Peer Review File

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Reviewer 1

Comment 1: Although the authors describe their technique with some figures, it would be helpful for readers if they add the supplemental video file. The authors wrote that their special technique needs learning curve. I think it is very difficult to obtain feasible surgical field. I think how to use the retractors is especially important, and that's the part readers want to know about.

Reply: We added a video.

Comment 2: For beginners, please add the comment about what kind of cases (except LITA-LAD) are suitable for this method?

Reply: In the section "patient selection" we descried the kind of cases that are suitable for Multi-vessels MICS CABG.

Reviewer 2

Comment 1: The description of the applied surgical techniques is clear and concise. However, the Journal of Visualized Surgery aims to be "a journal for instructional and educational video clips, photos, schematics of visualized surgical procedures". Unfortunately, I have not seen a video clip or schematics in the submission, and I am sorry to say that the quality of some OR photographs is modest. Particularly the pictures from inside of the chest have low illumination and/or resolution. Therefore, the "visualization" of the surgical techniques is not very clear to the reader. Taking high quality photos through small incisions is definitely demanding. Nevertheless, the manuscript would profit from more and high quality pictures of the surgical elements of MICS CABG.

Reply: Indeed, it is very difficult to get good image through a small incision. We added a video and made changes in the pictures.

Comment 2: Ll.55-57: "Whenever feasible and according to the patient's wish the minimally invasive approach is the option of choice." I agree that MICS CABG should be performed whenever possible. However, I would not apodictically state that it is the option of choice whenever feasible, since there is not sufficient evidence that MICS CABG is generally superior to sternotomy CABG. MICS CABG could be presented as the option of choice in the authors' department.

Reply: We agree. We added "in our center" in the end of this sentence.

Comment 3: Previous radiation (e.g. in women after breast cancer) may be added as relative contraindication.

Reply: For sure. We added this relative contra-indication in this paragraph.

Comment 4: Figure 5 seems to be expendable, since Figure 6a includes the same information. An additional arrow in Figure 6a may then be supportive.

Reply: Agreed. Figure 5 was taken out and an extra arrow was inserted in the Figure 6a (now fig 5a).

Comment 5: Ll.204-206: "The reduced need for excessive and costly technology may lead to an increased applicability of Multi-vessel MICS CABG among cardiac surgeons and centers that achieve the learning curve." Why and how is the need for excessive and costly technology reduced? This sentence is quite unclear, and moreover partially redundant considering the previous sentence.

Reply: Agreed. We took out this sentence of the paper.

Comment 6: The manuscript should be thoroughly checked regarding grammar and spelling errors.

Reply: We review the grammar and spelling errors.

Reviewer 3

Comment 1: The whole text needs to be revised and several paragraphs re-written due to many linguistic and grammar mistakes.

Reply: Review of grammar was done and several sentences were rewritten.

Comment 2: Paragraph "Clinical outcomes" needs to be re-written. Which study period do you refer to? How many patients? Please re-write several sentences ("In 12% of the patients the clinical presentation was acute coronary syndrome and 82% of the patients had ejection fraction higher than 45%.", "and in 4% of this cohort conversion to full sternotomy", "Median ICU length of stay was 24h", "Perioperative mortality within 30 days") Can you please provide perioperative MI incidence? Any long-term follow-up data?

Reply: The section "Clinical outcomes" was reviewed and re-written. Unfortunately, we still not completed the follow-up data for long-term outcomes in this cohort of patients. Soon we will have it completed and we will publish it.

Comment 3: Please re-write Figure Legends (Figures 3, 4, 6-8) to be succinct and clear, and I would suggest replacing the Figure 7 with the one that can better demonstrate proximal anastomosis.

Reply: We believe the legend of Figure 3 is succinct and clear. The legend of figure 4 was changed. Figure 5 was taken away as suggestion of another reviewer and an extra information

was add to figure 6 (which is now the new figure 5). Figure 7 has been replaced (now the new figure 6) and the legends of the figures 6-8 (new fig 5-7) has been modified.

Commend 4: Is it possible to provide a Video clip?

Reply: Yes, a video was added.

Commend 5: Please be more detailed in indications/contraindications for this approach.

Reply: The section "patient selection" explains the indications and contraindications.

Comment 6: Line 44, I would suggest to address risk of sternal dehiscence and deep wound infection rather than pain as minithoracotomy is also associated with postoperative pain.

Reply: We added risk of sternal dehiscence in this line. Pain is decrease in minithorocotomy. And risk of wound infection was already written in the text.

Comment 7: Line 58, "routine approach" – do you perform this approach in all patients or selectively?

Reply: No, we do not perform this approach in all patients. However, many patients are submitted to MICS CABG and we do perform it in a regular basis. No change has been done in the text.

Comment 8: Line 60, …and how about the expertise/training of the whole team?

Reply: For sure experience and training is important, but we believe this should not be include in the text.

Comment 9: Line 65, Is previous chest radiotherapy a contraindication?

Reply: Yes. we added it in the text.

Comment 10: Some weird wording across the text such as: "led to instability", "depressed ventricular function", "Good coronary artery target vessels", "allow confection of the proximal anastomoses", "The left arm is elevated", "Defibrillation external pads", Thoratrak or ThoraTrak? "We open the pericardium", "Skeletonized or pandiculated techniques", "superior reflation", "A four by four gauze", missing commas in several sentences…

Reply: "Led to instability" changed to "cause clinical instability".
"Depressed ventricular function: changed to "ventricular dysfunction".
The sentence containing "Good coronary artery target vessels " was rephrased.
"Allow confection of the proximal anastomoses" was erased of the text.
The left arm is elevated", "Defibrillation external pads" were kept as we believe the terns are universal.

