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

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

Details of a case of multi-drug-resistant *Neisseria gonorrhoeae* (MDRGC) were published in an HPR Advanced Access Report on 29 March 2018 [1,2]. The isolate was confirmed by the PHE Reference Laboratory as resistant to the current recommended dual first-line therapy [3]. The isolate had 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. Two cases of gonorrhoea with resistance to ceftriaxone, azithromycin, ciprofloxacin, penicillin and tetracycline have subsequently been reported in Australia: one had had sex recently in south east Asia; the other case had no recent overseas travel [4].

The strain seen in the UK 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 (1g), 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 ertapenem MIC was low (0.032 mg/L) suggesting that this may be an effective therapy, although there are no defined breakpoints, and the patient was successfully treated with three days of IV ertapenem. The investigation co-ordinated by PHE concluded that there had been no spread of the isolate within the UK. Efforts to contact

the partner in south east Asia are ongoing. Identifying treatment options for the case was challenging as few remained. This incident and the cases reported from Australia are a timely reminder that clinicians may encounter MDRGC isolates more frequently in the future and that these isolates will be challenging to manage.

In the UK, 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 [5]. Commissioners should ensure that sexual health care pathways facilitate prompt diagnosis, culture for susceptibility testing, effective treatment, test of cure, partner notification and a full sexually transmitted infection screen [3].

References / Sources of information

1. PHE (2018). [UK case of *Neisseria gonorrhoeae* with high-level resistance to azithromycin and resistance to ceftriaxone acquired abroad](#). *HPR* 12(11): infection report.
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3. BASHH (2011). UK national guideline for the management of gonorrhoea in adults.
4. Australian Government Department of Health (2018). [Multi-drug resistant gonorrhoea](#). (Media statement, 17 April).
5. 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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