

# Staff rein et dialyse Discussion Heart Team

A . TIROUVANZIAM

HOPITAL PRIVE LE CONFLUENT NANTES  
INSTITUT JACQUES CARTIER MASSY  
atirouvanziam@gmail.com

**GRCI 2021**  
France 28<sup>e</sup> édition

Passion Communication Éducation  
1er au 3 décembre 2021

# discussion du cas clinique une situation particulière ?

- RAO serré , haut débit ( anémie , FAV ), femme +/- jeune
- Congestif ( OMI , poids sec en HD optimal ? pro BNP ? PTDVG ? )
- Sans dysfonction VG .
- Multiples comorbidités en plus de l'IRCT ( fragilité , DID compliqué, SAOS obésité ..)
- Euroscore = 2.6% , **STS = 4.1 %**
- Anatomie favorable periph +( Aorte porcelaine ? ), valve 3cuspidé , faible score Ca++ .hauteur coronaires +.
- Quelle stratégie ? OMT , SAVR ou TAVR ?

# Ce qui est établi en 2021

- End-stage renal disease patients on hemodialysis (ESRD-HD) with aortic stenosis have poor prognosis.

**Circulation: Cardiovascular Interventions**

Volume 13, Issue 8, August 2020

**GRCI 2021**  
France 28<sup>e</sup> édition

Passion Communication Éducation  
1<sup>er</sup> au 3 décembre 2021

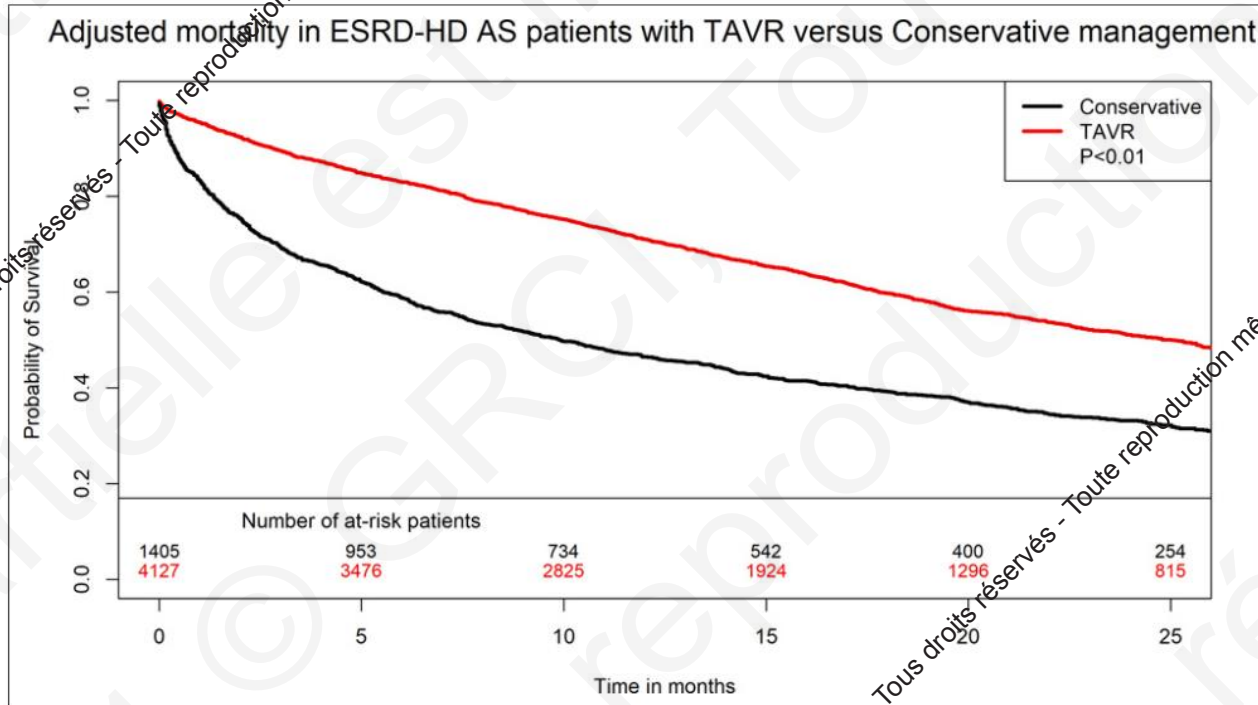
## Circulation: Cardiovascular Interventions