It is Thoratrak and the corrections were done.
“A four by four gauze” was replaced for just gauze.
The commas corrections were done.

Comment 11: Line 71, Please be more specific, “moderate lung disease” does not need to be associated with decreased lung function tests.

Reply: Agreed. This sentence had been modified.

Comment 12: Line 73, Any relative contraindications? Do you routinely perform/suggest this technique when LVEF<10%?”

Reply: Of course, we do not suggest this technique when LVEF <10%! In the section about clinical outcomes, we mentioned that in about 82% of the patients LVEF was higher than 45%. In the section of “patient selection” we mentioned the contra indications.

Comment 13: Line 75, Please explain what does "support options" refer to?

Reply: We changed “support options” for limited surgical exposure.

Comment 14: Line 78, How do you assess diameter of distal targets? By conventional angio or CT angio?

Reply: By angio. No change has been made in the text.

Comment 15: Is proximal RCA occlusion/stenosis a contraindication?

Reply: No. When you have a proximal RCA stenosis you can graft the PDA. No change has been made in the text.

Comment 16: Line 83, How do you assess femoral vessels pre-operatively?

Reply: By physical examination at first and US is used if PE has detected any changes. A CT is also a good tool for femoral vessel assessment. No change has been done in the text.

Comment 17: Please avoid abbreviations in subtitles (OR), spell when used for the first time and be consistent (LITA or LIMA).

Reply: Reviewed and the corrections were done in the text.

Comment 18: “Excellent team synergy is required for this procedure.” Please re-paraphrase, as this is important for any procedure. Perhaps to address well-trained team?

Reply: We disagree. No change has been done in this sentence.

Comment 19: Please delete “The patient is put under general anesthesia and monitoring should be done with arterial and central venous line.”

Reply: We did not delete this sentence. We rephrased it.

Comment 20: Line 90-92, Suggest using rather "required" instead of "must"

Reply: We like the “must” as it emphasizes more the need of synergy. We will keep it.

Comment 21: Line 93, Is TEE routinely used in all patients or selectively?

Reply: Yes, we do use TEE routinely as it is important in case we CPB is required. No change has been done in the text.

Comment 22: Line 99, Please delete: “The legs must be exposed for saphenous vein harvest and the right arm when the radial artery is used as a graft.” It is obvious.

Reply: We disagree. We are describing the technique and we will leave this sentence.

Comment 23: Line 102, Is the equipment checked at the team brief before?

Reply: For sure. No change has been made in the text.

Comment 24: Line 107-112 needs to be re-written for several linguistic mistakes

Reply: Reviewed. All the linguistic mistakes were addressed.

Comment 25: 20. Line 119, which figure?

Reply: Figure 3. We corrected that in the text.

Comment 26: 21. Line 123-125, please re-written.

Reply: It was rewritten.

Comment 27: Line 127, Harvested or checked?

Reply: Harvest.

Comment 28: 23. Line 129, Is the retractor actually "pulled towards the aorta"?! Please re-phrase

Reply: Yes! It is pulled toward the ascending aorta for the proximal anastomosis. No change has been done in the text.

Comment 29: Line 131, pls remove “various”

Reply: We agree. It was removed.

Comment 30: Line 134, Please re-write "A 6 mm incision is made in the left 6th or 7th intercostal inferiorly." Perhaps …to allow the introduction of Octopus…?

Reply: We believe this part of the text explain exactly what it needs to be explained. No change has been made in the text.

Comment 31: Line 137-139, please re-write and remove statement such as "Gentle downward compression on the RVOT generally avoids any hemodynamic instability."

Reply: No. We will keep it.

Comment 32: Line 142, Do you assess calcifications by palpation or epiaortic USS?

Reply: By palpation in most of the cases. If we had doubt about it then we proceed with the epiaortic USS.

Comment 33: Please re-write weird wording: "the side clamping is placed under a systolic blood pressure of 85-80 mmHg, " and "After the anastomosis is performed proper hemostasis should be checked and achieved.", "Next, we perform", "spouse to the coronary target", "If the patient meets good hemodynamic status", "standard fashion performing the off pump CABG using", "hemodynamic instability is present despite all measures", redundant use of "usually", "to avoid difficulty in reaching them if they fall", "One example is the hair clips or bulldogs clamps"

Reply:
"the side clamping is placed under a systolic blood pressure of 85-80 mmHg" was rewritten.
"After the anastomosis is performed proper hemostasis should be checked and achieved" was removed.
"Next, we perform" was rewritten.
"spouse to the coronary target" we replaced the word spouse for exposure. It was a autocorrection from my computer and we are sorry for this word misunderstanding.
"If the patient meets good hemodynamic status" was rewritten.
"standard fashion performing the off pump CABG using", "hemodynamic instability is present despite all measures" were rewritten.
"to avoid difficulty in reaching them if they fall", "One example is the hair clips or bulldogs clamps" were removed.

Comment 34: Line 1157-158, please re-write and describe systematically

Reply: It was rewritten.

Comment 35: Line 159, why is it crucial?

Reply: It is crucial because it keep the octopus static for the anastomosis. We added the explanation in the text.

Comment 36: Do you use shunts routine in all cases?

Reply: It is our routine to use the shunt.

Comment 37: Confirmation how, doppler?

Reply: Yes, we add it in the text.

Comment 38: Line 173-175, please re-write. Please describe in more detail "intercostal nerve block"

Reply: It is an intercostal nerve block. There is nothing special about it. We think it does not deserve more detail.

Comment 39: Line 202, You did not describe how do you select patients. Please remove from conclusions.

Reply: We do describe how selection is done. We will keep it in the conclusion.