HIGH TECH MARSEILLE

PALAIS DU PHARO • MARSEILLE •

24 • 25 • 26 JANVIER 2024

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Optimisation du parcours TAVI : études FAST TAVI 2 et BENCHMARK

Flavien VINCENT, MD, PhD

CHU Lille

Background

- TAVI indications are expanding
- TAVR volume is growing
- TAVR centers and medical resources are limited

- How to keep up with demand for TAVI ?
- How to maintain quality of care ?
- Need to optimize patient's pathway of care through dedicated program

Rouen's center pioneering minimalist approach

Transfemoral Aortic Valve Replacement With the Edwards SAPIEN and Edwards SAPIEN XT Prosthesis Using Exclusively Local Anesthesia and Fluoroscopic Guidance

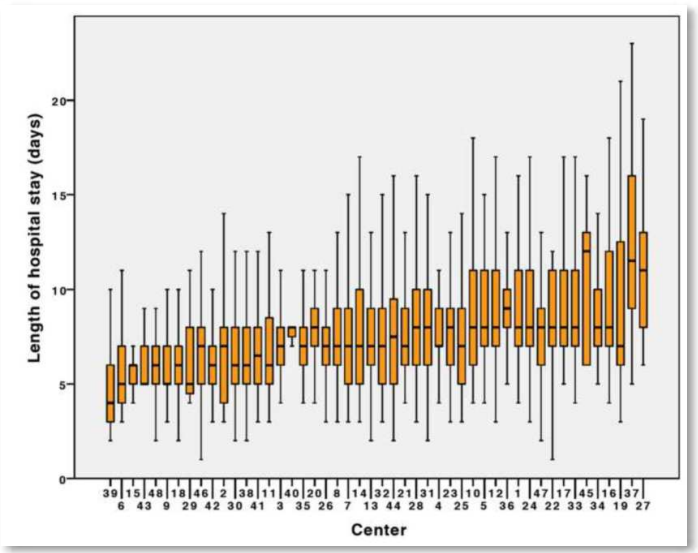
Feasibility and 30-Day Outcomes

Eric Durand, MD, PHD,* Bogdan Borz, MD,* Matthieu Godin, MD,* Christophe Tron, MD,* Pierre-Yves Litzler, MD, PHD,† Jean-Paul Bessou, MD,† Karim Bejar, MD,* Chiara Fraccaro, MD,* Carlos Sanchez-Giron, MD,* Jean-Nicolas Dacher, MD, PHD,‡ Fabrice Bauer, MD, PHD,* Alain Cribier, MD,* Hélène Eltchaninoff, MD*

Vancouver Clinical pathway (2016)

FAST TAVI trial (2019)

Low adoption of early discharge protocols



- **Period 2013 - 2015**
- **Median length of stay = 7 (5-9)**
- **Low rate of early discharge (4.4%)**

Durand et al. Clinical Research 2021


CLINICAL RESEARCH

Evaluation of length of stay after transfemoral transcatheter aortic valve implantation with SAPIEN 3 prosthesis: A French multicentre prospective observational trial

Évaluation des durées de séjour après implantation d'une bioprothèse aortique SAPIEN 3 par voie transfémorale

Eric Durand[a,*], Hervé Le Breton[b], Thierry Lefevre[c],

- **Period 2017 - 2018**
- **Median length of stay = 5 (3-7)**
- **Low rate of early discharge (21.8%)**

Durand et al. ACVD 2020

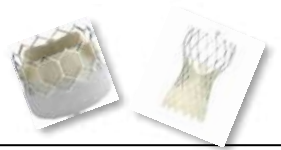
2 clinical studies, 1 goal

Evaluation of the impact of implementation of a dedicated clinical pathway on the length of stay after TAVI

