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: 17 Nov 2018

Reviewer: Jonathan Buber

Reviewer's report:

Thank you very much for the opportunity to review the manuscript entitled "In vitro and in-vivo evaluation of a novel bioprosthetic pulmonary valve for use in congenital heart surgery" by Rasmussen et al. In this very well written manuscript, the authors design the design and the very initial experience in a (single) animal model of a novel bioprosthetic made from SIS-ECM with a basal non closed ring of LactoSorb for stabilization, which according the authors "does not promote foreign body reactions" and absorbs 12-18 months after the implantation.

The authors describe in detail the making of the valve and its testing in-vitro and in a single porcine in-vivo model. The acute hemodynamic outcomes showed a peak gradient of 10 mm Hg and mild regurgitation.

Although these initial results are promising and appear to be well-substantiated, I do not think that they are sufficient to warrant a publication in a clinically-oriented journal as of yet. The results are limited to hyper-acute hemodynamics in a single animal whereas the potential advantages of this specific valve, which include longer term longevity and growth, as well longer term favorable hemodynamics, are not reported here and are of greater interest to the readers of this and other clinically-oriented journals. I therefore think that at this point, reporting these results in a bioengineering journal will better suit this manuscript.

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