

DSEN ABSTRACT

Fluoroquinolone Use for Acute Bacterial Sinusitis

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

Summary

- Fluoroquinolone antibiotic use was not associated with better clinical outcomes compared with other antibiotics among patients treated for acute bacterial sinusitis.

Key messages

- Although a relatively small proportion of acute bacterial sinusitis events were treated with fluoroquinolones, guidelines suggest limiting their use to second-line treatment only.

Project Lead & Team

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- Team members [available here](#)

What is the issue?

- Oral fluoroquinolones are among the most widely prescribed class of antibiotics and are associated with rare but severe adverse effects such as tendon rupture, aortic aneurysm, and retinal detachment.
- Guidelines suggest limiting their use to second-line treatment only, though their use has extended to milder infections, such as acute bacterial sinusitis, with limited evidence of superiority to first-line antibiotics.

What was the aim of the study?

- This study, conducted by CNODES, aimed to compare the clinical outcomes for acute bacterial sinusitis initially treated with fluoroquinolones compared with other antibiotics.

How was the study conducted?

- We conducted a multi-site population-based cohort study using administrative health data from 6 Canadian provinces.
- The study cohorts included over 1.5 million mostly adult patients who received an antibiotic treatment for an incident episode of acute bacterial sinusitis between 2005 and 2015.
- Clinical outcomes within 30 days of the initial antibiotic dispensation were compared between patients treated with a fluoroquinolone and those treated with other antibiotics. Results were combined across studies using a statistical approach called meta-analysis.

What did the study find?

- Fluoroquinolones were not commonly used in the first-line treatment of acute bacterial sinusitis. Their use represented between 2% to 11% of antibiotic dispensations and declined in all provinces over the study period.
- Fluoroquinolones were more likely to be prescribed as second-line treatment.
- Compared with other antibiotics, fluoroquinolones were not associated with better clinical outcomes. There was a 26% higher risk of repeated primary care visits following fluoroquinolone use compared with other antibiotics.
- There was no difference between fluoroquinolones and other antibiotics in the need for a second antibiotic dispensation within 30 days.

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For more information, please contact info@cnodes.ca.