FAST-TAVI II clinical trial

randomization

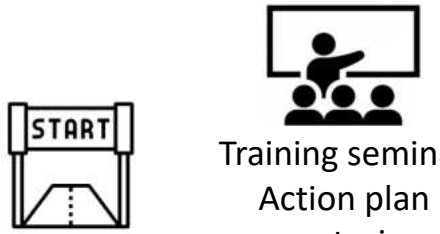
Intervention group (10 centers) n=969	**Control group (10 centers)** n=860
2 months: Training seminar, Action plan, mentoring	No modification of centers practices
START — Enrollment, Follow-up	
13 months	



Primary endpoint : Proportion of patients discharged early (≤ 3 days)

BENCHMARK registry

*28 sites, **7 countries**, 2405 patients*



Before Benchmark best practices implementation

VS

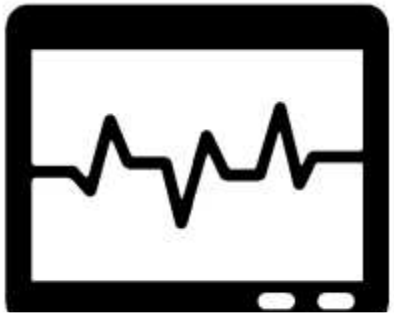
After Benchmark best practices implementation

Primary endpoint: Length of stay (days)

Dedicated TAVR clinical pathway = training program to adopt Logistics and procedural measures

Pre-procedural

- Education medical & paramedical team
- Education patient & family
- Anticipated discharge date at admission



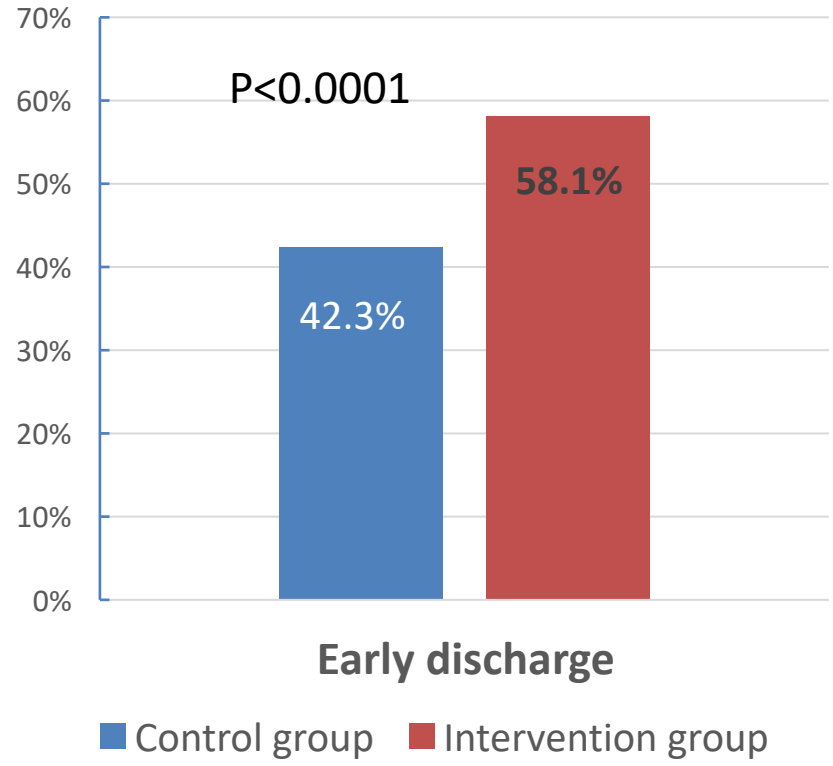
Procedural (minimalist TAVR)

- Echo-guided puncture
- No urinary catheter, radial access
- No deep sedation
- Measures to reduce bleeding
- Measures to reduce AKI
- LV rapid pacing
- 2 hours monitoring in cath-lab

