

Letters to the Editor

- Randomized On/Off Bypass (ROOBY) Study Group. On-pump versus off-pump coronary-artery bypass surgery. *N Engl J Med.* 2009;361:1827-37.
3. Lamy A, Devereaux PJ, Prabhakaran D, Taggart DP, Hu S, Paolasso E, et al. Off-pump or on-pump coronary-artery bypass grafting at 30 days. *N Engl J Med.* 2012;366:1489-97.

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Reply to the Editor:

We thank Chahine and colleagues for their letter in response to our article discussing on-pump and off-pump coronary artery bypass grafting in patients with left main stem disease.¹ We never claimed that off-pump coronary artery bypass surgery is the best strategy for patients with left main disease. Our conclusion was that “off-pump coronary artery surgery in patients with left main stem disease is a safe procedure that will reduce morbidity and mortality and similar long-term survival compared with conventional on-pump revascularization.”

We are aware of the results of the 2 recent randomized studies referred to in the letter. The Coronary Artery Bypass Grafting Off or On Pump Revascularization trial² did not demonstrate any substantial difference between the 2 techniques, and the study concluded that “There was no significant difference between off-pump and on-pump CABG with respect to the 30-day rate of death, myocardial infarction, stroke, or renal failure requiring dialysis.” Those authors go on to say, “The use of off-pump CABG resulted in reduced rates of transfusion, reoperation for perioperative bleeding, respiratory complications, and acute kidney injury but also resulted in an increased risk of early revascularization.”² However, investigators in the Veterans Affairs Randomized On/Off Bypass trial³ concluded that the results of surgeries performed off-pump were inferior to conventional on-pump coronary artery bypass graft surgery. That study, as pointed out in

a recent editorial,⁴ had several major limitations. More than 70% of eligible patients (ie, scheduled for urgent or elective coronary artery bypass grafting) were excluded because of clinical reservations of the surgical team or small target vessels. This suggests inexperience on the part of surgeons in the trial, who were required to have performed just 20 off-pump coronary artery bypass procedures (OPCAB) to participate. Conversion to on-pump coronary artery bypass, which is known to increase morbidity and mortality, occurred in >12% of cases, much greater than the 1% to 3% reported by centers specializing in OPCAB. In the OPCAB group, >50% of patients received red blood cell transfusions, which contrasts with the 30% in previous randomized trials. Finally, only a small minority of the studied population were high-risk patients, a group more likely to benefit from OPCAB.

At the Bristol Heart Institute we have been performing OPCAB surgery for >17 years. We are a high volume center, with OPCAB accounting for 70% of all coronary procedures. We recognize that OPCAB surgery is a technically demanding procedure that should be performed in a high volume center to obtain optimal outcome. We think that OPCAB is a technique for the many and not the few (both surgeons and patients) but only with structured training and supervision in the right environment.⁴

Finally, with regard to the specific question on the incidence of stroke, in our article we reported a similar 0.4% incidence of transient cerebrovascular accident (CVA) in both groups and 0% and 0.9% of permanent CVA in the off-pump and on-pump groups, respectively. With off-pump procedures it is possible to minimize manipulation of the aorta because there is no requirement for cannulation when performing total arterial revascularization. However, in our series a majority of patients also received vein grafts that were anastomosed to the ascending aorta using

a side bite exclusion clamp. The incidence of CVA was low regardless if patients were operated on using the on-pump or off-pump technique. We have no reason to believe that this information is inaccurate given that it was obtained from our institution’s prospectively collected database. Permanent CVA is a clearly defined event that is most unlikely to have been missed by our clinicians.

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References

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3. Shroyer AL, Grover FL, Hattler B, Collins JF, McDonald GO, Kozora E, et al. Veterans Affairs Randomized On/Off Bypass (ROOBY) Study Group. On-pump versus off-pump coronary-artery bypass surgery. *N Engl J Med.* 2009;361:1827-37.
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<http://dx.doi.org/10.1016/j.jtcvs.2012.07.042>

VARIABLE ON TREATMENT PLATELET REACTIVITY IN CORONARY ARTERY BYPASS GRAFTING PATIENTS SUGGESTS THE NEED FOR PERIOPERATIVE PLATELET FUNCTION TESTING

To the Editor:

With great interest we have read a recent article from Deja and colleagues¹ on preoperative aspirin in an elective coronary artery bypass grafting population. The authors conducted a single-center, double-blind, randomized trial comparing its effects to placebo. The primary endpoints were more than 750 mL of bleeding during the first 12 hours postoperatively and