

DSEN ABSTRACT

Fluoroquinolone Use for Urinary Tract Infection in Women

A study conducted by the Canadian Network for Observational Drug Effect Studies (CNODES)

Summary

- Fluoroquinolone antibiotic use was associated with a modest reduction in short-term clinical outcomes compared with other antibiotics among women with uncomplicated UTIs.

Key messages

- The modest benefit of fluoroquinolone antibiotics should be weighed against risk of rare but severe adverse effects of fluoroquinolones when clinicians are selecting first line treatment for women with uncomplicated UTIs.

Project Lead & Team

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Link to publication

- Daneman et al. Clin Microbiol Infect. 2020. doi: [10.1016/j.cmi.2019.10.016](https://doi.org/10.1016/j.cmi.2019.10.016).

What is the issue?

- Systemic oral fluoroquinolones are among the most widely prescribed class of antibiotics.
- While adverse effects of fluoroquinolones have been described for many years, between 2016 and 2018 several drug regulatory agencies have advised to restrict the use of fluoroquinolones to second line treatment for uncomplicated urinary tract infections (UTIs) given reports of rare but severe adverse effects such as tendon rupture, aortic aneurysm and retinal detachment.

What was the aim of the study?

- This study, conducted by the Canadian Network for Observational Drug Effect Studies (CNODES), aimed to determine whether non-fluoroquinolone antibiotics are as effective as fluoroquinolones for the treatment of uncomplicated UTIs in women.

How was the study conducted?

- CNODES investigators conducted six population-based cohort studies with health records of over 1.5 million women from six Canadian provinces.
- Cohorts included women who received an antibiotic treatment for episodes of uncomplicated UTI between 2005 and 2015.
- Clinical outcomes within 30 days of the initial antibiotic dispensation were compared among patients treated with a fluoroquinolone versus other antibiotics. Results were combined across studies using a statistical approach called meta-analysis.

What did the study find?

- The proportion of uncomplicated UTIs treated first line with a fluoroquinolone, mostly ciprofloxacin, varied by province and ranged from 22% to 49%. Over the study period, the use of fluoroquinolones decreased in five of the six Canadian provinces.
- Repeated primary care visits, hospitalization for UTI or the need for a second antibiotic dispensation were less common among women treated with a fluoroquinolone compared to other antibiotics.
- This benefit must be weighed against the risk of fluoroquinolone antibiotic resistance and rare but severe adverse effects of fluoroquinolones when selecting first line treatment for women with uncomplicated UTIs.

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