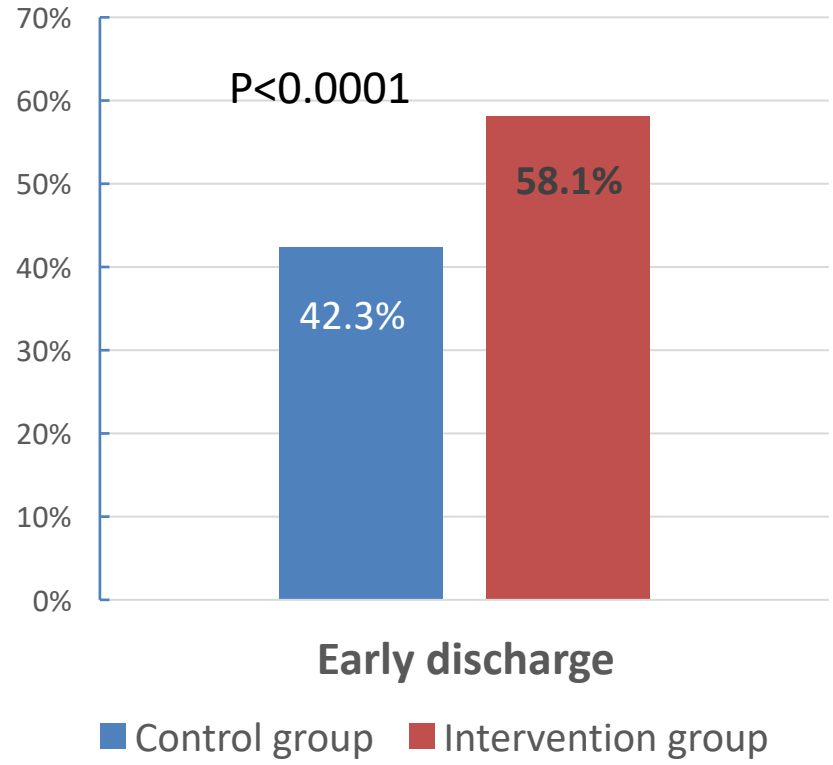
Post-procedural

- Direct transfer to the ward
- Early mobilization
- Pacemaker decision tres
- Daily visit by the implanter
- Criteria based discharge

