Oral curcumin shows no benefit in reducing inflammation following vascular surgery

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A study of oral curcumin, the active medicinal ingredient in turmeric, showed no benefit in preventing inflammation and complications in patients undergoing elective surgery for aortic aneurysm repair, according to a large randomized controlled trial in *CMAJ* (*Canadian Medical Association Journal*).

"Turmeric has been used for thousands of years in Indian and Chinese medicine, and curcumin continues to gain popularity today as a natural health supplement," writes Dr. Amit Garg, Department of Medicine, Western University, and Lawson Health Research Institute, London, Ontario, with coauthors. "In this randomized trial, the largest to date, perioperative oral curcumin did not ameliorate the complications of elective abdominal aortic aneurysm repair."

Despite the increasing popularity of curcumin, and many animal studies showing benefit, few rigorous clinical trials have looked at its effects in humans. One single-centre study found that curcumin was associated with lower biomarkers for inflammation after coronary bypass surgery. In contrast, this study enrolled five times the number of patients at 10 hospitals for a different type of procedure to test the hypothesis that curcumin reduces inflammation and improves outcomes of surgery.

Researchers included 606 patients scheduled for elective surgery for abdominal aortic aneurysm repair at 10 Canadian hospitals. Participants were randomized to receive high-dose oral curcumin (2000 mg twice a day over four days) or placebo before surgery. Study results showed no

positive effect of curcumin on inflammation compared with placebo, and, in secondary analyses, there was an increased risk of post-surgical kidney damage in patients in the curcumin group.

"Our findings emphasize the importance of testing turmeric and curcumin in rigorous human clinical trials before espousing any health benefits, as is currently done in the popular media," caution the authors.

In a related editorial, Drs. Kirsten Patrick and Matthew Stanbrook, deputy editors, *CMAJ*, write, "No one should be shocked by the findings of the study by Garg and colleagues. This is how science works. It's deeply disappointing when a promising compound is shown to be no better than nothing. But it happens every day."

Natural health products are not subject to the same rigorous evaluation as pharmaceutical products, and we need studies that evaluate these products. Many people assume that natural products are safe, but many natural substances, such as caffeine and tobacco, can be harmful.

"With natural health products, the marketing most often comes first—usually based on few small, nonrandomized and unblinded studies at best—and the good science usually fails to follow," they state.

"Natural health products should be subject to a high standard of scientific testing, journals should publish and promote these high-quality studies for the public good, and purveyors of natural health products need to be as willing—or should be regulated to be as willing—to admit that their health claims are wrong when good science demonstrates them to be so," they conclude.

"Oral curcumin in elective abdominal aortic aneurysm repair: a multicentre randomized controlled trial" is published October 29, 2018.

More information: Kirsten Patrick et al. Take turmeric with a grain of salt, *Canadian Medical Association Journal* (2018). DOI: 10.1503/cmaj.181358

Amit X. Garg et al. Oral curcumin in elective abdominal aortic aneurysm repair: a multicentre randomized controlled trial, *Canadian Medical Association Journal* (2018). DOI: 10.1503/cmaj.180510