

Peer Review File

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Reviewer A

Comment 1: This review is a comprehensive summary of coronary revascularization and I think it will be of interest to readers. I have some minor comments below.

Reply 1: Thank you very much for your comment.

Comment 2: Line 216: "mayor" may be "major"

Reply 2: Thank you very much for comment. We corrected the text throughout the manuscript.

Comment 3: Reference #48 and #52 may be the same article.

Reply 3: Thank you very much. We removed the duplicate reference and recited our manuscript accordingly.

Reviewer B

Comment 1: The authors present a broad review of advancements and future developments in coronary revascularization with a focus on emerging technology in percutaneous technology and minimally invasive surgical bypass. It is a well written review overall.

Reply 1: Thank you very much for your comment.

Comment 2: I would encourage the authors provide some greater detail on the feasibility of these technologies, their current status, and some of the preliminary data so that the text can serve better as a reference rather than a stepping stone to the primary data.

Reply 2: Thank you very much for your suggestion. We expanded the text to include the feasibility, current status and preliminary data of each development. We also amended the manuscript title to “Minimally invasive surgical coronary artery revascularization – current status and future perspectives in an era of interventional advances” to be more authentic and descriptive of the content.

Comment 3: I encourage authors to explore use of image republishing requests/permissions to allow for use of the greatest quality and content for the supporting images and figures.

Reply 3: Thank you very much for your suggestion. Permission to republished were requested for figure 1 (Philips) and 2 (Robocath). The other figures were obtained from own experience or collaborative visits.

Reviewer C

Comment 1: It is a well-written manuscript comprising all important features of the therapeutic options for coronary artery disease being available at this time. The conclusions are clear and objective.

Reply 1: Thank you very much for your comment.

Comment 2: lines 163-171: please add some information with respect to the completeness of revascularisation achieved through MISCAR when compared to ONCAB-sternotomy.

Reply 2: Thank you very much for your suggestion. We expanded the text to include the additional information in line 313 to 330.

Comment 3: lines 177-182: Transmyocardial channel revascularization by laser technology is pretty controversial. Please add a reference from the current society guidelines with respect to this therapeutic approach.

Reply 3: Thank you very much for your comment. We added the references as requested in lines 360 – 380.

Comment 4: lines 186-190: with respect to the financial costs, there should be some additional information added: MIDCAR might be expensive, but protected -PCI (ECMO, IMPELLA), coronary rotablation and the use of AR technology is not less expensive, even beyond the need for reintervention. Moreover, the use of ECMO and IMPELLA for protected PCI increases the ICU-stay, ventilation -time and CVVHDF -requirement. It is MISCAR, ONCAB, OPCAB -therapy indeed more expensive than PCI? Thank you.

Reply 4: Thank you very much for this suggestion. We expanded our text accordingly in lines 287 – 308.