Volume 13, Issue 8, August 2020  
<https://doi.org/10.1161/CIRCINTERVENTIONS.120.009252>



**RESULTS** A total of 8107 ESRD-HD patients with aortic stenosis were included, 4130 (50%) underwent TAVR, 2565 (31.6%) underwent SAVR, and 1412 (17.4%) were managed conservatively. TAVR patients had more comorbidities and higher frailty compared with the other 2 groups. Thirty-day mortality was lower with TAVR compared with SAVR (4.6% versus 12.8%,  $P < 0.01$ ). After a median follow-up of 465 days (interquartile range, 261–759), on

# TAVR > OMT



# Complications IH TAVR vs SAVR

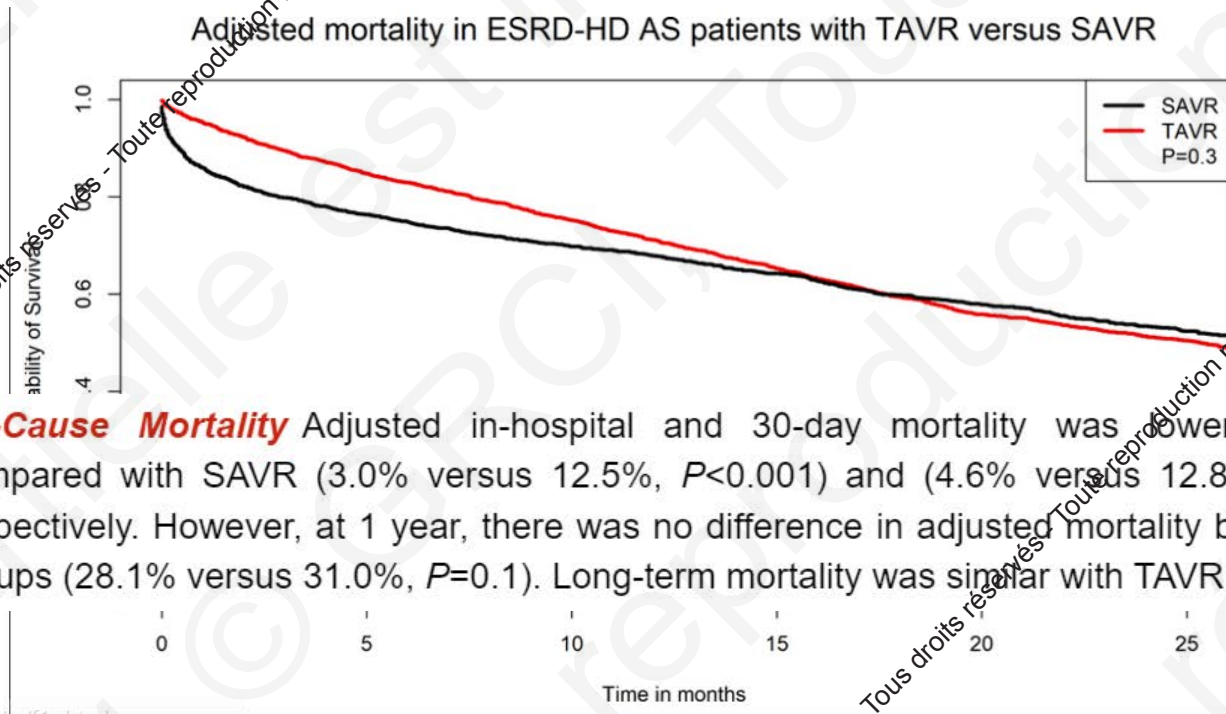
**Table 3.** In-Hospital Measures and Adjusted Outcomes Between SAVR and TAVR (Table view)

