**P2.094** THE CONTRIBUTION OF MACROLIDE RESISTANCE MUTATIONS TO FAILURE OF AZITHROMYCIN TREATMENT IN MYCOPLASMA GENITALITUS INFECTION


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**Background** Current recommended treatment for Mycoplasma genitalium (Mg) is azithromycin. Macrolide resistance mutations (MRM), predominantly on the 23S rRNA gene of Mg, have been found to be associated with failure of azithromycin. We aimed to determine the efficacy of Ig-azithromycin in a prospective cohort of Mg-infected STI clinic attendees, and to determine the contribution of MRM to treatment failure.

**Method** We commenced an observational study in July 2012 in which symptomatic patients diagnosed with Mg by PCR at Melbourne Sexual Health Centre are retested for Mg 14 and 28 days following treatment with 1g-azithromycin. Testing for MRM using high-resolution melt analysis (HRM) is conducted on day 0 and on positive samples at days 14 and 28. Participants are managed on the basis of clinical symptoms and not detection of MRM. Study will complete, May 2013.

**Results** 105 participants have been recruited; 89 have completed all study requirements. 48/89 (54%; 95% CIs 44–64%) participants were Mg PCR negative at day 28. 41/89 (46%; 95% CIs 36–56%) did not respond to Ig azithromycin: 11/41 (27%) had a persistently positive Mg PCR on day 28 without reported risk of re-exposure (presumptive failures) and 30 of 41 (73%) had persistent symptoms of Mg prior to day 28 and required interim treatment with moxifloxacin (probable failures). Of the 41 failures, 40 (98%) had MRM detected at baseline and follow-up via ACASI and genotyping was performed. The TOC repeat infection rate among men with Mg is high. Our data are consistent with the published literature corroborating that repeat infections in men treated with azithromycin is usually due to treatment failure rather than re-infection. Research is needed to optimise treatment of Mg infections in men.

**P2.095** ORIGINS OF REPEAT INFECTIONS WITH MYCOPLASMA GENITALITUS (MG) AMONG HETEROSEXUAL MEN IN TWO SOUTHERN U.S. CITIES


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**Background** The purpose of this study was to examine the origins of repeat infections with Mg among men. High repeat infection rates have been consistently reported and treatment failure secondary to macrolide resistance is thought to be the primary cause. This study adds to the growing literature by describing the possible origins of repeat Mg infections in among men, primarily African American, attending two public STD clinics in southern cities in the U.S.

**Methods** Men diagnosed with NGU at an STD clinic in New Orleans, Louisiana, and Jackson, Mississippi, were tested for Mg using the GenProbe research-use-only assay Mg+ men underwent a 4–10 week test of cure visit (TOC) following treatment with 1 g azithromycin. Detailed sexual behaviour data were collected at baseline and follow-up via ACASI and genotyping was performed.

**Results** Of 205 men with Mg, 135 returned for TOC visit and of those, 34.3% were positive. Of the 46 who were positive at TOC, 19.6% reported sexual re-exposure to a baseline partner, 6.5% reported sexual exposure to a new partner, 6.5% reported sexual exposure to both, and 67.4% denied sexual re-exposure. Men who re-tested positive for Mg at TOC (n = 46) were no more likely that those who tested negative (n = 88) to have had sexual exposure to a baseline partner (31.8% vs. 26.1%, P = 0.55) or exposure to a new partner (21.4% vs. 11.3%, P = 0.22). Genotyping on baseline/TOC positive pairs is being performed and will be used in conjunction with behavioural data to more precisely estimate the treatment failure rate.

**Conclusion** The TOC repeat infection rate among men with Mg is high. Our data are consistent with the published literature corroborating that repeat infections in men treated with azithromycin is usually due to treatment failure rather than re-infection. Research is needed to optimise treatment of Mg infections in men.

**P2.096** EVALUATION OF GONOCOCCAL RESISTANCE IN AUSTRIA


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**Background** The Austrian Society for Sexually Transmitted Diseases started a surveillance project in 2010 to evaluate the gonococcal resistance in Austria.

