Author’s response to reviews

Title: A case report on epicardial ultrasonography of coronary anastomoses using a stabilizing device without the use of ultrasound gel

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Point-by-point response to reviewer reports:

Reviewer #1: The Authors report z case where cagualated blood was used to facilitate the imaging of a distal anastomosis using a Medistim ultrasonography probe. I used this system for years and I never used any gel. Furthermore, the new Medistim MiraQ combines in a single system ultrasound imaging and TTFM. I think that this case report is not interestoing.

Comment/Response: The Medistim MiraQ system is ofcourse well known and is in use in many centres combining ultrasound imaging and TTFM, but it may difficult to keep the ultrasound transducer in steady contact med the anastomosis on the beating heart without causing any deformation of the anastomosis scanned. We present a new technique for overcoming this potential problem as mentioned in the abstract and in the introduction. No changes was made in the manuscript in relation to the comments from reviewer 1, as we are sure that reviewer 1 never used the technique described in the present case report in order to overcome the risk deformation of the anastomosis.

Reviewer #2:

The approach is interesting, but I think what is interesting here is the method and technique utilized. The case itself is of minimal interest. I would make some nice drawing showing how the device works. Maybe also a closeup of the device to clarify the function. Most people use Gel (although I believe that no gel is approved as indicated by the authors.

Response: We agree that a closeup drawing of the Echoclip device may improve the case report and we therefore inserted a closeup drawing of the echoclip device (new Fig 1, Line 83). The numbers of the figures have been changed consecutively in the text and in the figures themselves as we added a new Fig 1.
Yes, ultrasound gel is not approved for application in the pericardial space even if surgeons have used that for many years and still do – as mentioned by reviewer 2. In this case report we offer the readers information regarding a new scanning technique to be used without the use of gel in combination with a stabilizing device.

Questions

Is it possible to use the device with the heart in position after administration of protamine?

Answer: This will need probably need development of a handle to be connected to the device, and this should be studied in the future. We have added the following text to the discussion (lines 113-116): “Development of a handle attached to the echoclip device will probably be needed if ultrasound imaging is to be performed during off-pump surgery on the backside of the heart, and if imaging is need after administration of protamine.”

Are you combining the procedure with TTFM?

Answer: Yes. TTFM should always be performed together with ultrasound imaging. This is already described in the text (line 99) and we did not make any further changes in the text regarding this.

Is the device reusable or disposable?

Answer: The device is disposable, and we added this information to the text (Line 82).

Is the device commercially available? If it is owner/developer should be mentioned.

Answer: This is important information, which should certainly be included in the text. We have added the following text (lines 88-89): “The echoclip device, which is not commercially available yet, is a disposable article which comes in different sizes.”

The corresponding author is co-inventor of the echoclip device as mentioned under the section “Competing interests”. No further changes are made in the manuscript according to this.

Is there any chance that the device could obstruct flow?

Answer: An important question. We have added the following to the text (lines 84-88): The surgeon should make sure that the graft is located in the cavity of the stabilizer in order to avoid obstruction of the graft flow during the scanning procedure. The echoclip device is created such that slippery excess coagulated blood and ultrasound gel (if this will be approved in the future) are allowed to escape from the cavity during scanning.