

Anticholinergic drugs linked to risk for pneumonia in elderly

2 March 2015

Taking commonly used medications with anticholinergic effects is associated with a significantly higher risk for developing pneumonia in a study of more than 3,000 older Group Health patients living in the community—not in nursing homes. "Anticholinergic Medications and Risk of Community-Acquired Pneumonia in Elderly Adults: A Population-Based Case-Control Study" is in the *Journal of the American Geriatrics Society*.

"Our study is the first to address whether oral anticholinergic medications affect the risk of pneumonia in older people," said senior author Sascha Dublin, MD, PhD, a Group Health physician and Group Health Research Institute (GHRI) associate investigator. "This is important because so many older people use these medications, and pneumonia is such a common cause of illness and death in this age group." Dr. Dublin is also an affiliate associate professor of epidemiology at the UW School of Public Health.

A recent University of Washington (UW)-Group Health study linked cumulative use of anticholinergic medications to a higher risk for dementia. Dr. Dublin was a coauthor of that study of a different group of Group Health [patients](#). Anticholinergic medications block the neurotransmitter called acetylcholine in the brain and body, and that can cause many side effects, including sedation, confusion, constipation, vision changes, retaining urine, and dry mouth and eyes.

Strengths

In the new study, more than 1,000 Group Health patients aged 65 to 94 years who developed pneumonia were compared with a control group of more than 2,000 patients who were matched to the first group by age, sex, and year and didn't get the disease.

"We found a link between both acute and chronic use of anticholinergic medications and a much

higher risk for developing pneumonia," said first author Kathleen J. Paul, MD, MPH, a third-year resident in family medicine at Group Health. Acute use meant filling at least one prescription within 90 days before the pneumonia diagnosis; and chronic use was filling at least three prescriptions in the prior year. One of the study's strengths is that it used Group Health's pharmacy records (which include substantial over-the-counter use) to determine that the patients actually filled their prescriptions.

Prior reports about these same patients linked a higher risk for pneumonia to use of opioids—but not benzodiazepines, statins, proton pump inhibitors, histamine blockers, or angiotensin-converting enzyme inhibitors.

"Many older individuals are taking several medications, and our work confirms that clinicians should review them regularly to identify potential risks," Dr. Dublin said. "It's especially important for patients to tell their doctors about any over-the-counter medications that they are taking. Patients often assume over-the-counter medicines must be safe for them, but this isn't always true. No one should stop taking a medication without consulting their health care provider. But together, patients and providers can weigh the pros and cons—and discuss alternatives, making decisions in a shared way."

Alternatives

"Sometimes providers have to prescribe a medication with anticholinergic effects because it is best for their patient," Dr. Paul said. But she gave these examples of possible alternatives for anticholinergic drugs for:

- Insomnia: consider trying melatonin or behavior change strategies (such as exercising more or avoiding caffeine) instead of benzodiazepines or

antihistamines

- Depression: Instead of tricyclic antidepressants like doxepin (Sinequan), a provider might suggest a selective serotonin re-uptake inhibitor (SSRI) like citalopram (Celexa) or sertraline (Zoloft) with fewer [anticholinergic effects](#). Counseling can also help treat depression.
- Allergies: Instead of first-generation antihistamines like diphenhydramine (Benadryl) or chlorpheniramine (Chlor-Trimeton), consider a second-generation antihistamine like loratadine (Claritin).
- Urinary incontinence: It's harder to find alternative medications to antimuscarinics for bladder control like oxybutynin (Ditropan); but behavior change strategies can be more effective. For instance, it can help to set an alarm as a reminder to urinate every hour or two.

"It isn't clear why anticholinergic medications might raise [pneumonia](#) risk, but one possibility is that by causing sedation and altered mental status, they raise the risk for breathing problems—and lung infections," Dr. Paul said. "But more research is needed."

Provided by Group Health Research Institute

APA citation: Anticholinergic drugs linked to risk for pneumonia in elderly (2015, March 2) retrieved 26 October 2020 from <https://medicalxpress.com/news/2015-03-anticholinergic-drugs-linked-pneumonia-elderly.html>

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