$) and who reported a sex partner outside Quebec in 2016 (36.7% vs 16.8%, $p = 0.021$), but this difference was not maintained in 2017 (21.2% vs 21.7%, $p = 0.951$). No significant difference was observed with regard to age, number of sex partners, anatomical site and presence of symptoms.

Conclusion Recommendations to perform cultures appear to be well implemented (70% of episodes). Azithromycin resistance seems to be well established in Quebec with a possible declining contribution of travel-acquired resistant infection.

Disclosure No significant relationships.

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VARIATIONS IN TIME TO CLINICAL PRESENTATION FOR PATIENTS WITH UNCOMPLICATED GENITAL GONORRHOEA

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Background Current high rates of gonorrhoea highlight a need for rapid effective treatment. Specifically, reducing the

duration between onset of symptoms and presentation for clinical care can prevent the onward transmission of infection and the development of sequelae. We sought to evaluate variation in time to presentation (TTP).

Methods Participants were recruited from 14 clinics across England into the gentamicin for the treatment of gonorrhoea (GToG) trial between October 2014 and November 2016. Demographic, behavioural, and clinical data were analysed from participants presenting with genital discharge and/or dysuria who tested positive for *Neisseria gonorrhoeae* using a nucleic acid amplification test.

Results 316 participants (269 men) with a median age of 27.6 years (range 16.3–68.4) were included. 194 (61%) were Caucasian, 29 (9%) Black African, 27 (9%) Asian and 66 (21%) of other ethnicities. Median TTP was 4 days (range 1–252) with participants reporting genital discharge (297/316 [94%]), dysuria (251/316 [79%]), genital discharge and dysuria (232/316 [73%]) and 76/316 (24%) additional concurrent symptoms (e.g. rectal bleeding, genital itching). TTP was longer than a week in 24% of participants. Age was inversely correlated with TTP ($r_s = -0.276$; $P = 0.01$) and TTP was longer in women compared to men (median 14 vs 3 days; $P < 0.001$), and in those with other symptoms (median 7 vs 3 days; $P < 0.001$). Sexual behaviours comprising same sex partner, higher number of partners, or casual/one-off relationships were associated ($P < 0.05$) with shorter TTP. TTP was also shorter ($P < 0.05$) in those with a history of previous gonorrhoea, but not previous chlamydia or history of HIV testing. TTP did not vary ($P \geq 0.05$) by ethnicity, chlamydia co-infection, amount of discharge, or reported condom use.

Conclusion Specific demographic, behavioural and clinical factors were associated with TTP in individuals with symptomatic gonorrhoea. Detailed knowledge of these factors can be used to prioritise and optimise gonorrhoea management and prevention.

Disclosure No significant relationships.

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RANDOMIZED CLINICAL TRIAL COMPARING GENTAMICIN+AZITHROMYCIN VS. CEFTRIAXONE + AZITHROMYCIN FOR RECTAL AND PHARYNGEAL GONORRHEA

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Background Dual therapy including ceftriaxone plus azithromycin is currently the recommended first-line gonorrhea treatment internationally. However, for gonorrhea cases where ceftriaxone or other extended-spectrum cephalosporin can not be administered (e.g., cephalosporin resistance, allergy, or unavailability), the therapeutic options are very limited. In a previous randomized controlled clinical trial (RCT) by Kirkcaldy et al. (Clin Infect Dis. 2014), gentamicin 240 mg plus azithromycin 2 g showed 100% microbiological cure for uncomplicated gonorrhoea. However, only 10 pharyngeal infections and one rectal infection were examined. We further evaluated the efficacy and tolerability of gentamicin+azithromycin for treatment of uncomplicated rectal and pharyngeal gonorrhea.