

Study finds common antibiotic azithromycin carries heart risk

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Vanderbilt researchers have discovered a rare, but important risk posed by the antibiotic azithromycin, commonly called a "Z-pack." The study found a 2.5-fold higher risk of death from cardiovascular death in the first five days of taking azithromycin when compared with another common antibiotic or no antibiotics at all.

Wayne A. Ray, Ph.D., professor of Preventive Medicine, and C. Michael Stein, M.B.Ch.B., the Dan May Chair in Medicine and professor of Pharmacology, collaborated on the research published in the May 17 edition of the [New England Journal of Medicine](#).

[Azithromycin](#), commonly called a "Z-pack" is one of the most popular treatments for bacterial [sinus infections](#) and bronchitis. Although it was previously considered to carry little to no [cardiac risk](#), the researchers noted well-documented reports in the published literature as FDA database reports linking azithromycin with serious arrhythmias. Based on this evidence, the Vanderbilt researchers sought to examine cardiovascular deaths in patients who were taking the antibiotic.

Tennessee Medicaid (TennCare) patient records were examined from 1992 to 2006.

The researchers took many steps in this large, observational, population-based study to rule out other reasons for the increase in cardiovascular deaths in patients taking azithromycin. About 348,000 recorded prescriptions of azithromycin were compared with millions of similar records from people who were not treated with antibiotics or were treated with other antibiotics. The primary comparison was with amoxicillin, an antibiotic that is considered to be heart safe and is used in similar clinical circumstances as azithromycin.

While the absolute number of deaths was quite low, relative to amoxicillin, there were about 47

more deaths per million courses of therapy in those taking the azithromycin. That risk increased to 245 additional cardiovascular deaths per million in patients already known to have a high risk for [heart problems](#).

The researchers emphasized that the decision to prescribe any antibiotic requires careful balancing of both potential benefits and risks. This calculation must consider the severity of the infection, the susceptibility of the organism, the availability of alternative antibiotics and adverse effects.

"We believe this study adds important information on the risk profile for azithromycin," said Ray. "For patients with elevated cardiovascular risk and infections for which there are alternative antibiotics, the cardiovascular effects of azithromycin may be an important clinical consideration."

Provided by Vanderbilt University Medical Center

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