In all except 1 of the patients (n = 4; 80%) AVP III implantation was delayed after M-TEER to promote clip stability after endothelization. Although 3 of these patients presented with acute MR (2 with hemodynamic instability), initial M-TEER was sufficient to stabilize and discharge them (one of them was stable for 5.5 years before requiring reintervention). For delayed interventions, AVP III was implanted (2 interclips and 2 commissural, figure 1) at least 3 months after the initial M-TEER. The intervention was planned with a baseline 3-dimensional measurement of the target area by 3-dimensional TEE (Figure 1 bottom right panel). All 4 interventions were successful with a good acute result that was maintained at the follow-up and with good clinical outcome and no hemolytic anemia (in 1 patient, #5, the residual MR was moderate but originated far from the plug implantation).

Patient #3 (n = 1; 20%) presented with an acute MR secondary to massive flail of the posterior leaflet due to chordae rupture and cardiogenic shock. Although M-TEER was performed, severe residual MR in the medial commissure with hemodynamic instability required implantation of an additional AVP III during the same intervention. Despite initial technical and echocardiographic success, the device embolized in the left atrium within the first 24 hours, requiring percutaneous extraction. The patient died during hospital admission due to hemodynamic instability and sepsis.

The longest interventions were those with clip and plug implantation during the same session (table 1).

In conclusion, the placement of an interclip or commissural AVP III occluder device after M-TEER may be a valid option for patients with challenging anatomies and significant symptomatic residual MR after M-TEER with no additional options. A 3-month delay between M-TEER and AVP III implantations seems to be reasonable to promote clip endothelization and avoid clip dislodgement or plug embolization. Further series will be needed to evaluate the short- and long-term results of these procedural alternative in complex mitral anatomies.

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AUTORS' CONTRIBUTIONS

L. Sanchis and X. Freixa: conception and design. L. Sanchis, and C.I. Morr: data collection. L. Sanchis: drafting the manuscript. A. Regueiro, C.I. Morr, M. Sitges, X. Freixa: reviewing and editing the final version.

CONFLICTS OF INTEREST

L. Sanchis, A. Regueiro, M. Sitges and X. Freixa are proctors for Abbott. M. Sitges has received consulting fees from Abbott. L Sanchis is associate editor of Rev Esp Cardiol. The journal's editorial procedure to ensure impartial handling of the manuscript has been followed.

APPENDIX. SUPPLEMENTARY DATA

Supplementary data associated with this article can be found in the online version, at https://doi.org/10.1016/j.rec.2023.03.010

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Initial experience of same-day discharge after transcatheter aortic valve implantation

Experiencia inicial de protocolo ambulatorio de implante percutáneo de válvula aórtica

To the Editor,

Transcatheter aortic valve implantation (TAVI) has become the mainstay treatment for severe symptomatic aortic stenosis in patients older than 75 years. Because this technique is minimally invasive, it reduces both hospital stays and health care resource utilization. The growing number of procedures,[1] however, has placed increasing pressure on coronary care units and cardiology wards. Procedural advances and a better understanding of associated complications have opened a new chapter in which same-day discharge can be safely considered in selected patients undergoing TAVI.[2] The aim of this study was to describe our initial experience with a same-day post-TAVI discharge protocol for pacemaker carriers. Informed consent was obtained from all patients for publication of case details. The study was approved by the ethics committee of our hospital.

We analyzed a 2-month period in which 51 patients underwent TAVI. Three patients (5.8%) were eligible for discharge within the same-day post-TAVI discharge program of the hospital and were included in this study. The inclusion and exclusion criteria and follow-up steps specified in the protocol are shown in Figure 1. The baseline characteristics of the 3 patients discharged on the same