FAST TAVI 2 primary endpoint

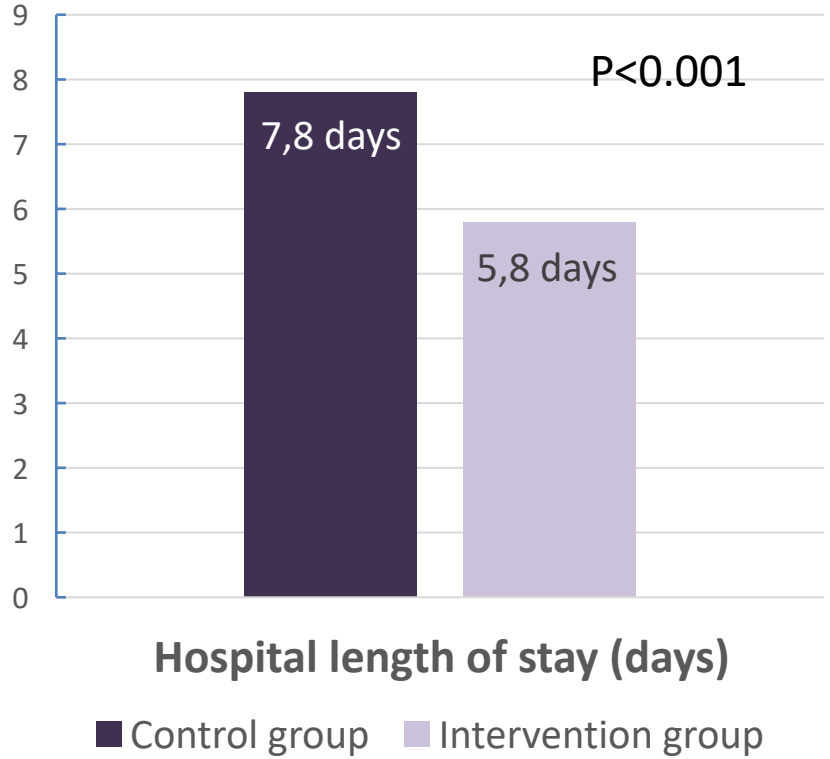


FAST TAVI 2 primary endpoint

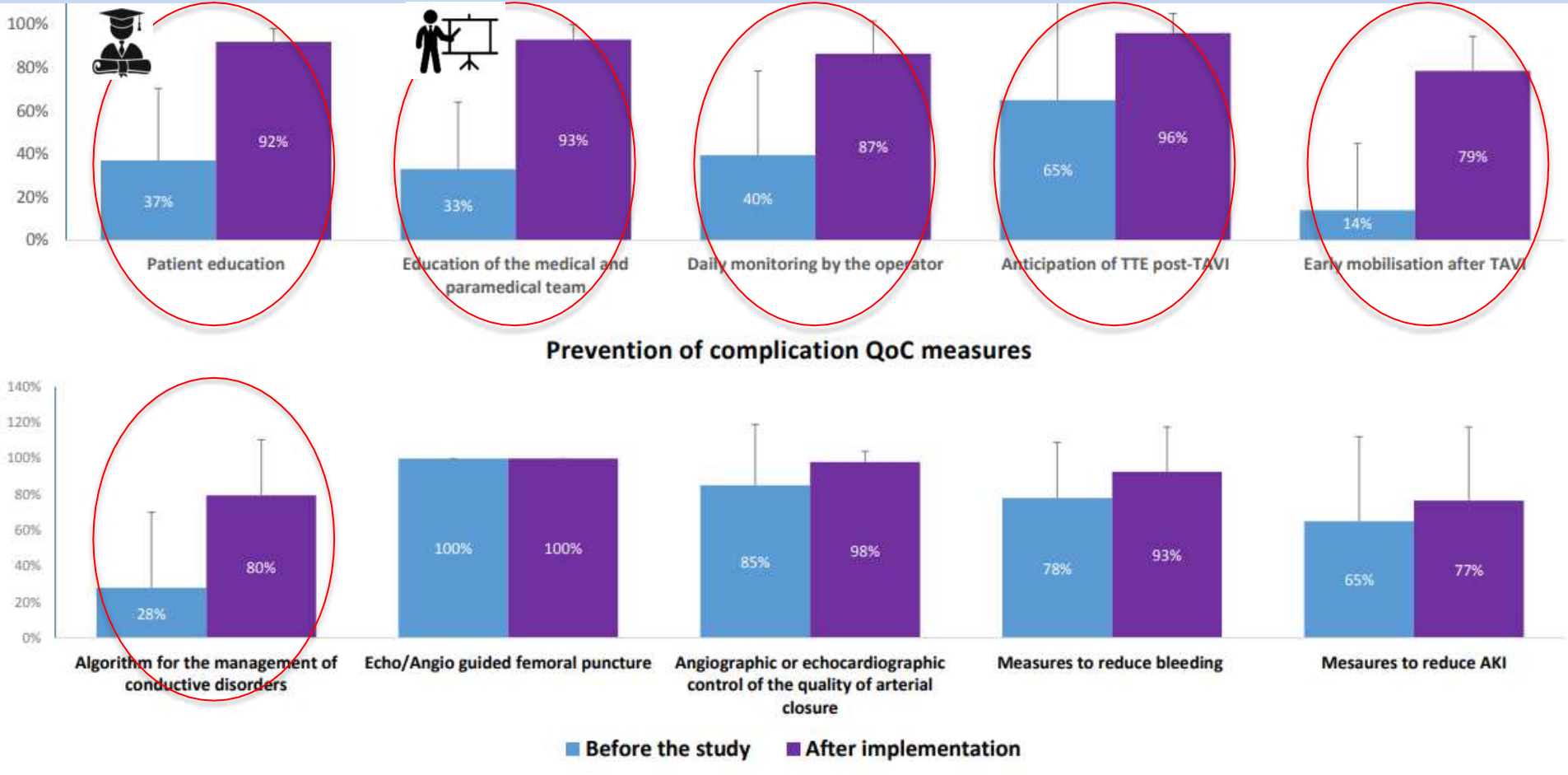


BENCHMARK registry

primary endp

