Reviewer’s report

Title: In-vitro and In-vivo Evaluation of a Novel Bioprosthetic Pulmonary Valve for Use in Congenital Heart Surgery

Version: 0 Date: 22 Nov 2018

Reviewer: Jacob Bergsland

Reviewer's report:

This is an exciting paper that will be interesting for the readers once revised. The construction of a bio-absorbable valve is described and tested in vitro and in a single animal experiment.

The authors show that the valve has acceptable function both in a pulse duplicator and in a single acute pig experiment. The animal experiment was preceded by another animal procedure which was performed to study pulmonary artery pressures and the normal pulmonary valve and its diameter.

Obviously a single animal case is not that much to report on, but this could potentially be an important device for use in growing children. However, I think the paper should be shortened a lot. There are too long descriptions of procedures, pressure measurements etc for reporting on only one experiment. It would be interesting to see some more pictures and illustrations of the valve itself, unless the authors are concerned about their potential IPR interests.

It would be interesting to see a bit more about the potential use of this valve. Maybe the use of interventional valve implantation (Melody) should be mentioned and also the possibility that this valve could be used in an interventional setting?

In conclusion I think that this contribution should be published as a brief report rather than a full paper, this could be done at a later date when there are more animals to report on.

Level of interest
Please indicate how interesting you found the manuscript:

An article of importance in its field

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published
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