

Common antibiotics pose a rare risk of severe liver injury in older patients

August 13 2012

The commonly used broad-spectrum antibiotics moxifloxacin and levofloxacin are associated with an increased risk of severe liver injury in older people, according to a new study published in *CMAJ (Canadian Medical Association Journal)*.

Moxifloxacin and levofloxacin are commonly prescribed "fluoroquinolone" [antibiotics](#) often used for bacterial infections such as respiratory infections, [sinus infections](#) and others. However, both the European Medicines Agency and Health Canada have issued warnings about the risk of liver injury from moxifloxacin, although there are few published studies on the safety of fluoroquinolones, especially related to [liver damage](#).

Researchers from the Institute for Clinical Evaluative Sciences (ICES), Toronto; the University of Toronto and McMaster University, Hamilton, Ont., examined the risk of acute liver injury in patients taking moxifloxacin compared with those taking other antibiotics commonly used to treat [respiratory tract infections](#). They looked at 9 years of data from Ontario to identify people aged 66 years or older with no history of liver disease who were admitted to hospital for liver injury within 30 days after receiving a prescription for these antibiotics. Excluding patients admitted for previous [liver disease](#) or recent hospitalization, 144 patients were admitted for acute liver injury, with the median time from the dispensing of the antibiotic to admission to hospital being 9 days. Eighty-eight (61.1%) of patients died during their index admission to hospital for liver injury.

"Compared with clarithromycin, moxifloxacin was associated with a more than 2-fold increased risk of admission to hospital for acute liver injury," writes Dr. David Juurlink, ICES, with coauthors. "Levofloxacin was also associated with a statistically significant but lower risk of hepatotoxicity than moxifloxacin."

The authors note that, although these cases are serious, they are relatively rare, with about 6 cases for every 100 000 patients treated with the antibiotics.

The authors believe their findings are an important contribution to the evidence regarding the risks of these antibiotics. "Despite recent regulatory warnings regarding the hepatic safety of moxifloxacin, there is a lack of controlled studies supporting the notion that moxifloxacin presents a particular risk relative to other broad-spectrum antibiotic agents and, in particular, to other fluoroquinolones," write the authors.

They conclude: "Although our results require confirmation in other settings, the findings suggest that both moxifloxacin and levofloxacin be considered for regulatory warnings regarding acute [liver injury](#)."

More information: Paper online:

www.cmaj.ca/lookup/doi/10.1503/cmaj.111823

Provided by Canadian Medical Association Journal

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