Reply to Royse *et al.*

Daniel J.F.M. Thuijs [a,*], **Piroze Davierwala** [b,c,d], **Milan Milojevic** [a,e] and **Salil V. Deo** [f]

[a] Department of Cardiothoracic Surgery, Erasmus University Medical Centre, Rotterdam, Netherlands
[b] University Department of Cardiac Surgery, Heart Centre Leipzig, Leipzig, Germany
[c] Division of Cardiovascular Surgery, Peter Munk Cardiac Centre, Toronto General Hospital, 15 University Health Network, Toronto, ON, Canada
[d] Department of Surgery, University of Toronto, Toronto, ON, Canada
[e] Department of Cardiac Surgery and Cardiovascular Research, Dedinje Cardiovascular Institute, Belgrade, Serbia
[f] Department of Cardiovascular Surgery, Louis Stokes Cleveland VA Medical Centre, Cleveland, OH, USA

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We highly appreciate the interest expressed by colleagues Royse *et al.* in our recently published manuscript [1] and acknowledge their constructive remarks. Our study determined to evaluate long-term survival differences between multiple arterial grafting (MAG) versus single arterial grafting (SAG) in patients who underwent coronary artery bypass grafting [1]. At 12.6 years follow-up, MAG resulted in markedly lower all-cause death compared to an SAG strategy [23.6% vs 40.0%, respectively; adjusted hazard ratio 0.74, 95% confidence interval (0.55–0.98); $P = 0.038$]. Royse *et al.* hypothesized that the significant survival advantage of MAG could be reflected by the reduced number of venous grafts used in the MAG cohort (52.7%) versus the SAG cohort (98.4%). In the SAG cohort, 1.6% of patients ($n = 16$) underwent single-vessel coronary artery bypass grafting, which was performed with either a single left internal mammary artery graft or a single radial artery graft (table 2 in the main manuscript).

Therefore, the MAG cohort was divided into 2 (unmatched) subgroups: (i) patients with total arterial revascularization (TAR, e.g. those without a venous graft) versus (ii) patients without TAR (e.g. those with a venous graft; No-TAR). At 12.6 years of follow-up, no difference in survival outcome was noted between TAR vs No-TAR by Kaplan–Meier analysis [all-cause death: 23.9% vs 23.0%, respectively; unadjusted hazard ratio 1.07, 95% confidence interval (0.72–1.58); $P = 0.75$].

Although previous publications have reported reduced patency in venous grafts compared to arterial grafts [2, 3], no difference in survival between groups was observed. Moreover, in the presence of durable arterial grafts to the left anterior descending artery, it remains unclear whether reduced patency rates in conduits to non-left anterior descending vessels translate to clinically meaningful survival differences. More data are needed to truly understand the possible detrimental impact of venous conduits in the presence of more than 1 arterial graft.

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*Corresponding author. Department of Cardiothoracic Surgery, Erasmus University Medical Centre, Rotterdam, Netherlands. Tel: +31 10 70 354 11; e-mail:d.thuijs@erasmusmc.nl

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