**Methods** In 2010 and 2011 a national network of 39 centres was established to collect 1569 gonococcal isolates and the anamnestic data of the patients. Gonococcal culture plates were sent from the participating laboratories to the Outpatient’s Centre in Vienna, where gonococcal resistance testing was performed by disc diffusion test, agardilution breakpoint technique, agaradilution, and Etest. The following antibiotics were tested: cefixime, ceftriaxone, penicillin, ciprofloxacin, azithromycin, tetracycline, spectinomycin, and gentamicin. Results were interpreted according to CLSI and EUCAST guidelines.

**Results** In Vienna, 1456 isolates were collected, whereas 111 strains were sent from the federal states. Of all collected isolates 57% were genital, 5% pharyngeal, and 7% rectal isolates, respectively. Gonococci were collected more often from men (56%) than from women, 10% of men reported homosexual contacts. A concurrent infection with Chlamydia trachomatis was observed in 15% of all patients.

While 2010 all isolates displayed susceptibility to third generation cephalosporines, in 2011 7 gonococcal strains were resistant to cefixime (MIC > 0.125 µg/ml) but still susceptible to ceftriaxone (MIC ≤ 0.125 µg/ml). Furthermore, an increase of MIC values for cefixime as well as for ceftriaxone was observed in 2011. Resistance to azithromycin increased from 1% in 2010 to 1.5% in 2011. Resistance to quinolones was detected in 58% in 2010 rising to more than 60% in 2011, respectively.

**Conclusion** Third generation cephalosporines still represent the most appropriate drug for gonococcal therapy. As Azithromycin resistance is low in Austria it is suitable for alternative therapy especially in case of coinfection with C. trachomatis. Due to the increasing MIC values for cephalosporines and the rising rates for
azithromycin resistance it is highly recommended to determine the resistance pattern of the respective gonococcal strain by culture performance.

**P2.097** PCR FOR DIRECT DETECTION OF THE MOSAIC NEISSERIA GONORRHOEAE PEN A GENE IN URINES AND CERVICAL, RECTAL AND TONSILLAR SWABS


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Introduction The mosaic penA gene, partly derived from commen-
sal Neisseria strains, is more strongly associated with diminished suscep-
tibility of Neisseria gonorrhoeae (Ng) against cephalosporins. We de-
veloped a direct PCR test for Ng-positive clinical specimens to
detect the mosaic penA gene.

Methods Swabs and urines from patients with gonorrhoea were in-
cluded in which NAAT testing (Aptima Combo 2). Corresponding Ng
strains were obtained by culture on selective GC agar plates and
stored at −80°C. Presence of a mosaic penA gene in these strains was
demonstrated by PCR.

Results Using one conserved forward primer and two reverse
primers, specific for mosaic- and wild type PenA genes, and SYBR
green as a fluorescenting agent, two real-time PCRs were developed.
Testing diluted DNA samples showed that the mosaic penA gene
PCR was 10–100 fold more sensitive than the wild type gene PCR.
Both PCRs were negative with strains belonging to N.meningitidis
(n = 3), N.lactamica (n = 4), N.subflava (n = 2), N.cinerea (n = 1) and
N.elongata (n = 1). Ten urine (U), 10 cervical (C), 10 rectal (R) and 10
tonsillar (T) samples, all negative in the NAAT for Ng, were nega-
tive in both PCRs. Testing paired samples from patients, who had a
positive culture and NAAT (10 R, 9 U, 8 C, 9 T) showed concordant
results in 35/36 samples: 4 pairs tested positive in the mosaic PCR
and 31 in the wild type PCR. From one patient a wild type strain
had been cultured from the throat, but both PenA PCRs on the swab
were negative, possibly due to a low amount of DNA.

Conclusion We successfully developed discriminating PCRs with
which the Ng mosaic penA gene can be detected without culture of
Ng. This test can be used to estimate the prevalence of diminished
susceptibility of Ng against cephalosporins in regions where culture
is no longer performed.

