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UK case of *Neisseria gonorrhoeae* with high-level resistance to azithromycin and resistance to ceftriaxone acquired abroad

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A multi-drug-resistant isolate of *Neisseria gonorrhoeae* (see definition at reference 1) has been confirmed by the PHE Reference Laboratory as resistant to the current recommended dual first-line therapy [2]. The isolate has a ceftriaxone MIC of 0.5 mg/L and an azithromycin MIC of >256 mg/L (high-level azithromycin resistant, HLAziR). On wider antimicrobial susceptibility testing, the strain was susceptible only to spectinomycin. This is the first global report of HLAziR *N. gonorrhoeae* which is also resistant to ceftriaxone.

The strain was isolated from a heterosexual man who had attended sexual health services in England in early 2018. The case reported one regular female partner in the UK, and a female sexual contact in south-east Asia a month prior to symptom onset. The case was treated empirically with ceftriaxone (1 g), and subsequently with spectinomycin. At test-of-cure (TOC) the urine NAAT was negative but the throat swab was culture positive; reinfection was excluded indicating treatment failure. The patient is being treated with IV ertapenem. The ertapenem MIC was low (0.032 mg/L) suggesting that this may be an effective therapy, although there are no defined breakpoints. The results of the next TOC investigation will be available in mid-April. Follow-up of the case and sexual contacts is ongoing. The provisional test result from the UK sexual contact was negative. PHE is supporting clinical and microbiology teams in the management of the case and has formed an incident management team (IMT) to coordinate the investigation and contain spread.

Clinical laboratories should continue to refer *N. gonorrhoeae* isolates with resistance to ceftriaxone (MIC >0.125 mg/L) or azithromycin (MIC >0.5 mg/L) to the PHE Reference Bacteriology at PHE Colindale for confirmation. General Practitioners are reminded to refer all suspected cases of gonorrhoea to genitourinary medicine services for appropriate management according to PHE guidance [3]. Commissioners should ensure sexual health care pathways enable prompt diagnosis, culture for susceptibility testing, effective treatment, test of cure, partner notification and a full sexually transmitted infection screen [2].

References / Sources of information

1. Clifton S, Bolt H, Mohammed H, Town K, Furegato M, Cole M, et al (2018). [Prevalence of and factors associated with MDR *Neisseria gonorrhoeae* in England and Wales between 2004 and 2015: analysis of annual cross-sectional surveillance surveys](#). *J Antimicrob Chemother* (30 Jan).
2. [UK national guideline for the management of gonorrhoea in adults, 2011](#).
3. PHE (2014). [Guidance for the detection of gonorrhoea in England](#).

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About Health Protection Report

Health Protection Report is a national public health bulletin for England and Wales, published by Public Health England. It is PHE's principal channel for the dissemination of laboratory data relating to pathogens and infections/communicable diseases of public health significance and of reports on outbreaks, incidents and ongoing investigations.

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