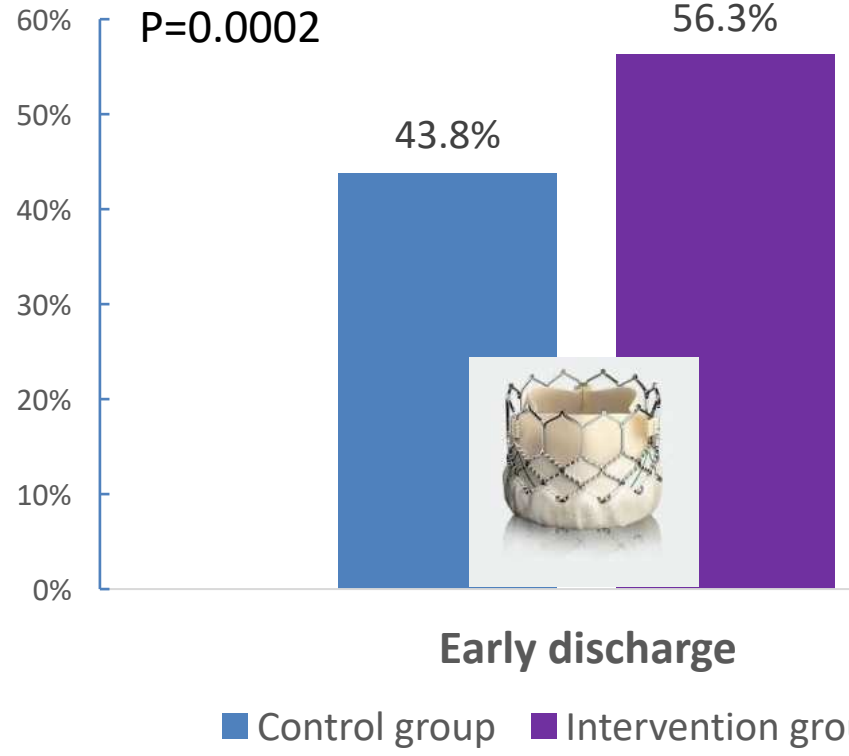


Implementation success of FAST-TAVI 2 practices

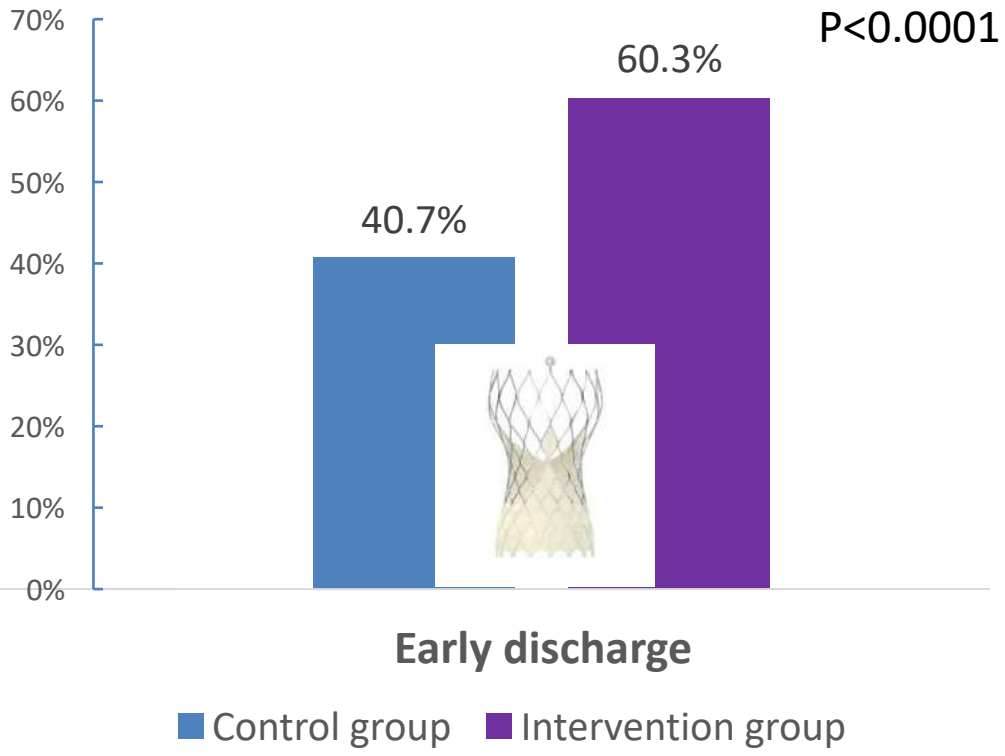


Similar impact on both valves types (FAST TAVI 2)