Variable	SAVR	TAVR	P Value
Length of hospital stay, median (IQR), d	12 (8-19)	4 (2-8)	<0.001
Length of ICU stay, median (IQR), d	5 (1-10)	1 (0-3)	<0.001
Discharge destination			
In-hospital mortality	12.5%	3.0%	<0.001
Home	20.6%	53.2%	
Skilled nursing facility	24.2%	13.8%	
Home health care	24.8%	23.6%	
Rehabilitation facility	12.2%	4.1%	
Long-term acute care facility	5.4%	1.0%	

Vascular complications	2.5%	4.9%	0.002
Respiratory complications	8.5%	2.4%	<0.001
Blood transfusion	43.0%	10.4%	<0.001
New permanent pacemaker	4.8%	11.6%	<0.001
New-onset AF	2.9%	3.8%	<0.001
Early endocarditis (<60 d)	3.5%	0.4%	<0.001
30-day stroke	3.7%	2.6%	0.02
30-day mortality	12.8%	4.6%	<0.001
1-year mortality	31.0%	28.1%	0.1

2021 © GRCI, Tous droits réservés - Toute reproduction même partielle est interdite.

# TAVR vs SAVR



**All-Cause Mortality** Adjusted in-hospital and 30-day mortality was lower with TAVR compared with SAVR (3.0% versus 12.5%,  $P<0.001$ ) and (4.6% versus 12.8%,  $P<0.001$ ), respectively. However, at 1 year, there was no difference in adjusted mortality between the 2 groups (28.1% versus 31.0%,  $P=0.1$ ). Long-term mortality was similar with TAVR versus SAVR

# Opérer les ESRD HD n'est pas futile !

- Survival of ESRD-HD patients with aortic stenosis is better with transcatheter AVR and surgical AVR when compared with conservative management.
  - Rates of heart failure admissions in ESRD-HD patients with aortic stenosis declined after transcatheter AVR and surgical AVR.
  - Short-term mortality is lower with transcatheter AVR compared with surgical AVR in patients with ESRD-HD, but long-term mortality is not different.
-



JACC VOL. 69, No. 14, 2017  
APRIL 11, 2017:1873-81

# Transcatheter and Surgical Aortic Valve Replacement in Patients With End-Stage Renal Disease



**GRCI 2021**  
France 28<sup>e</sup> édition

Passion Communication Éducation  
1<sup>er</sup> au 3 décembre 2021

# TAVR n'est pas sans risque, mais ...



**TABLE 3 Outcomes Stratified by STS PROM on Dialysis Undergoing TAVR**

	<b>Overall (N = 3,053)</b>	<b>STS PROM &lt;8% (n = 607)</b>	<b>STS PROM 8%- 15% (n = 1,108)</b>	<b>STS PROM &gt;15% (n = 1,338)</b>	<b>p Value</b>
STS PROM, %	13.5 (8.9-20.6)	6.0 (4.8-7.1)	11.3 (9.6-13.0)	22.1 (17.8-28.6)	<0.001
Mortality	157 (5.1)	15 (2.5)	49 (4.4)	93 (7.0)	<0.001
O:E mortality	0.32	0.42	0.39	0.28	<0.001
Device success	2,820 (92.4)	558 (91.9)	1,028 (92.8)	1,234 (92.2)	0.990
Myocardial infarction	12 (0.4)	3 (0.5)	5 (0.5)	4 (0.3)	0.757
Atrial fibrillation	109 (3.6)	11 (1.8)	38 (3.4)	60 (4.5)	0.013
Stroke	83 (2.7)	15 (2.5)	26 (2.3)	42 (3.1)	0.445
Major bleed	44 (1.4)	8 (1.3)	18 (1.6)	18 (1.3)	0.815
Access complication	138 (4.5)	11 (1.8)	55 (5.0)	72 (5.4)	0.001
LOS, days	6 (4-12)	5 (3-8)	6 (3-10)	8 (4-15)	<0.001
Discharge location among alive patients					<0.001
Home	2,016 (66.0)	480 (79.1)	797 (71.9)	739 (55.2)	
Extended care/TCU/rehab	644 (21.1)	89 (14.7)	189 (17.1)	366 (27.4)	
Other	393 (12.9)	38 (6.3)	122 (11.0)	233 (17.4)	

