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Study shows declining efficacy of prophylactic antibiotics to prevent SSIs following colorectal surgery



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The efficacy of prophylactic antibiotics in preventing surgical site infections following colorectal surgery declined, according to results from a systematic review and meta-analysis published in *Infection Control Hospital Epidemiology*.

“There has been concern that [drug resistance](#) would make surgeries and transplants difficult to perform because of the greater risk of untreatable, drug-resistant infections,” **Ramanan Laxminarayan, PhD**, director and founder of the Center for Disease, Dynamics, Economics & Policy and senior research scholar at Princeton University, told *Infectious Disease News*.

Laxminarayan and colleagues searched PubMed and Cochrane databases through Oct. 31, 2017, for randomized controlled trials (RCTs) that assessed the efficacy of antibiotic prophylaxis regimens in preventing postoperative surgical site infections (SSIs) for three commonly performed surgical procedures — appendectomy, cesarean section and colorectal surgery — and urinary tract infection (UTI) and sepsis following [transrectal prostate biopsy \(TRPB\)](#).

They identified 399 potentially relevant studies and included 74 RCTs in the meta-analysis. Modeling showed a significant increase in SSIs over time after colorectal surgery (adjusted OR per year = 1.049; 95% CI, 1.03-1.07). There were no observed statistically significant increases in SSIs over time for appendectomy (aOR per year = 1.03; 95% CI, 0.92-1.16; $P = .57$), cesarean section (aOR per year = 1.01; 95% CI, 0.96-1.05; $P = .8$) or TRPB (aOR per year = 0.95; 95% CI, 0.77-1.18; $P = .67$), though Laxminarayan and colleagues said the small number of RCTs and low infection rates limited their ability to determine the true effect in these procedures.

“The data to assess trends in antibiotic prophylaxis efficacy [are] sparse,” Laxminarayan said. “We found that the efficacy of antibiotic prophylaxis agents in preventing SSIs following colorectal surgery has declined, but there are not enough data to assess trends in prophylaxis efficacy for simple appendectomy, cesarean section, or TRPB. We need more data to understand how the efficacy of antibiotic prophylaxis is changing over time.” — *by Bruce Thiel*

Disclosures: The authors report no relevant financial disclosures.

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