

Empirical treatment of symptomatic men who have sex with men associated with significant unnecessary ceftriaxone use – a retrospective study of antibiotic prescription among sexual health clinic attendees

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Background:

Men who have sex with men (MSM) presenting with symptoms suggestive of sexually transmitted infection (STI) are often treated with multiple antibiotics. Ceftriaxone may be used unnecessarily to treat possible gonorrhoea when it is not present in any anatomical sites. This represents a significant amount of potential antibiotic overuse which leads to antimicrobial resistance and microbiome disruption.

Methods:

This is a retrospective study of *symptomatic* MSM who received empirical ceftriaxone at Sydney Sexual Health Centre (SSHC). The following were collected via electronic medical record review: clinical, laboratory and prescription data. Chi-squared test was used to find clinical factors associated with higher likelihood of unnecessary ceftriaxone. Defined daily doses (DDD) of ceftriaxone used was calculated according to World Health Organization definition.

Results:

1,061 visits (in 843 MSM) were included between January 2020-December 2021. Median age 31 years (IQR 27-37), 6.7% living with HIV, 50.3% on PrEP, 25.3% reported zero condom use. Presenting symptoms: 75% urethral, 21% anorectal, 3% scrotal & 1% other. Subsequent testing was positive for gonorrhoea in 470 visits.

Of 592 doses of ceftriaxone administered, 31.6% were in patients who tested negative for gonorrhoea. This was higher in anorectal compared to urethral presentations (56.4% vs 11.6%, $p < 0.001$). 60% of ceftriaxone for scrotal symptoms were given to patients negative for gonorrhoea.

The use of point-of-care microscopy was associated with significant reduction in unnecessary ceftriaxone in urethral ($p = 0.001$) but not anorectal ($p = 0.093$) presentations. Examination with anoscopy was not associated with significant reduction in unnecessary ceftriaxone in anorectal presentations ($p = 0.631$). Overall, empirical management led to 7.89 DDD of unnecessary ceftriaxone per 100 patient visits.

Conclusion:

A significant proportion of empirical ceftriaxone in MSM with anorectal symptoms are unnecessary. Existing strategies did not reduce unnecessary ceftriaxone on these visits. More accurate point-of-care tests are needed for near-patient diagnosis and reduce unnecessary antibiotics.

Disclosure of Interest Statement:

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