Feasibility and safety of early discharge after transfemoral transcatheter valve implantation with balloon-expandable prosthesis: a prospective study

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Introduction
There is currently no consensus on the duration of hospitalization required after transfemoral transcatheter valve implantation (TF-TAVI).

We recently reported, retrospectively, that early discharge (within 3 days) was feasible in 31% and safe without any death and a low rate of re-hospitalization at 30 days. We therefore aimed to confirm the feasibility and safety of early discharge after TF-TAVI in a prospective study.

Methods
After implementation of an early discharge pathway in our center in January 2014, we included prospectively, between January 2014 and January 2015, 130 consecutive patients scheduled for TF-TAVI with Edwards prosthesis using exclusively local anesthesia. The primary end-point combined death and re-hospitalization occurring to 30-day follow-up. The proportion of early discharge (within 3 days) and the cause of ‘non-early’ discharge were also assessed.

Results
During the studied period, the mean length of stay was 4.0±2.7 days and 76 (58.6%) patients were discharged early within 3 days including 55 (42.3%) patients discharged within 2 days after the procedure. The main causes of non-early discharge were conduction abnormalities in 33 (25%) patients, major vascular complications in 18 (13.8%) patients, social issues in 11 (8.5%) patients, heart failure in 3 (2.3%) patients, and acute kidney injury in 2 (1.5%) patients. Finally, between discharge and 30-day follow-up, there was no death and only 5 (6.5%) patients required re-hospitalization.

Conclusions
Early discharge is feasible in slightly over 50% of cases in selected patients scheduled for TF-TAVI using a balloon-expandable and local anesthesia, and is associated with no death and a very low rate of readmission at 30 days. The two main causes of non-early discharge are occurrence of new conduction disturbances and major vascular complications.

The author hereby declares no conflict of interest

A phenotypic study of ARHGAP24 mitral valve prolapse suggests a genetic origin for fibro elastic deficiency

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Mitral valve prolapse (MVP) by Barlow disease is recognized a genetic disease. Fibro-elastic deficiency (FED)-MVP is considered a pure degenerative disease for FED-MVP. Only the PML was elongated (8.2±1.6 vs 6.0±1.2mm/m², P=0.0003) in the mutated group, leading to an anterior displacement of the coaptation point (51±11 vs 66±7%, P=0.0003). Abnormal mitral phenotype (70% of MVP, 23% of MVP prod) and mitral regurgitation (93 vs 38%, P=0.0007) were frequent in the mutated group. Two probands were operated for severe MR related to chordal rupture; histological examination confirmed the leaflets thinness.

ARHGAP24 is the first gene for autosomal dominant inherited MVP. Our limited series of patients exhibit typical features of FED-MVP. Our results could change the paradigm of a pure degenerative disease for FED-MVP.

The author hereby declares no conflict of interest

Diagnostic and prognostic value of NT-proBNP on percutaneous mitral commissurotomy (PMC)

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Studies that investigate the secretion of BNP in diseases affecting the atrium are rare. The relationship between N-terminal proBNP (NT-proBNP) and the echocardiographic (TTE) and hemodynamic data were studied in cases of pure and isolated rheumatic mitral stenosis (RMS). 67 patients with MS (41±11 years), and 29 healthy individuals (age 36±11 years) were included in the study. Detailed TTE was performed before, and one and six months after PMC we measured NT pro BNP in systemic venous and left atrial (LA) before, immediately after, and one and 30 days after the procedure.

Results
The plasma levels of NT-proBNP were significantly higher in MS patients than in controls (103.2±16.8 VS 21.5±8.5 pg/mL, p=0.004).We revealed a strong correlation between levels of NT pro-BNP in peripheral vein (PV) and in LA (r=0.819, p=0.001). NT-proBNP was higher in the LA than PV. We released a positive correlation with LA volume (r=0.470, p=0.001 and p=0.001, 0.681 respectively at the LA and at the PV), the absolute value of LV strain (r=-0.524, p=0.001 and r=-0.568, p=0.001) and the pulmonary artery pressure (PAP) (r=0.312, p=0.001 and r=0.586, p=0.001). Negative correlations with LVEF (r=-0.421, p=0.001 and r=-0.462, p=0.000) and the longitudinal movement of the VD (r=0.380, p=0.002 and r=-0.374, p=0.001) were observed. NT pro BNP falls immediately after PMC IN the sinus rhythm (SR) group patients but not in the atrial fibrillation (AF) group. Moreover, LA remodeling at six months is more pronounced in SR (SOG=0.04±0.07 VS 0.2±0.06 in the AF group, LA volume=5.9±6.5 VS 11.7±8.6).

Conclusions
In patients with RMS, NT-proBNP was positively correlated with LA enlargement and the PAP and could be a valuable marker to reflect the structural changes of the LA aftercmP, in patients with SR but not in those with AF.

The author hereby declares no conflict of interest

Degenerative calcific mitral stenosis in patients referred for high surgical risk aortic stenosis: detection and quantification by multi-detector computed tomography

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Background
Mitral annular calcifications (MAC) is a common finding in elderly patients referred for transcatheter aortic valve implantation (TAVI), sometimes responsible of significant degenerative calcified mitral stenosis