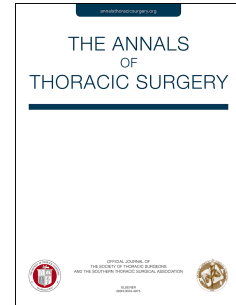


# Accepted Manuscript

Self-Expandable Stentless Valve Versus Rigid Stented Valve: The Matter Of The Right Comparison

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PII: S0003-4975(18)30191-7

DOI: [10.1016/j.athoracsur.2018.01.053](https://doi.org/10.1016/j.athoracsur.2018.01.053)

Reference: ATS 31348

To appear in: *The Annals of Thoracic Surgery*

Received Date: 4 January 2018

Accepted Date: 17 January 2018

Please cite this article as: Miceli A, Glauber M, Self-Expandable Stentless Valve Versus Rigid Stented Valve: The Matter Of The Right Comparison, *The Annals of Thoracic Surgery* (2018), doi: 10.1016/j.athoracsur.2018.01.053.

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## **Self-Expandable Stentless Valve Versus Rigid Stented Valve: The Matter Of The Right Comparison**

*To the Editor:*

The article by Liakopoulos et al study reports interesting outcomes between Perceval S (Livanova, London, UK) and Intuity valve (Edwards Lifesciences, Irvine, CA)<sup>1</sup>. Both valves provide good results, although at discharge, the indexed effective orifice area (EOA) was higher in the Intuity group. However, an analysis of this study arouses some concerns. Authors compared a stentless sutureless valve versus a stented fast deployment valve with no information regarding the surgical indication. Furthermore, each valve is characterized by its gradients and EOA and surgeon's choice could be different according to their proprieties.

EOA is an "in vivo" functional measure of hemodynamic performance of a valve, and depends on the geometric area of the prosthesis, the size and shape of left ventricular outflow tract and ascending aorta, annulus-prosthesis interaction and cardiac output. In this regard, EOA was estimated elsewhere, taking no consideration on the variables that might affect EOA<sup>1</sup>. It would have been useful to know their "effective" EOA, in order to give additional information on hemodynamic performance. An in-vitro study demonstrated that Perceval S shows the greatest EAO when compared with other stented valves on small annuli<sup>2</sup>. These results are probably related to its stentless properties; being an expandable prosthesis, the internal diameter can adapt in size to that of the ventricular-arterial junction, resulting in a less flow disturbance and reduced mechanical energy, with benefit in fluid dynamic performance. Nevertheless, authors relied more on indexed EOA, which is more related to patient's size. Looking at the baseline characteristics, groups were different in sex, weight and body surface area, well-known variables, which affect the indexed EOA. A fair comparison would have matched patients with similar characteristics. Finally, Perceval size may fit in different annulus dimension and therefore not directly comparable with Intuity valve. Specifically, Perceval size S corresponds to a 19-21 mm aortic annulus diameter, size M to 21-23 mm, size L to 23-25 mm and XL to 25-27 mm. Because of this overlapping, we would have

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