

9 evaluable 1000 mg patients enrolled to date, gonococcal eradication rates have been 100% (9/9) for urethral/cervical, pharyngeal (2/2), and rectal (1/1) infections. Susceptibility data from 25 isolates show the median MIC (range) for solithromycin was 0.06 µg/mL (0.015–0.125) and for azithromycin was 0.125 µg/mL (0.06–0.5).

Solithromycin was generally well-tolerated with mild dose-related gastrointestinal AEs (68%; 28/41). The most common AE was mild diarrhoea, occurring in 61% (17/28) of patients receiving the 1200 mg dose and 15% (2/13) of patients receiving the 1000 mg dose.

**Conclusions** A single dose of 1200 or 1000 mg solithromycin appears to be well-tolerated and effective in eradicating *N. gonorrhoeae*.

**002.6 AZITHROMYCIN VERSUS DOXYCYCLINE FOR THE TREATMENT OF GENITAL CHLAMYDIA INFECTION - A META-ANALYSIS OF RANDOMISED CONTROLLED TRIALS**

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**Introduction** There has been considerable debate questioning the efficacy of azithromycin for the treatment of genital chlamydia. We conducted a meta-analysis to compare the efficacy of 1 gramme azithromycin with 100mg doxycycline twice daily for seven days for the treatment of genital chlamydia infection.

**Methods** Medline, PubMed, Embase and the Cochrane Controlled Trials Register were searched till end 2012. Inclusion criteria included (1) randomised controlled trial of azithromycin versus doxycycline for the treatment of urethral or cervical chlamydia, and; (2) evaluation of microbial cure within 3 months of treatment. Type of diagnostic test, duration of follow up, gender, patient status (all symptomatic versus both symptomatic/asymptomatic) and microbial cure were extracted. The primary outcome was difference in efficacy (doxycycline efficacy minus azithromycin efficacy) at final follow up. Meta-analysis calculated a pooled efficacy for each treatment and the difference in efficacy between treatments.

**Results** Of 692 references identified, 23 trials met the inclusion criteria. 1065 individuals were treated with azithromycin and 850 with doxycycline; all studies reported efficacy within 6 weeks follow-up. Pooled cure rates were 96.2%(95% CI: 94.2%, 98.3%) for azithromycin and 98.1%(95% CI: 96.6%, 99.7%) for doxycycline. The pooled efficacy difference was 1.9%(95% CI: 0.4%, 3.4%) showing a small but significant difference in favour of doxycycline; there was negligible heterogeneity between studies (I<sup>2</sup> = 1.9%, p = 0.44). There was no difference in efficacy in men (3.8%; 95% CI: -1.2%, 8.8%) or women (-0.9%; 95% CI: -5.3%, 3.6%). When stratified by type of test, efficacy was significantly higher for doxycycline in culture-based studies (1.8%; 95% CI: 0.4%, 3.3%), but not in NAAT-based studies (5.5%; 95% CI: -2.1%, 13.1%). Efficacy was higher for doxycycline in symptomatic men (6.3%; 95% CI: 3.0%, 12.3%), but not in symptomatic women (-4.5%; 95% CI: -14.9%, 5.9%).

**Conclusion** These results suggest that doxycycline may be more effective than azithromycin for the treatment of urethral or cervical chlamydia infection, especially in symptomatic men.

**0.03 - Neisseria gonorrhoeae resistance: Superbug ante portas?**

**003.1 RISK FACTORS FOR ANTIMICROBIAL RESISTANT NEISSERIA GONORRHOEAE IN EUROPE**

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**Introduction** The European Centre for Disease Prevention and Control is responsible for the enhanced surveillance of sexually transmitted infections and co-ordinates the European gonococcal antimicrobial surveillance programme (Euro-GASP) in the European Union and the European Economic Area. Linked patient and antimicrobial susceptibility data from Euro-GASP allows those at risk of acquiring antimicrobial resistant *Neisseria gonorrhoeae* to be identified.

**Methods** Seventeen countries in 2009 and 21 countries in 2010 and 2011 submitted gonococcal isolates to Euro-GASP, which were tested by Etest or agar dilution for cefixime, ceftriaxone, ciprofloxacin, azithromycin, spectinomycin and gentamicin. Additional patient data linked to the gonococcal isolates susceptibility profiles was collected. All three years antimicrobial susceptibility data and linked patient data were combined. Patient variables associated with resistance were established using a univariate and multivariable analyses of odds ratios. Geometric means for ceftriaxone and cefixime MICs were calculated.

**Results** A total of 5034 gonococcal isolates were tested in Euro-GASP from 2009 to 2011. In the multivariable analysis heterosexuals (males only for ciprofloxacin), older patients and those without a concurrent chlamydia infection remained significantly more likely to be infected with isolates displaying cefixime decreased susceptibility and ciprofloxacin resistance. The geometric mean of cefixime and ceftriaxone MICs decreased from 2009 to 2011, most significantly for MSM; MSM had lower geometric means than heterosexuals in 2011. A bimodal MIC distribution of a 'more susceptible' and 'less susceptible' gonococcal population appears to be emerging alongside this geometric mean decrease.

**Conclusion** This Euro-GASP data suggests that the burden of gonococcal antimicrobial resistance is more prevalent among heterosexuals and decreasing in MSM. This study shows the importance of collecting and analysing patient data along with susceptibility data, however improved data numbers and representativeness is required before any focused treatments or public health intervention strategies are initiated.

**Abstract 003.1 Table 1 Patient risk factors for antimicrobial resistance (OR, 95% CI from multivariable analysis)**

	Cefixime decreased susceptibility	Ciprofloxacin resistance
MSM	1	1
Male heterosexuals	2.39 (1.58–3.61)*	1.49 (1.21–1.83)*
Female	2.75 (1.68–4.5)*	1.04 (0.8–1.34)
< 25 years	1	1
≥ 25 years	2.07 (1.36–3.13)*	1.67 (1.37–2.05)*
Chlamydia - yes	1	1
Chlamydia - no	1.87(1.1–3.16)*	2.2 (1.74–2.8)*

\*P value < 0.05 (from the Pearson Chi<sup>2</sup>-test)

**003.2 ANTIMICROBIAL RESISTANCE OF NEISSERIA GONORRHOEAE IN THE EUROPEAN UNION: RESPONSE TO THE THREAT OF MULTIDRUG RESISTANT GONORRHOEA**

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