# Quelle voie d'abord pour l'HD ?

**TABLE 4 Outcomes Stratified By Access Route In Patients On Dialysis Undergoing TAVR**

	<b>Overall (N = 3,053)</b>	<b>Transfemoral (n = 2,332)</b>	<b>Alternative Access (N=721)</b>	<b>p Value</b>
SYS PROM, %	13.5 (8.9-20.6)	13.0 (8.6-19.8)	15.6 (10.3-23.1)	<0.001
Mortality	157 (5.1)	96 (4.1)	61 (8.5)	<0.001
O:E	0.32	0.26	0.46	<0.001
Device success	2,820 (92.4)	2,173 (93.2)	47 (89.7)	0.002
Myocardial infarction	12 (0.4)	6 (0.3)	6 (0.8)	0.03
Atrial fibrillation	109 (3.6)	50 (2.1)	59 (8.2)	<0.001
Stroke	83 (2.7)	58 (2.5)	25 (3.5)	0.156
Major bleed	44 (1.4)	37 (1.6)	7 (1.0)	0.226
Access complication	138 (4.5)	119 (5.1)	19 (2.6)	0.005
LOS, days	79 (2.7)	75 (3.4)	4 (0.6)	<0.001

# Accès fémoral facilité malgré AOMI : IVL > 90%

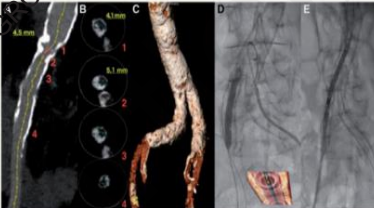

**CARDIOVASCULAR FLASHLIGHT** doi:10.1093/eurheartj/ehy074

## Lithoplasty-assisted transfemoral aortic valve implantation

Carlo Di Mario<sup>a</sup>, Niccolò Chiriaci, Miroslava Stolicova, Francesco Meucci, and Giovanni Squillanti

Structural Interventional Cardiology, Cangi University Hospital, Largo di Casini, 50134 Florence, Italy  
\* Corresponding author. Tel: +39 0557941111; Fax: +39 0557941111; Email: carlo.di.mario@unifl.it

An 85-year-old man with previous left anterior descending (LAD) and left circumflex (LCX) stenosing and low left ventricular ejection fraction (35%) developed acute pulmonary oedema because of severe aortic valve stenosis (0.7 cm<sup>2</sup>). Complex calcific atheromas of both external iliac arteries with circumferential thick calcium plates restricting the lumen were considered for transcatheter aortic valve implantation (TAVI) because a new episode of pulmonary oedema refractory to medical treatment and requiring ultrarotation, a transfemoral approach to the right external iliac artery was dilated with a 7.0 mm lithoplasty balloon (Shockwave After Six lithoplasty system). There was good balloon expansion at low pressure (4–6 atm). Gentle twist drove the 18-Fr. Evolut-R system of a 29 mm Evolut-R Medtronic valve through the narrowest segment



deployment half a diamond below the aortic annulus, there was trivial aortic regurgitation with no ruptures of the coronary arteries. Final aortogram showed no dissection or extravasation of contrast medium. The patient was discharged in good clinical condition. The use of lithoplasty waves to dilate the iliac arteries before TAVI is a safe and effective approach. The use of lithoplasty waves to dilate the iliac arteries before TAVI is a safe and effective approach. The use of lithoplasty waves to dilate the iliac arteries before TAVI is a safe and effective approach.