**P2.098** SPECIATION AND ANTIFUNGAL SUSCEPTIBILITY TESTING OF CANDIDA SPECIES CAUSING ORAL THRUSH IN HIV PATIENTS


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Purpose Oral thrush by Candida species is a common ailment of
individuals suffering from HIV infection. These species show a high
resistance to antifungal drugs used for the treatment. Hence our
study was conducted to determine the aetiology and antifungal sus-
cceptibility patterns of Candida isolates causing oral thrush in HIV
patients.

Materials and Methods: Isolation of Candida species was
attempted from 60 cases of oral thrush in HIV infected patients at
the Department of Microbiology, Kasturba Medical College, Man-
galore. Isolates were identified to species level based on chlamydo-
spor formation; ability to form germ tube; assimilation/fermentation of carbohydrates; production of urease enzyme; forma-
tion of pellicle/surface film on Sabouraud’s dextrose broth; growth on Sabouraud’s Dextrose Agar (SDA) with cycloheximide
and growth on SDA at 370C and 450C. Antifungal drug suscepti-
ability testing was done by macro broth dilution test using azole group
such as fluconazole, itraconazole and ketoconazole.

Results 56 Candida species were isolated of which C.albicans was
the predominant isolate (84%), followed by C.tropicalis (8%),
C.glabrata (3.5%), C.parapsilosis and C. kefyr (1.8%) each. Most iso-
lates (53) showed significantly higher resistance to fluconazole than
the standard pathogenetic control strain C.albicans NCDF 3153A. 31
isolates (66%) of C.albicans had Minimum Inhibitory Concentra-
tion (MIC) values 8 times that of control for ketoconazole. 23 iso-
lates had MIC for itraconazole of 0.5 µg/ml which was only twice
as high as that of control (0.125 µg/ml), all others having compara-
tively equivalent MIC to itraconazole.

Conclusion Our study indicates that although C.albicans is the
predominant species, there are other species prevalent and causing
infection in our HIV infected population. MIC’s of our Candida iso-
lates to commonly used antifungals such as fluconazole, ketocon-
azole and itraconazole were significantly higher than the control
strain used in the study. Our study indicated that itraconazole was
the most effective among the azole group of drugs.

**P2.099** VEHICLE ALTERATIONS IN PODOPHYLOTOXINE TREATMENT: A PARTIAL DISAPPOINTMENT


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Background Podophytoxine o, 0.5% gel is a routinely used for
condyloma acuminate treatment as home used procedure.
However, irritations, sometimes severe are common. This may be
due partially to leakage of the preparation to the surrounding non-
infected tissue. It is difficult to expect the preparation to remain
dry and only on affected areas in non-circumcised males and
females.

Methods We used compounded podophytoxine o, 15% in adhe-
sive creamy base. The team work with pharmaceutical technologist
helped to create an adhesive creamy paste, with greater stability and
uniformly distribution on individual lesions. The melting of the
preparations was minimised by tailored compounding.

Results The vast majority of patients preferred cream to gel, both
to far less irritations and excellent tolerability. Unfortunately, the
overall success with cream formulation was disappointing. Thera-
paeutic results seemed to be better, at the very beginning of the treat-
mant, due to the constant and prolonged delivery on the treated
lesions. However, recurrences are far more frequent and tend to
develop earlier than with gel podophytoxin formulation.

Conclusion Probably, the cream formulation does have a thera-
paeutic advantage in personal regard, because of the better adhesion
of the vehicle, and, when in out of office settings, of less irritation to
the surrounding tissue in the presence of over-applying the medicine,
which frequently is the case.

**P2.100** CLINICAL EFFICACY OF SITAFLOXACIN 100MG TWICE DAILY FOR 7 DAYS FOR PATIENTS WITH NON-
GONOCCOCAL URETHRITIS


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to date, the standard treatment for the patients with chlamydial
non-gonococcal urethritis (NGU) remains effective; however, con-
ventional quinolone antibiotics have less activity against Mycoplasma