

DSEN ABSTRACT

Fluoroquinolone Use for Chronic Obstructive Pulmonary Disease

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

Summary

- There is no apparent benefit in short-term clinical outcomes with fluoroquinolones compared with other antibiotics for the treatment of uncomplicated acute exacerbations of COPD.

Key messages

- These findings support current recommendations that fluoroquinolone antibiotics should be reserved for treatment of severe exacerbations of COPD, especially given the rare but severe adverse effects associated with this class of antibiotics.

Project Lead & Team

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Link to publication

- Ernst et al. Int J Chron Obstruct Pulmon Dis. 2019. [doi: 10.2147/COPD.S226324](https://doi.org/10.2147/COPD.S226324)

What is the issue?

- Systemic oral fluoroquinolones are a class of antibiotics frequently used for the treatment of acute exacerbations of chronic obstructive pulmonary disease (COPD). Their use has been associated with rare but severe adverse effects such as tendon rupture, aortic aneurysm and retinal detachment.
- While the effectiveness of fluoroquinolone antibiotics in severe exacerbations of COPD requiring hospitalization is known, their potential benefit in uncomplicated exacerbations is unclear.

What was the aim of the study?

- This study, conducted by the Canadian Network for Observational Drug Effect Studies (CNODES), aimed to determine whether the use of fluoroquinolones in patients with uncomplicated acute exacerbations of COPD is effective.

How was the study conducted?

- CNODES investigators conducted six population-based cohort studies with health records of over 200,000 patients with COPD aged 66 years and older from six Canadian provinces.
- The cohorts included patients who received an antibiotic treatment for episodes of uncomplicated acute exacerbations of COPD 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?

- Fluoroquinolone use, mostly levofloxacin and moxifloxacin, varied by province and ranged from 8% to 32% of antibiotic dispensations for the first line treatment of uncomplicated acute exacerbations of COPD.
- 30-day primary care visits and hospitalizations for COPD were more frequent among patients who received a fluoroquinolone compared to other antibiotics. There was no difference in the need for a second antibiotic dispensation.
- These findings support the current recommendations to limit the use of fluoroquinolones for severe exacerbations of COPD, especially given the rare but severe adverse effects associated with this class of antibiotics.

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