Author’s response to reviews

Title: How I Do It: Feasibility of a new ultrasound probe fixator to facilitate high quality stress echocardiography

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Author’s response to reviews:

Dear doctor Sicari,

We would like to thank the editor and both the external reviewers for the valuable comments and suggestions. We feel that the raised points are of great additional value for our work. According to these comments and suggestions we revised the manuscript substantially. The changes made are described in detail below. Afterwards, the comments of the reviewer are written, followed by our answers.

In general:

1. In the first manuscript, we merely described the technique of the Probefix. After applying Probefix in 2 healthy volunteers we postulated that this technique may improve the implementation of stress echocardiography. We agree with the reviewers that this hypothesis is indeed premature. As a consequence, we now have revised our manuscript substantially and included new data that we obtained from testing in healthy volunteers and in patients from our cardiology department (included in the “Methods” and “Results” section, page 6-8). The aim of the revised manuscript therefore is, not only to describe the technique of the Probefix, but also to test its’ feasibility.

2. Additionally, because we describe a newly developed tool, the current version of our manuscript also elaborates more on possible applications and possible benefit offered by the Probefix. The “Introduction” and “Discussion” section therefore also have been substantially revised.
3. We have emphasized in our manuscript that this article is meant to describe the technique and explore the possibilities of Probefix in the field of (stress) echocardiography. We tested the feasibility of the Probefix is a small pilot study. Validation and scientific proof of the efficacy of the device must and will be further studied in a larger patient cohort.

Reviewer #1

Major comments:

Much more is needed in terms of validation of the added value of the probe fixator. In particular: i) "Implementation" section should include, beside the description of the new technology, also the detailed methods adopted to test it. ii) As a consequence of the previous point, the "Results" section, beside general consideration regarding the image quality, should refer also to quantified data that clearly show the added value of the introduced system. As an example, reproducibility of the obtained echo measurements with or without the probe fixator might be investigated.

Response. The purpose of our manuscript is to describe, for the first time, a new medical tool for enabling continuous echocardiographic monitoring over time. With this manuscript we intent to describe the possibilities that Probefix offers. We agree that more data is required to convince readers of its’ utility. Therefore we have added new data to our manuscript, which is to be found in the “Methods” and “Results” section.

We have tested Probefix in healthy volunteers and in patients from our outpatient clinic, and demonstrated that using the probefix during stress echocardiography is feasible and easy to perform. Large scale verification however on the added value of the product, together with verification of its’ reproducibility is still needed at this point, and further studies will follow.

Reviewer #2

Minor comments:

This is a short report about a newly developed tool to fixate the ultrasound probe to the patient's chest during exercise echocardiography testing. The Authors tested the Probefix in 2 patients.

- The Authors tested the tool in only 2 patients. Therefore, this study can be considered only as a pilot study.

  o please, indicate it in the title;

  o the Authors have to emphasize, that this was only a pilot study and a large scale verification is needed at this point.

Response. Both comments are implemented in our manuscript. Additionally, we have added more patient data to our pilot study too strengthen our conclusion that performing stress
echocardiography with Probefix is feasible, not only in healthy volunteers but also in patients. More studies in echocardiography laboratories for daily practice usability are indeed needed.

We hope that with the changes made to our manuscript, we have convinced the external reviewers of possible implementations of the Probefix. We feel that our manuscript has significantly improved and await your decision.

Kind regards,

On behalf of the co-authors,

Odette Salden, M.D.