



# Can we assess which is better? – transcatheter or surgical aortic valve replacement in intermediate or lower risk patients with chronic obstructive pulmonary disease

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Provenance: This is an invited article commissioned by the Section Editor Shuangjiang Li (Department of Thoracic Surgery and West China Medical Center, West China Hospital, Sichuan University, Chengdu, China).

Response to: Lv WY, Li SJ, Chen M. Optimal mode of aortic valve replacement in patients with chronic obstructive pulmonary disease-which helps patients gain more benefit? J Thorac Dis 2019;11:S446-7.

Submitted Jan 15, 2019. Accepted for publication Feb 12, 2019.

doi: 10.21037/jtd.2019.02.06

View this article at: <http://dx.doi.org/10.21037/jtd.2019.02.06>

We appreciate the editorial by Lv *et al.* on our published manuscript in the *Journal of American Heart Association*, entitled “Is Transcatheter Aortic Valve Replacement Better Than Surgical Aortic Valve Replacement in Patients With Chronic Obstructive Pulmonary Disease? A Nationwide Inpatient Sample Analysis” (1). We read the editorial with great interest and therefore would like to expand the discussion on whether the similar results could be expected in lower surgical risk patients, which was pointed by them.

As pointed out by Lv *et al.*, the next important clinical question is whether these results could be replicated in intermediate and further down the road, in low surgical risk patients. In order to examine these questions, a database with a large cohort with clinical outcomes of interest specific for a respiratory system such as pneumonia, tracheostomy, use of non-invasive ventilation, and respiratory failure examined in our study are required. Because the Nationwide Inpatient Sample database does not capture commonly used surgical risk scores in evaluating aortic valve replacement candidates such as the Society of Thoracic Surgeons score (STS) and the EuroSCORE, it is difficult to identify those at intermediate or low surgical risk cohort from the more recently released version of the Nationwide Inpatient Sample database. Furthermore, the decision of surgical risk is not solely based on the risk score but many other

considerations come into play and ultimately determined by the multi-disciplinary heart team.

Large registry such as the Transcatheter Valve Treatment Registry do capture information regarding the history of chronic lung disease with its severity (mild, moderate, or severe), which was not available in our study, but do not have respiratory specific outcomes (2). In large randomized trials assessing the outcomes between transcatheter aortic valve replacement (TAVR) and surgical aortic valve replacement (SAVR) such as the PARTNER 2 and SURTAVI trials likely do not collect these outcomes because respiratory specific outcomes are not defined in the Valve Academic Research Consortium-2 (3).

Those considered at intermediate and low surgical risk patients will less likely have a severe chronic obstructive pulmonary disease (COPD) because then those patients will likely be considered as high surgical risk and therefore, the benefit of TAVR will likely be attenuated when these two replacement modalities are compared in mild or moderate COPD.

For these reasons, currently, we consider that it is difficult to assess the perioperative respiratory specific outcomes between TAVR and SAVR in COPD patients at intermediate or low surgical risk patients from a large database.

## Acknowledgements

None.

## Footnote

*Conflicts of Interest:* The authors have no conflicts of interest to declare.

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**Cite this article as:** Ando T, Takagi H. Can we assess which is better?—transcatheter or surgical aortic valve replacement in intermediate or lower risk patients with chronic obstructive pulmonary disease. *J Thorac Dis* 2019;11(Suppl 3):S474-S475. doi: 10.21037/jtd.2019.02.06