# Analysis of length of stay after transfemoral transcatheter aortic valve replacement: results from the FRANCE TAVI registry

Authors

Citation

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#### **Objectives**

- Evaluate the length of stay (LOS) in hospital after transfemoral (TF) transcatheter aortic valve replacement (TAVI)
- Identify predictive factors for prolonged hospitalisation after TF TAVR
- Identify if early discharge from hospital after TF TAVI is safe

## **Study design**

Retrospective analysis from the prospective registry

## **Materials and methods**

FRANCE TAVI registry includes data from all patients who have had TAVI in 48 of 50 active centres in France and who volunteer to participate

This study evaluated data from 5857 patients who underwent TF TAVI between January 2013 and December 2015

- For objective 1, LOS was calculated from TAVI procedure (day o) to discharge, and centres were categorised according to median LOS to evaluate a potential centre effect on LOS
- For objective 2, a multivariable analysis of baseline characteristics and in-hospital outcomes was used to assess risk factors for late discharge

## **Key results**

- Composite endpoint of all-causes death or repeat hospitalisation within 30 days occurred in 3.3% of patients in very early and early discharge groups and 3.5% of patients in late discharge group.
- LOS was highly variable among centres, with the median LOS being 7 days
- Early discharge (<3 days) was feasible and safe

Factors associated with early or late discharge from hospital

Predictive factors for late discharge	Predictive factors for early discharge
<ul> <li>Female patients</li> <li>Co-morbidities</li> <li>Severe complications (tamponade, stroke, vascular complications, acute kidney injury)</li> <li>Use of self-expandable prosthesis</li> <li>General anaesthesia</li> <li>Centre effect</li> </ul>	Presence of a pacemaker before TAVR

#### **Study Limitations**

- The study was retrospective, so should be considered hypothesis generating only
- Reasons for prolonged LOS are not included in the FRANCE TAVI database so other factors may contribute to LOS after TAVR\*
- The influence of electrocardiogram changes, frailty or early ambulation on LOS was not evaluated
- Only patients who were discharged at home were included

#### Conclusions

- There is a high variability of LOS after TF TAVI in France
- Co-morbidities, complications, type of transcatheter heart valve and the mode of anaesthesia are factors that contribute to prolonged hospitalisation
- Early discharge is safe and potentially associated with better outcomes long term
- Prevention and early detection of complications, early mobilisation and early discharge influence LOS and may improve outcomes after TF TAVI

## Definitions

Transfemoral (TF) transcatheter aortic valve replacement (TAVI)

• Vascular access is gained via the femoral artery, inserting a catheter in the lower limb and guiding it into the heart in order to carry out the TAVI procedure<sup>1</sup>

Multivariable analysis

• The observation and analysis of more than one statistical variable at a time (in this study, variables were patient characteristics and outcomes), allowing associations between variables to be analysed.

\*In an additional study by Durand et al., 31.6% of patients experienced delayed discharge for no apparent reason.<sup>2</sup>

#### References

1.Al-Balah A, Naqvi D, Houbby N, et al. Comparison of outcomes following transfemoral versus trans-subclavian approach for transcatheter aortic valve Implantation: A meta-analysis. Int J Cardiol Heart Vasc. 2020 Nov 6;31:100668.

2. Durand E, Le Breton H, Lefevre T, et al. Evaluation of length of stay after transfemoral transcatheter aortic valve implantation with SAPIEN 3 prosthesis: A French multicentre prospective observational trial. Arch Cardiovasc Dis. 2020;113(6-7):391-400.