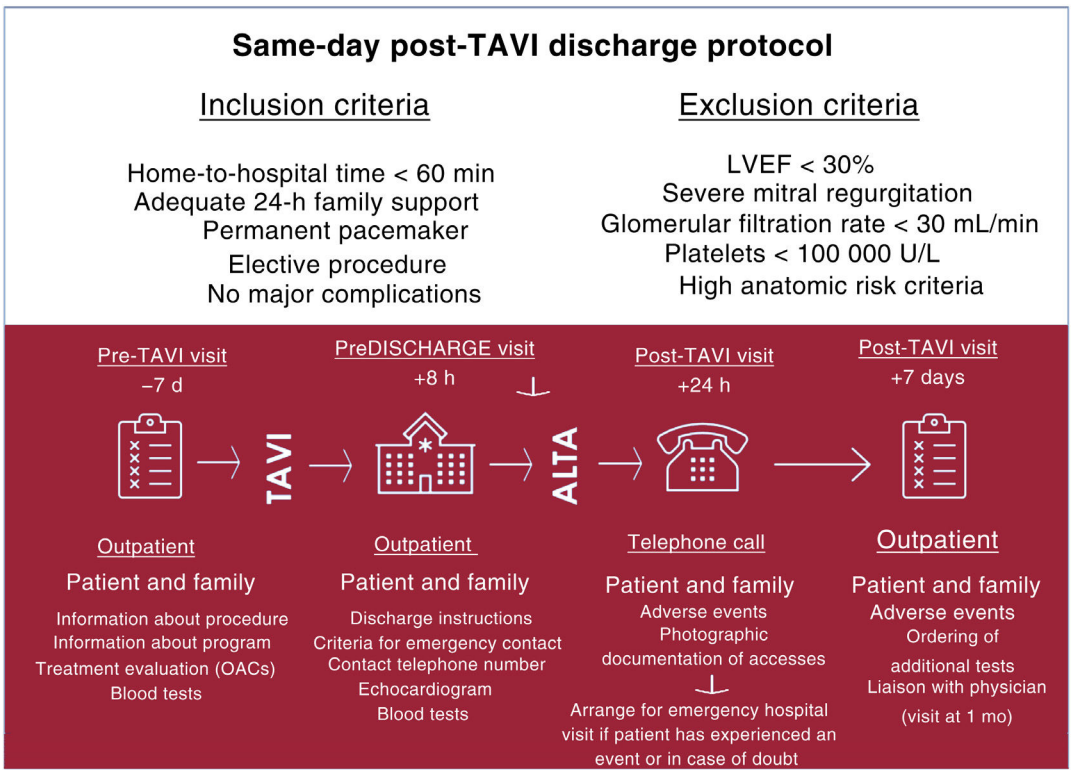

Figure 1. Same-day post-TAVI discharge protocol. A, Inclusion and exclusion criteria. B, Follow-up steps. OACs, oral anticoagulants; LVEF, left ventricular ejection fraction; TAVI, transcatheter aortic valve implantation.

day as TAVI are shown in table 1. All procedures were performed using a minimally invasive approach: local anesthesia without intubation, ultrasound-guided transfemoral access with vascular closure devices, transradial secondary access, or ventricular pacing using a guidewire. The patients were kept under observation for 8 hours. Compression bandaging was removed from the vascular access site 4 hours after the procedure and mobilization started 1 hour later. An echocardiogram and blood tests were performed before discharge. A follow-up telephone call was made 24 hours after the procedure to check for major adverse events, defined as

Table 1
Baseline characteristics of patients eligible for same-day discharge after TAVI and details of procedure

	Patient 1	Patient 2	Patient 3
Baseline characteristics			
Age, y	80	85	87
Sex	Female	Female	Male
NYHA functional class	II	II	II
Atrial fibrillation	Yes	No	Yes
EuroSCORE II score, %	2.07	5.23	1.81
STS risk score	3.12	8.27	2.45
LVEF, %	60	38	55
Mean gradient, mmHg	56	41	36.3
Details of procedure			
Local anesthesia	Yes	Yes	Yes
Primary access	Right femoral	Right femoral	Right femoral
Secondary access	Left distal transradial radial	Right transradial	Left transradial
Valve type	Navitor	Navitor	Navitor
Valve size, mm	27	27	29
Ventricular stimulation	Left ventricle	Left ventricle	Left ventricle
Aortic regurgitation after TAVI	No	No	No
Mean gradient after TAVI, mmHg	2	4	2
Primary access hemostasis	Proglide × 2	Proglide × 2	Proglide × 2
Antithrombotic therapy at discharge	Apixaban	Aspirin	Rivaroxaban