Balloon-expandable valve



Self-expandable valve

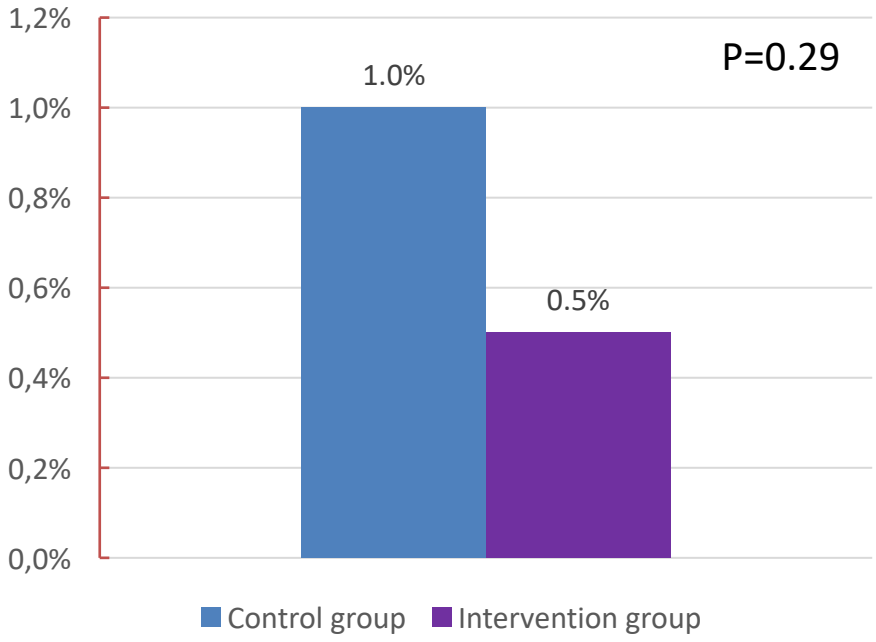


Procedural outcomes : uncompromised patient safety

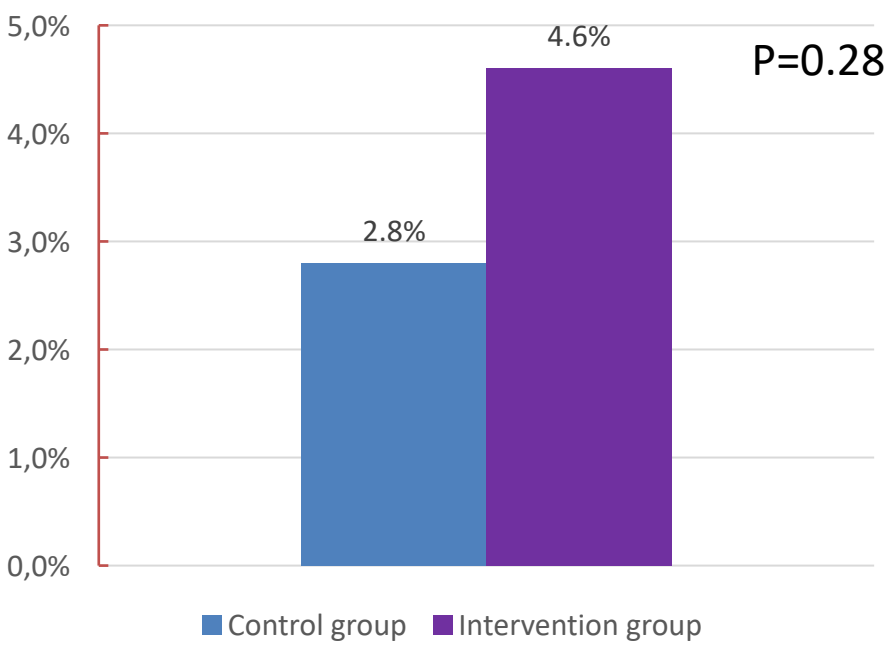
Procedural Outcomes	Prior to BENCHMARK N	Prior to BENCHMARK n (%)	BENCHMARK N	BENCHMARK n (%)	p-value
Technical success (at exit from procedure room)	882	877 (99.4)	1437	1423 (99.0)	0.291
Pacemaker	888	68 (7.7)	1451	82 (5.7)	0.042
In-hospital Complications					
Death	900	1 (0.1)	1508	7 (0.5)	0.145
Stroke / TIA	887	7 (0.8)	1424	15 (1.1)	0.525
Life-threatening bleeding	886	10 (1.1)	1422	13 (0.9)	0.614
AKI (stage 2/3, incl. dialysis)	886	2 (0.2)	1422	9 (0.6)	0.222
Coronary artery obstruction requiring intervention	887	3 (0.3)	1422	3 (0.2)	0.681

30-days outcomes : uncompromised patient safety (FAST TAVI 2)

30-day death



30-day re-admission



Take Home messages on dedicated TAVI pathway

Short LOS and high rate of (safe) early discharge

60% early discharge < 3 days
