

# Commonly used antibiotics with diuretic can double risk of sudden death in older patients

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The combination of the commonly prescribed antibiotic trimethoprim-sulfamethoxazole with the diuretic spironolactone, widely used for heart failure, more than doubles the risk of death for older patients, reports a study published in *CMAJ (Canadian Medical Association Journal)*.

Trimethoprim-sulfamethoxazole is frequently prescribed for [urinary tract infections](#), with more than 20 million prescriptions written every year in the United States for a variety of infections. Spironolactone is effective for [heart failure](#), but it can raise blood potassium to potentially life-threatening levels in some patients.

The large study, conducted over a 17-year period, involved 206 319 patients aged 66 years or older who were treated with spironolactone. Of these, 11 968 people died suddenly and 328 of these died within 14 days after taking either trimethoprim-sulfamethoxazole, amoxicillin, ciprofloxacin, norfloxacin or nitrofurantoin. Most of the patients who died were over age 85 and those who received trimethoprim-sulfamethoxazole were more likely to die than those who took amoxicillin.

"Sudden death during spironolactone treatment was more than twice as likely following a prescription for trimethoprim-sulfamethoxazole than for amoxicillin," writes lead author Dr. Tony Antoniou of the Li Ka Shing Knowledge Institute, St. Michael's Hospital and the Institute for Clinical Evaluative Sciences (ICES), Toronto, Ontario, with coauthors.

"More attention needs to be given to the real risk that trimethoprim-sulfamethoxazole can incite life-threatening hyperkalemia in susceptible individuals," said Dr. Antoniou. "And the risks increase when these antibiotics are prescribed with other medications that raise blood potassium, such as spironolactone," he added.

The authors suggest that, when appropriate, physicians should consider prescribing different antibiotics for patients on spironolactone, limiting the duration of antibiotic treatment and carefully monitoring to reduce the risk of death.

**More information:** *CMAJ*,  
[www.cmaj.ca/lookup/doi/10.1503/cmaj.140816](http://www.cmaj.ca/lookup/doi/10.1503/cmaj.140816)

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