EuroSCORE II, European System for Cardiac Operative Risk Evaluation II; LVEF, left ventricular ejection fraction; NYHA, New York Heart Association; STS, Society of Thoracic Surgeons; TAVI, transcatheter aortic valve implantation.

major vascular complications, major bleeding, acute myocardial infarction, stroke, or readmission with photographic documentation of vascular access sites. Possible complications were ruled out at an outpatient visit 7 days after the procedure. At this visit, all 3 patients were classified as being in functional class I according to the New York Heart Association (NYHA) classification. NYHA functional status remained unchanged at the 30-day visit, and none of the patients had experienced complications or adverse events requiring hospitalization.

The 20th anniversary of the first-ever TAVI procedure, performed by Dr Cribier and his team, was celebrated in 2022. Since its inception, the procedure has undergone numerous modifications in terms of patient selection, technique, valve technology, and postprocedural management. One of the last milestones to be achieved was same-day discharge, which has been shown to be safe in carefully selected patients.[2] A fast-track TAVI discharge program implemented at our hospital during the COVID-19 pandemic proved to be both safe and effective.[3] To our knowledge, the present study is the first to describe same-day discharge for TAVI in Spain. Involvement of a multidisciplinary team including an advanced practice nurse specialized in outpatient interventional cardiology procedures is essential for proper patient selection and education. One of the goals of this team is to assess and inform patients and their families about the procedure and the detection of possible complications. The main limitation of this study is its small sample size. The strict inclusion and exclusion criteria used in the same-day post-TAVI discharge protocol at our hospital limit the generalizability of our findings to less selected patient populations. In conclusion, same-day discharge after TAVI is feasible in carefully selected patients. Larger studies are needed to confirm the safety of the protocol, as well as strategies to evaluate the feasibility of same-day discharge in a broader set of patients, including those without a pacemaker.

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AUTHORS' CONTRIBUTIONS

A. Regueiro conceived and designed the analysis. P. Cepas-Guillen, R. Gabani, T. Espinosa, M. Trilla, and P. Vidal-Calés performed the analysis. A. Regueiro, P. Cepas-Guillen, R. Gabani, T. Espinosa, M. Trilla, and P. Vidal-Calés reviewed and edited the manuscript.

CONFLICTS OF INTEREST

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Validation of a novel score to predict which patients with atrial fibrillation and depressed left ventricular ejection fraction will respond to catheter ablation

Validación de una nueva escala para predecir qué pacientes con fibrilación auricular y fracción de eyección reducida responderán a la ablación con catéter

To the Editor,

Atrial fibrillation (AF) is a complex medical condition with poorly understood mechanisms.[1,2] In some cases, it leads to heart failure (HF), increasing mortality. AF can also cause HF without underlying cardiac issues, known as arrhythmia-induced cardiomyopathy (AiCM).[3] This form of HF can be improved with rate or rhythm control.[4] Diagnosing AiCM is currently impossible without follow-up documentation of left ventricular ejection fraction (LVEF).

Recently, the ANTWOORD study[5] introduced a new prediction model, the Antwerp score, to identify patients with systolic HF due to AF whose LVEF improved after rhythm control via catheter ablation. We aimed to validate the Antwerp score in a retrospective analysis of a prospectively enrolled cohort (SWISS-AF-PVI, NCT03718364) of AF patients undergoing pulmonary vein isolation.[6]

The predictive ability of the Antwerp score was assessed using receiver operating characteristics (ROC) curves and calibration plots. Continuous variables were compared using the Mann-Whitney *U* test or the *t*-test. Low percentages (indexed left atrial volume [LAVI] 7.2%) of missing values were statistically imputed. All statistical analyses were performed using R version 4.2.1.

Between May 2010 and January 2022, 1665 patients underwent catheter ablation for AF. Of these, 1447 (87%) were excluded due to baseline LVEF $\geq$ 50% and 10 (0.6%) were lost to follow-up, leaving a total of 208 patients (median age, 63 [54-69] years, 19% women) in