

Study shows taking aspirin before or after coronary artery bypass graft is associated with a lower risk of death

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New research presented at this year's Euroanaesthesia congress in Copenhagen, Denmark shows that in patients undergoing a coronary artery bypass graft (CABG) surgery, taking aspirin before and after surgery is associated with an 18% to 34% reduced mortality risk after 4 years. The study is by Professor Jianzhong Sun, Director of Clinical Outcomes Research at the Department of Anesthesiology, Thomas Jefferson University and Hospitals, Philadelphia, and colleagues.

CABG [surgery](#) is used to restore normal blood flow to an obstructed artery in the heart. Cardiac surgery frequently provokes a state of extreme and complex stress with a greatly elevated risk of blood clots and an increased predisposition to long-term vascular disease and [mortality](#). It is hoped that perioperative aspirin (taken before and after the operation) may reduce these adverse effects.

Preoperative and postoperative uses of aspirin are defined as within 5 days preceding surgery and continuously on discharge respectively. The discharge prescription of aspirin often is indicated for [patients](#) with CABG and it should be continued indefinitely, except for patients with contraindications. The reported rates of patient aspirin adherence for cardiovascular protection are high, range from 72% to 92% in the literature.

Most previous studies on aspirin's effects in cardiac surgery were limited

by the length of follow-up. And little is known about perioperative aspirin's effect on the long-term survival in patients undergoing CABG surgery. This study from institutions in the US and China studied the effects of perioperative aspirin on long-term mortality in patients undergoing [coronary artery bypass](#) graft (CABG).

The team looked at the medical records of 9,584 patients who received cardiac surgery in three hospitals, selecting the 4,132 individuals who underwent CABG. This selection was then further divided into four groups; in which patients had one of preoperative or postoperative aspirin, both, or neither.

Among the studied patients, 76.5% received preoperative aspirin, 23.5% did not, 92.3% received postoperative aspirin, and just 7.7% did not. Patients taking preoperative aspirin were significantly more likely to have other risk factors including smoking, diabetes, peripheral vascular disease, angina, high blood pressure, and previous heart attacks.

For patients taking preoperative aspirin, 4-year mortality was 14.8% versus 18.1% for those not taking preoperative aspirin, a statistically significant mortality reduction of 18%. For postoperative aspirin, there was a larger mortality reduction: those taking aspirin had a 4-year mortality rate of 10.7%, compared with 16.2% in the non-aspirin patients—a statistically significant mortality reduction of 34%.

Professor Sun says: "Our study showed that aspirin was associated with similar effectiveness to other proven medical treatments in patients with cardiovascular disease, such as statins and ACE inhibitors."

He concludes: "Among patients undergoing CABG, perioperative uses of aspirin were associated with significant reduction in 30-day mortality and improvement in long-term survival, without significant increased postoperative bleeding complications. We believe that all patients

undergoing CABG should take aspirin before and after the procedure, except those for whom [aspirin](#) is contraindicated."

Provided by European Society of Anaesthesiology

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