

Peer Review File

Article information: <https://dx.doi.org/10.21037/jovs-23-27>

Reviewer: 1

Reply 1: This was a very insightful comment - we thank the reviewer for their careful evaluation of our work. We have amended the manuscript as suggested. Please see below for individual line changes.

Comment 1:

1. What about infective endocarditis? Lilo et al have published some case series regarding the opportunity to treat uncomplicated IE with Perceval
 - a. We agree with the reviewer, the citation has been added. Section 2.9, lines 202 – 204.
2. Could you report the overall rate of IE with Perceval? An important advantage of these prostheses is that do not have sutures, are atraumatic, and, therefore less foreign material.
 - a. We agree with the reviewer, the citation has been added. Section 2.9, lines 219 – 220.
3. Regarding Redo, a large case series published by Glauber et al reported outcomes of Perceval in redo cases. (Sutureless Valve in Repeated Aortic Valve Replacement: Results from an International Prospective Registry, Innovation). This paper should be reported and commented.
 - a. We agree with the reviewer, the citation has been added. Section 2.9, lines 202 – 204.
4. Regarding minimally invasive approach, Miceli and Fischlein reported a paper using Perceval with mini-thoracotomy and mini-sternotomy. Again, please report it and discuss it, especially because no mention has been done regarding mini-thoracotomy approach.
 - a. We agree with the reviewer, the citation has been added. Section 2.11, lines 254 – 257.
5. Miceli et al reported outcomes of patients undergoing RT with Perceval vs TAVI EJCTS. In addition, look at if there are published some meta-analysis.
 - a. We agree with the reviewer, the citation has been added. Section 2.11, lines 268 – 273.
6. A window on potential piastinopenia should be done despite being clinically irrelevant.

- a. We thank the reviewer for his comment. We elected not to include this condition given that it is not a clinically significant problem and lies outside the focus of our review.

Reviewer: 2

Comment 2: The authors should be congratulated for their article aiming to achieve a complete overview of the sutureless generation valves. The article is well-written and pleasant to read. I have one minor comment regarding the illustrations. I would perform a more detailed central illustration reassuming the advances in the clinical indications for sutureless valves with respect to the technical novelty of the valves (e.g.: the cage design that allows implantation in the dilated aortic annulus or aortic aneurysm or the lack of sewing ring which makes implantation easier in case of valve-in-valve procedure).

Reply 2: We thank the reviewer for their insightful comment. We have included Figures 3 and 5 per their suggestion.

Reviewer: 3

Comment 3: Allen et al. provide a review on the current knowledge on sutureless bioprostheses. This paper highlights the history and problems related to the use of such devices. They also indicate the possible improvements of the future generations aiming to improve their performance. The paper would be improved with some designs showing the surgical techniques used for implantation and including pictures of the original and new models of the prosthesis. The reference section is incomplete since a recent important article on the use of sutureless bioprostheses in challenging surgical situations has been omitted (Vendramin I et al. Use of sutureless and rapid deployment prostheses in challenging reoperations. Review of the current evidence. J Cardiovasc Develop Dis 2021; 8:74; doi.org/10.3390/jcdd8070074).

Reply 3: We thank the reviewer for their insightful comment. We agree with the reviewer, the citation has been added. We have amended the manuscript as suggested to include this article (Section 2.4, lines 140 – 144 and Section 2.7, lines 194 - 199). We also included Figures 4 and 5, as suggested, to supplement the surgical techniques used for implantation.

Reviewer: 4

Comment 4: Since there are similar reviews in the past already, I am not sure how much additional evidence this article would add.

Reply 4: We thank the reviewer for the insightful comment. We hereby present the latest evidence given the rapidly accumulating body of evidence in this field.

In addition, this article only mentioned about Perceval valve but not regarding Edwards valve.

- a) This review was designed to discuss the Perceval sutureless valve given its unique design and deployment system. We did not intend to compare the Perceval vs the Edwards Intuity, which lies beyond the scope of this review.

Also, this article does not mention about downsides of using this prosthesis such as dislodgement, underinflation, undersizing/oversizing, etc.

- a) We agree with the Reviewer. We have added a few notes that discuss these issues with the use of these types of valves (Section 2.3, lines 124 – 127).

Finally, for the purpose of this journal, I do not know if this type of regular review article is suitable for JOVS.

- a) We thank the Reviewer. We hope the updated version of this article, including the addition of more diagrams, is more compliant with the style of the articles published in the JOVS.