Letter to the Editor

Minimally invasive direct coronary artery bypass versus percutaneous coronary stenting for stenosis of the left anterior descending artery

Hisato Takagi¹, Toshiyuki Tanabashi, Norikazu Kawai, Takuya Umemoto
Department of Cardiovascular Surgery, Shizuoka Medical Center, 762-1 Nagasawa, Shimizu-cho, Sunto-gun, Shizuoka 411-8611, Japan

Received 29 March 2007; accepted 19 April 2007; Available online 21 May 2007

Keywords: Minimally invasive direct coronary artery bypass; Percutaneous coronary stenting

We read with great interest a meta-analysis by Jaffery et al. [1] of randomized control trials (RCTs) comparing minimally invasive direct coronary artery bypass (MIDCAB) versus percutaneous coronary stenting (PCS) for stenosis of the proximal left anterior descending artery (LAD). Between PCS and MIDCAB, there was no difference in major adverse cardiac events (MACE), i.e. the composite end point of mortality, myocardial infarction, and target vessel revascularization: relative risk (RR) (95% confidence interval [CI]), 1.83 (1.02, 3.26). There was significant trial heterogeneity of results by standard rank-correlation test (p = 0.0459) but no evidence of significant publication bias by an adjusted rank-correlation test (p = 0.5730).

In conclusion, our meta-analysis of currently available RCTs showed that PCS was fraught with significantly increased risk of MACE in comparison to MIDCAB even including the trial with DES.

References


* Corresponding author. Tel.: +81 55 975 2000; fax: +81 55 975 2725. E-mail address: kfgth973@ybb.ne.jp (H. Takagi).

doi:10.1016/j.ejcts.2007.04.026

Reply to the Letter to the Editor

Reply to Takagi et al.

Zehra Jafferya, Marcin Kowalski², W. Douglas Weaver²
Sanjay Khanal²

¹Department of Internal Medicine, Henry Ford Hospital, Detroit, MI, United States
²Henry Ford Heart and Vascular Institute, Henry Ford Hospital, Detroit, MI, United States
³Heart Center of Antelope Valley, Lancaster, CA, United States

Received 18 April 2007; accepted 19 April 2007; Available online 23 May 2007

Keywords: LAD stenosis; Percutaneous coronary intervention; Minimally invasive bypass grafting; Outcome

We thank Takagi and colleagues [1] for their comments and for pointing out one additional study along with the updated version of the articles by Drenth et al. and Cisowski et al. We could not include the updated version of the article by Cisowski et al. as it was not in English language.

We have reanalyzed the data using the additional information. Unlike the analysis done by Takagi and colleagues, our updated analysis however does not show a significant difference favoring minimally invasive direct coronary artery bypass (MIDCAB) for the hard end-points of mortality, relative risk (RR) = 0.81 (95% CI: 0.42, 1.57), p = 0.53, I² = 0% and for the end points of mortality plus myocardial infarction, RR = 0.92 (95% CI: 0.56, 1.50), p = 0.72, I² = 0%. For the composite endpoint of mortality, myocardial infarction and target vessel revascularization, there was a non-statistical trend in favor of MIDCAB, RR = 1.76 (95% CI: 0.96, 3.25), p = 0.07, I² = 54%.

Therefore, it is quite clear that the small advantage of MIDCAB over stenting is by lowering repeat target vessel revascularizations. This is not unexpected and most likely driven by the 20–30% restenosis risk of bare metal stents