

Peer Review File

Article information: <https://dx.doi.org/10.21037/jovs-22-45>

Reviewer A

I am proud of reviewing the manuscript for Journal of Visualized Surgery in which the authors described robotically assisted mitral valve repair, focusing on resection techniques of the posterior leaflet. Although institutes in which robotically assisted mitral valve repair is routinely performed are limited, this robotic surgery has been already well established with excellent long-term outcomes and is standard approach in some institutes worldwide. The techniques described in this manuscript is what is already routinely done in institutes where robotic surgeries are routinely performed. There is no mention of ingenuity or creativity.

Comment 1 Institutes that perform robotic surgery are limited

Reply 1 Thank you very much for your comments. We agree but would like to add that in the last 5 years alone, there has been an increase in the number of robotic cardiac surgical procedures being performed and, as mentioned, performed with excellent outcomes (see reference).

Reference:

Cerny S et al. Robotic Cardiac Surgery in Europe – Status 2020. Front Cardiovasc Med. 2022 Jan 20;8:827515 doi: 10.3389/fcvm.2021.827515
PMID: 35127877

Comment 2 The technique described is already routinely done ... There is no mention of ingenuity or creativity

Reply 2 Thank you for your comment. While the surgical technique laid out in this video and manuscript may not be novel, with the increase in centers performing this procedure worldwide, it is paramount that there are adequate high-quality, detailed videos and descriptions of this procedure published openly. Compared to the currently published literature describing this technique. We believe our video showcasing the mitral valve repair both from the robot console and with the side-by-side video showing the bedside assistants' role during this critical portion to be one of the best described and most clear to see. This is vital for new centers and surgeons who wish to learn and start performing this technique, in an operation where every detail matters. Also, in the manuscript we describe, and show in figures, robotic mitral valve repair thoroughly and we are not aware of any other publication that includes so many different technical aspects.

Reviewer B

The authors provide us very informative details regarding robotic mitral valve repair technique. The manuscript contains step-by-step explanation of robotic procedures. It helps understanding of a safe robotic mitral valve repair. The authors provide us very informative details regarding robotic mitral valve repair technique. The manuscript contains step-by-step explanation of robotic procedures. It helps understanding of a safe robotic mitral valve repair.

Comment 1 “The authors provide us very informative details regarding robotic mitral valve repair technique”

Reply 1 Thank you very much for your comments. This reviewer appreciates the detailed way we present the procedure and points out that we help others to conduct robotic mitral valve repair safely.

Reviewer C

This manuscript describes how to perform robotically assisted mitral valve repair precisely. This information is useful especially for the teams planning to start robotic cardiac surgery program. In that context, some additional information may be helpful for the readers.

1. Placement of right mini-thoracotomy using both hands seems easy and useful, but hard to understand the concept. Usually in robotic mitral surgery, mini-thoracotomy is made at 4th ICS. The authors need to explain why they use this maneuver.

Comment 1 “Placement of right mini-thoracotomy using both hands seems easy and useful, but hard to understand the concept”

Reply 1 Thank you very much for your comments. This reviewer refers to our method to find the correct interspace for placement of the primary incision. We agree that “ Usually in robotic mitral surgery, mini-thoracotomy is made at 4th ICS“. Our method described usually results with the mini-thoracotomy being placed into the 4th ICS. This was stated in our video in minute 1:14. For added clarity we have now added this comment to our manuscript on **line 154**.

When placing the mini-thoracotomy it is important to have a reliable, reproducible way of knowing where in the interspace itself to make the mini thoracotomy. The method we used and described in the text is, in our opinion, a straight forward way to mark the location of the mini-thoracotomy. We have successfully applied this method in all our robotic mitral valve cases and think it is a simple and creative way to find the appropriate location for opening of the chest. One of the leaders in robotic mitral surgery Dr. Sloane Guy follows a similar approach and also states that the middle of the chest is usually where he places the minithoracotomy. We apply a similar method for port placement on the left chest in robotic CABG. We have added to the manuscript a referral to a time point in our video where we describe this technique on **line 156**.

2. The authors should also state how long the incision of the mini-thoracotomy is.

Comment 2 Length of the minithoracotomy

Reply 2 The mean length of our minithoracotomies is 6.4 ± 1.2 cm and is measured in all operative cases. This has been added to our manuscript on **line 157**.

3. The authors use the mini-thoracotomy as Camera port, as well. Please explain the advantage and disadvantage of this method.

Comment 3 „The authors use the mini-thoracotomy as Camera port, as well. Please explain the advantage and disadvantage of this method.“

Reply 3 The advantage of this method is that no separate port hole needs to be placed for the camera port. The disadvantage is that the incision is a little longer (around 1cm more). We have added a short description of this to **line 167**.

4. In this presentation, the authors used a flexible annuloplasty band. Is their suturing technique applicable to other type of annuloplasty ring or band? For example, rigid or semi-rigid band.

Comment 4 „The authors used a flexible annuloplasty band. Is their suturing technique applicable to other type of annuloplasty ring or band? For example, rigid or semi-rigid band.“

Reply 4 This technique is harder to do with a rigid or semi rigid band.