recognised epidemic strain, harbouring resistance to cephalosporins. ST12302 was newly recognised in 2015 and identified in two provinces, Quebec and Ontario.

**Conclusion** N. gonorrhoeae isolates in Canada show a significant increase in azithromycin resistance in 2014–2015. Azithromycin resistance in Canadian N. gonorrhoeae isolates are approaching the 5% level at which the WHO states an antimicrobial should be reviewed as an appropriate treatment. Continued surveillance of antimicrobial susceptibilities and sequence types of N. gonorrhoeae is necessary to identify clusters, inform treatment guidelines and mitigate the impact of resistant gonorrhoea.

### P3.155 ASSESSMENT OF ATOPOBIUM VAGINAE AND GARDNERELLA VAGINALIS CONCENTRATIONS IN A COHORT OF PREGNANT SOUTH AFRICAN WOMEN

1Maths J Redelinghuys, 1Marthie M Ehlers, 1Janine E Beazdenhoudt, 1Piet J Becker, 1Marileen Kock. 1University of Pretoria, Pretoria, South African Republic; 2University of Pretoria/National Health Laboratory Service, Pretoria, South African Republic

**Introduction:** *Atopobium vaginae* and *Gardnerella vaginalis* are bacterial species that are present in the vagina in increased concentrations during bacterial vaginos (BV). Numerous studies have proposed a molecular diagnosis of BV by targeting several BV-related bacteria in a polymerase chain reaction (PCR); however, these studies evaluated separately the threshold concentrations of these bacteria. The purpose of this cross-sectional study was to assess *A. vaginae* and *G. vaginalis* concentrations in pregnant women of different age groups, gestational age groups, vaginal flora categories and HIV status and also to determine which combination of DNA threshold concentrations, rather than individually, best discriminated between bacterial vaginos (BV) and non-BV categories.

**Methods** Pregnant women attending an antenatal clinic of a tertiary academic hospital in Pretoria, Gauteng, South Africa were enrolled in a cross-sectional study from July 2012 to December 2012. Self-collected vaginal swabs were obtained to detect BV with the Nugent scoring system and quantify *A. vaginae* and *G. vaginalis* DNA with a duplex quantitative real-time polymerase chain reaction (PCR) assay.

**Results** In 220 pregnant women, median concentrations of *A. vaginae* and *G. vaginalis* were not significantly different among various age groups (A. vaginae p=0.98 and G. vaginalis p=0.18) or different trimesters (A. vaginae p=0.31 and G. vaginalis p=0.19) but differed significantly among the vaginal flora categories (A. vaginae p<0.001 and G. vaginalis p=0.001) and HIV status (A. vaginae p<0.001 and G. vaginalis p=0.004). An A. vaginae DNA concentration of ≥10^4 copies/mL together with a positive G. vaginalis result (≥10^4 Copies/mL) (i.e. AV-GV) best discriminated between BV (39/220) and non-BV categories (181/220) with a sensitivity of 85% (95% CI 0.70 to 0.94) and a specificity of 82% (95% CI 0.76 to 0.88).

**Conclusion** Threshold concentrations for BV detection should be established for specific populations to ensure the development of tailored, sensitive molecular assays.

### P3.156 CORRELATION OF THE EXPRESSION OF THE P16INK4A PROTEIN AND HPV DNA IN INDIVIDUALS WITH PENILE CANCER IN THE STATE OF GOIAS, BRAZIL

1Megmar AS Carneiro, 2LA De Araújo, 3HSCP De Paula, 4VA Saddi, 5SA Teles, 5SH Rabelo-Santos, 3AAP De Paula, 1Institute of Tropical Pathology and Public Health/Federal University of Goias, Goiânia, Brazil; 2Institute of Tropical Pathology and Public Health/Federal University of Goias, Goiânia, Brazil; 3Hospital Araújo Jorge, Goiânia, Goias, Brazil; 4Pontifical Catholic University of Goias, Goiânia, Goias, Brazil; 5Federal University of Goias, Goiânia – GO, Brazil; 6Federal University of Goias, Goiânia – GO, Brazil

**Introduction** Penile carcinoma (PC) is a rare disease, however it is still considered a serious public health problem. The expression of p16INK4a, a protein associated with tumour suppression, can be used as a marker for the presence of high risk HPV DNA. The upregulation of this protein is understood to be an attempt to stop uncontrolled cellular proliferation in response to HPV infection.

