ORAL GEPOTIDACIN FOR THE TREATMENT OF UNCOMPLICATED UROGENITAL GONORRHOEA: NUCLEIC ACID AMPLIFICATION TESTING (NAAT) OUTCOMES IN A RANDOMISED, MULTICENTRE PHASE 3 TRIAL (EAGLE-1)

Authors:
Flight WG[1], Wilson JD[2], Lewis DA[3], Ross JDC[4], Gatsi S[5], Scangarella-Oman NE[5], Jakielaszek C[5], Lythgoe D[6], Janmohamed S[1], Absalon J[5], Perry CR[5]

[1]GSK, London, UK, [2]The Leeds Teaching Hospitals NHS Trust, Leeds, UK, [3]Sydney Medical School-Westmead, University of Sydney, Sydney, New South Wales, Australia, [4]University Hospitals Birmingham NHS Foundation Trust, Birmingham, UK, [5]GSK, Collegeville, PA, USA, [6]GSK, Stevenage, UK

Background:
A Phase 3 trial (EAGLE-1; NCT04010539) demonstrated that oral gepotidacin, a first-in-class triazaacenaphthylene bactericidal antimicrobial, was efficacious in treating uncomplicated urogenital gonorrhoea (uGC), assessed by bacterial culture. Microbiological success rate by culture at the urogenital body site was 92.6% (gepotidacin) versus 91.2% (ceftriaxone/azithromycin). Nucleic acid amplification testing (NAAT) offers practicality and reflects real-world practice. Exploratory outcomes determined by NAAT are presented.

Methods:
EAGLE-1 compared efficacy and safety of 2 x 3000 mg oral gepotidacin with 1 x 500 mg intramuscular ceftriaxone plus 1 x 1000 mg oral azithromycin for uGC. Participants provided urogenital specimens for culture and NAAT at baseline and test-of-cure (day 4–8). The microbiological intent-to-treat (micro-ITT) population included all participants who received ≥1 dose of treatment with confirmed ceftriaxone-susceptible urogenital *Neisseria gonorrhoeae* isolated at baseline. NAAT-confirmed treatment success in the micro-ITT population was defined as nucleic acid clearance at test-of-cure. Missing/unable to determine NAAT at test-of-cure were considered failures.

Results:
Of 628 participants randomised, 89% were male and median age was 32 years. At baseline, concordance between central laboratory urogenital NAAT and culture was 98.4% (post-hoc analysis). In the micro-ITT population, urogenital NAAT-confirmed success rates at test-of-cure were 82.5% (151/183) for gepotidacin and 75.0% (132/176) for ceftriaxone/azithromycin (adjusted difference: 8.2%, 95% confidence interval [CI]; –0.1%, 16.5%). In the microbiologically-evaluable NAAT population (324 micro-ITT participants with valid NAAT results who followed important study components), urogenital NAAT-confirmed success rates at test-of-cure were 88.3% (151/171) for gepotidacin and 86.3% (132/153) for ceftriaxone/azithromycin (adjusted difference: 3.8%, 95% CI; –3.6%, 11.2%).

Conclusion:
Despite timing of test-of-cure being optimised for culture, NAAT success rates at the urogenital site were high and similar between gepotidacin and ceftriaxone/azithromycin, and were lower than culture-defined success rates, as

expected. Baseline NAAT-culture concordance was high, suggesting NAAT may be a promising alternative to culture in uGC trials.

Disclosure of Interest Statement:
WGF is an employee of and shareholder in GSK. JDW provides external expert advice to GSK. DAL provides external expert advice to GSK. JDCR is a shareholder in GSK and AstraZeneca. Member of the European Sexually Transmitted Infections Guidelines Editorial Board. Editor for UK National Institute for Health Research Journals Library. SG is an employee of and shareholder in GSK. NESO is an employee of and shareholder in GSK. CJ is an employee of and shareholder in GSK. DL is an employee of and shareholder in GSK. SJ is an employee of and shareholder in GSK. JA is an employee of and shareholder in GSK. CP is an employee of and shareholder in GSK.

EAGLE-1 (GSK study BTZ116577) was funded in part by GSK and in part with Federal funds from the US Office of the Assistant Secretary for Preparedness and Response, Biomedical Advanced Research and Development Authority (HHSO100201300011C).