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Brief summaries of recent drug approvals, interactions, and adverse events

Comparing Treatments for Diabetes and CAD

Which is better at keeping patients with diabetes and coronary artery disease (CAD) alive: surgery or medical treatment with drugs? In a long-term study by researchers from the Universidade de São Paulo in Brazil, invasive strategies bested the more conservative strategy.

The researchers compared percutaneous coronary intervention (PCI), coronary artery bypass graft (CABG), and medical therapy (MT) without revascularization in 232 patients with diabetes and 379 patients without diabetes who had multivessel and stable CAD. Medical treatment was aimed at preventing angina and reaching goals for blood pressure, lipids, and glucose.

In the current study (average follow-up, 11.4 years), the researchers found a statistically significant difference in overall and cardiac mortality rates favoring CABG over MT in patients with diabetes who had stable multivessel CAD (P = .015). PCI was not superior to medical treatment.

In the group of patients with diabetes, 75 patients died, 45 due to cardiac causes; 88 patients died in the group of patients without diabetes, 48 due to cardiac causes. The 10-year cardiac mortality rates were 19% and 13%, respectively (P = .24). Stratified by treatment option for patients with diabetes, 20 patients (31%) died in the PCI group, 22 patients (28%) in the CABG group, and 33 patients (38%) in the MT group.

During the follow-up, 27% of MT patients needed an additional intervention, compared with 20% of PCI patients and only 5% of CABG patients.

It is known, the researchers say, that CABG is superior to PCI or MT in overall and cardiac mortality rates for more advanced CAD subgroups, such as patients with diabetes. Studies have also shown more adverse events related to angioplasty in patients with diabetes, even in recent trials with drug-eluting stents. In fact, the researchers add, diabetes is a recognized risk factor for stent restenosis and thrombosis. The authors of the current study say the "apparent positive effect" of CABG in these patients, despite diabetes status, may reside in the completeness of revascularization and the use of the left internal mammary artery, which has been associated with better long-term survival.

Source: Lima EG, Hueb W, Garcia RM, et al. *Am Heart J.* 2013;166(2):250-257. doi: 10.1016/j.ahj.2013.04.017.

Putting SSI Prophylaxis to the Test

Which antibiotic is chosen, when it is started, and when it is stopped, all are key factors in reducing surgical site infections (SSIs), according to the 2002 Surgical Infection Prevention project, so those criteria were incorporated into the Surgical Care Improvement Project (SCIP), along with other recommendations. But how well do practitioners comply with those 3 main criteria for prophylaxis—and does compliance help? To find out, researchers from the University of Texas Southwestern Medical Center and the Parkland Health and Hospital System, both in Dallas, conducted a study of 762 surgical patients who underwent 763 procedures.

Most patients had a hysterectomy (34%) or knee arthroplasty (29%). The antimicrobial agent was appropriate for 98% of patients, correctly timed for 95% of cases, and discontinued within the recommended 24 hours of the surgery in 87% of cases.

The rate of adherence to all 3 recommendations was 80%. Hysterectomy cases were most likely to have met all 3; colon surgery cases were least likely.

However, the SCIP antimicrobial prophylaxis measures did not improve SSI outcomes either individually or as a collective measure, the researchers say. The lack of difference remained in all surgical procedure types except colon surgery. In that group, patients who had received care per all 3 measures were more likely to develop SSI than were those who did not. The researchers say the risk of SSI in these patients may well have outweighed the benefit afforded by the perioperative antimicrobial drug(s).

Patients with diabetes and those with a higher body mass index were more likely to develop SSIs. Diabetes is a well-known risk factor, the researchers say; the impact of BMI may be related to impaired wound healing and reduced tissue penetration of antibiotics.

Their findings highlight that, although perioperative antimicrobial prophylaxis is a "foundational strategy to prevent infections," it isn't always enough. The researchers noted, though, that rates of infection at the Parkland Health and Hospital System are now significantly lower than during the study. One major change was the use of chlorhexidine for skin preparation (they previously used povidone-iodine).

Source: Lee FM, Trevino S, Kent-Street E, Sreeramoju P. *Am J Infect Control.* 2013;41(9):799-802. doi: 10.1016/j.ajic.2012.11.021.

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