**Objectives** The goal of this study was to estimate the prevalence of HPV DNA and evaluate the expression and correlation of p16INK4a with HPV DNA in patients with PC in Goias, Brazil. Methods: this retrospective cohort study involved 190 patients with PC treated in the UroOncology service of Hospital Araújo Jorge (HAJ), a unit of the Association Against Cancer in Goias (ACCGo), from January 2003 to November 2015. The paraﬁn blocks containing the cancerous tissue fragments were subjected to extraction of viral DNA, subsequently subjected to polymerase chain reaction testing with short PCR fragment (SPF PCR) primers to detect HPV DNA. The marking of the p16INK4a protein was performed with immunohistochemistry, using a commercial kit (Mach 4 Universal HRP Polymer Detection System – Biocare Medical, CA, USA). The slides were evaluated independently by two pathologists.

**Results** Of the 190 samples tested, 89 (46.8%) (CI 95%: 39.8%–53.9%) showed positive HPV DNA and 98 (51.7.0%) (CI 95%: 33.2 to 53.2) showed expression of p16INK4a. The correlation between the presence of HPV DNA and p16INK4a was 63.6% (CI 95%: 46.3 to 78.6). Although there is no expression of p16INK4a in 100% of cases positive for HPV DNA, there was statistical significance between the presence of viral DNA and expression of p16INK4a (p<0.003).

**Conclusion** Some studies suggest that the standard knowledge of the expression of the p16INK4a protein may be a useful marker for HPV activity in patients with penile cancer. The results of this study showed that there are signiﬁcant differences between the expression of this protein in positive and negative HPV DNA samples.

### P3.157 DOES THE EUROPEAN GONOCOCCAL ANTIMICROBIAL SURVEILLANCE PROGRAMME (EURO-GASP) ACCURATELY REFLECT THE TRUE ANTIMICROBIAL RESISTANCE SITUATION IN EUROPE?

1Michelle Cole, 2Gianfranco Spiteri, 3Chantal Quentin, 4Neil Woodford, 5Magnus Unemo, 6Euro-Gasp Network. 1National Infection Service, London, UK; 2European Centre of Disease Prevention And Control, Stockholm – Sweden; 3Örebro University Hospital, Örebro – Sweden; 4European Centre of Disease Prevention, Stockholm – Sweden

**Introduction** Resistance is a major public health problem worldwide and accurate monitoring of antimicrobial resistance is essential to ensure appropriate treatment. Since 2005, the European Centre of Disease Prevention and Control, Stockholm has used a centralised reporting data system to track the occurrence of antimicrobial resistance in gonococci in 25 European countries. The aim of this study was to determine whether the geographical distribution of antimicrobial resistance characterised by the European Gonococcal Antimicrobial Surveillance Programme (Euro-GASP) accurately reflects the true antimicrobial resistance situation in Europe.

**Methods** Gonococcal isolates were obtained from patients attending 114 Euro-GASP sentinel sites in 25 European countries. The prevalence of resistance to azithromycin, ciprofloxacin, and penicillin was determined using Clinical and Laboratory Standards Institute guidelines. These data were compared with the overall prevalence of resistance in all European countries.

**Results** The prevalence of resistance to azithromycin, ciprofloxacin, and penicillin was comparable between the Euro-GASP sentinel sites and the overall resistance rates in all countries. The prevalence of resistance to nalidixic acid was lower in the Euro-GASP sentinel sites compared to the overall resistance rates in all countries.

**Conclusion** The Euro-GASP sentinel sites accurately reflect the overall prevalence of antimicrobial resistance in gonococci in Europe, but there is a need for improved surveillance of resistance to nalidixic acid.

**Acknowledgements** This work was supported by the European Union’s Seventh Framework Programme (FP7/2007-2013) under grant agreement no. 262363.