Mean LOS = 3 days

Most impactful measures

Early mobilization

Patient family education

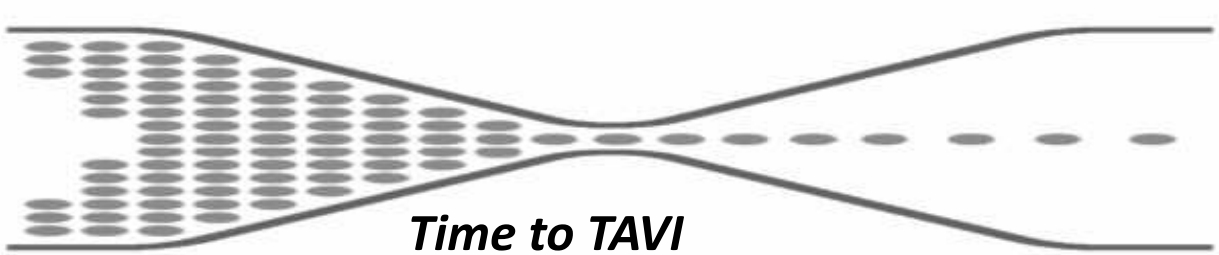
Conduction disorders management algorithm

Similar benefit for balloon and self-expandable prostheses

Streamlining TAVR procedure

Workload & Financial burden

Magnitude of the impact of reduction of LOS on TAVI waiting list is uncertain



Time to TAVI

Symptoms

Time to diagnosis

Diagnosis Referral

TAVI Work-up time

- *Coronary angiogram,*
- *CT-scan,*
- *anesthesiologist / IC / surgeon / geriatrician*
- *dentist / heart team meeting*

Waiting list time

- *Cathlab access*
- *Anesthesiologist resources*
- *Bed availability*

Post-procedural care

- *Early discharge*

Patient's journey through TAVI

Here's my two cents…

Dedicated peri-procedural TAVI optimization program is necessary and efficient

Broader optimization of patient's journey is necessary to improve access to TAVR and keep up with TAVI demand

Thank You !