**Valve-in-valve Transcatheter Mitral Valve Replacement versus redo Surgical Mitral valve replacement in degenerated bioprosthetic Mitral valve: Analysis of National Inpatient Sample**

**Background:**

Valve-in-valve Transcatheter Mitral valve replacement (ViV TMVR) is considered as an acceptable alternative to redo surgical mitral valve replacement (SMVR) in patients with bioprosthetic mitral valve dysfunction who has high or prohibitive surgical risk. In our study we compared the real-world outcomes between ViV TMVR and redo SMVR using National inpatient Sample database.

**Methods:**

Hospitalizations for TMVR or redo SMVR with prior bioprosthetic valve were identified between 2015 to 2018 using the appropriate International Classification of Diseases, 10th edition. Outcomes of interest were all-cause in-hospital mortality and procedural complications including major bleeding, TIA/Stroke, AKI, and need for blood transfusions. Multivariate regression was used to obtain odds ratio and statistical significance was set at a P-value of <0.05. All analyses were performed using SAS, version 9.4 (SAS Institute Inc.).

**Results:**

A total of 2015 hospitalizations were identified who had undergone either TMVR (n=225) or SMVR (n=1790) for previous bioprosthetic MV failure. The mean age of patients in ViV TMVR group was 72 years and in redo SMVR group was 62 years. The all-cause in hospital mortality was similar in percutaneous and redo surgery group (8.89& vs 7.26%, P=0.38). The rates of stroke (0% vs 3.63%, p=0.003), major bleeding (6.7% vs 11.4%, P=0.03), and blood transfusion (11.1% vs 29.3%, P=<0.0001) were lower in ViV TMVR group. The rates pericardial effusion was higher in ViV TMVR group (8.9% vs 2.23%, P=<0.0001) compared to surgical group. (Table 1)

**Conclusion:**

There is no difference in in-hospital mortality between ViV TMVR and redo SMVR, while the peri-procedural complications were lower among ViV TMVR group. ViV TMVR is a feasible option for selected patients with bioprosthetic mitral valve dysfunction and studies with long-term outcomes are needed.

**Table 1. Outcomes**

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| Outcomes | TMVR + h/o valve replacement  N=225 | SMVR + h/o valve replacement  N=1790 | p-value |
| All cause in hospital mortality, n (%) | 8.89% | 7.26% | 0.38 |
| Major bleeding | 6.67% | 11.45% | 0.03 |
| Acute ischemic stroke | 0.00% | 3.63% | 0.003 |
| AKI | 24.44% | 28.77% | 0.17 |
| Blood transfusion | 11.11% | 29.33% | <0.0001 |

P value <0.05 indicates clinical significance.