Published on behalf of the European Society of Cardiology. All rights reserved. © The Author(s) 2018. For permissions, please email: journals.permissions@oup.com.

**ARTICLE IN PRESS**

AVI: CARDIOVASCULAR INTERVENTIONS  
A JOURNAL OF THE AMERICAN COLLEGE OF INTERVENTIONAL RADIOLOGY FOUNDATION  
NUMBER 8 OF 2018

**IMAGES IN INTERVENTION**

### Facilitated Transfemoral Access by

**Transcatheter aortic valve implantation following lithoplasty of iliac artery in a patient with poor vascular access**

Riccardo Gola MD, PhD<sup>a</sup> | Gaetano Sergio Cannone MD | Francesco Bedogni MD | Federico De Marco MD, PhD

Department of Clinical and Interventional Cardiology, ICTC, Policlinico San Donato, Milan, Italy  
Correspondence: Riccardo Gola, MD, PhD, Department of Clinical and Interventional Cardiology, ICTC, Policlinico San Donato, Milan, Italy. Email: r.gola@ictp.it

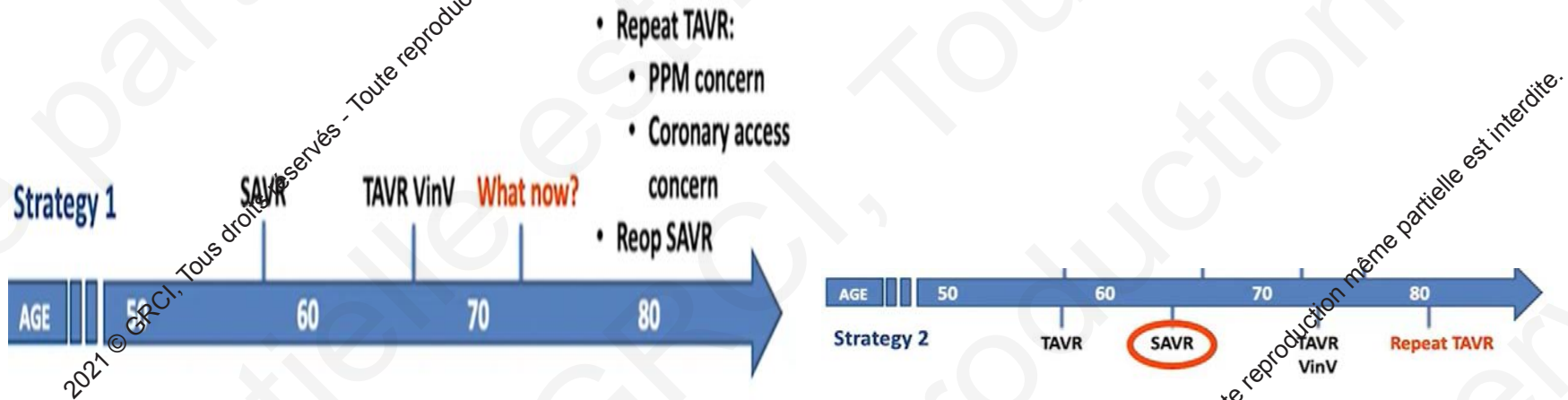
**Abstract**  
Transcatheter aortic valve implantation (TAVI) is considered the preferred route to perform transcatheter aortic valve implantation (TAVI) for most operators due to the low invasiveness and good long-term results. However, transfemoral access is not always possible in patients with small and calcific vessels. Recently, catheter-directed lithoplasty has emerged as a new technique based on the use of shockwaves to dilate the iliac arteries. To transfemoral TAVI to patients with calcific ilio-femoral vessels and at high risk for vascular complications, this approach is a safe and effective approach. This report describes the case of an 85-year-old woman with poor vascular access who successfully underwent transfemoral TAVI following lithoplasty of the iliac artery.

**KEYWORDS**  
TAVI, lithoplasty, iliofemoral, transcatheter

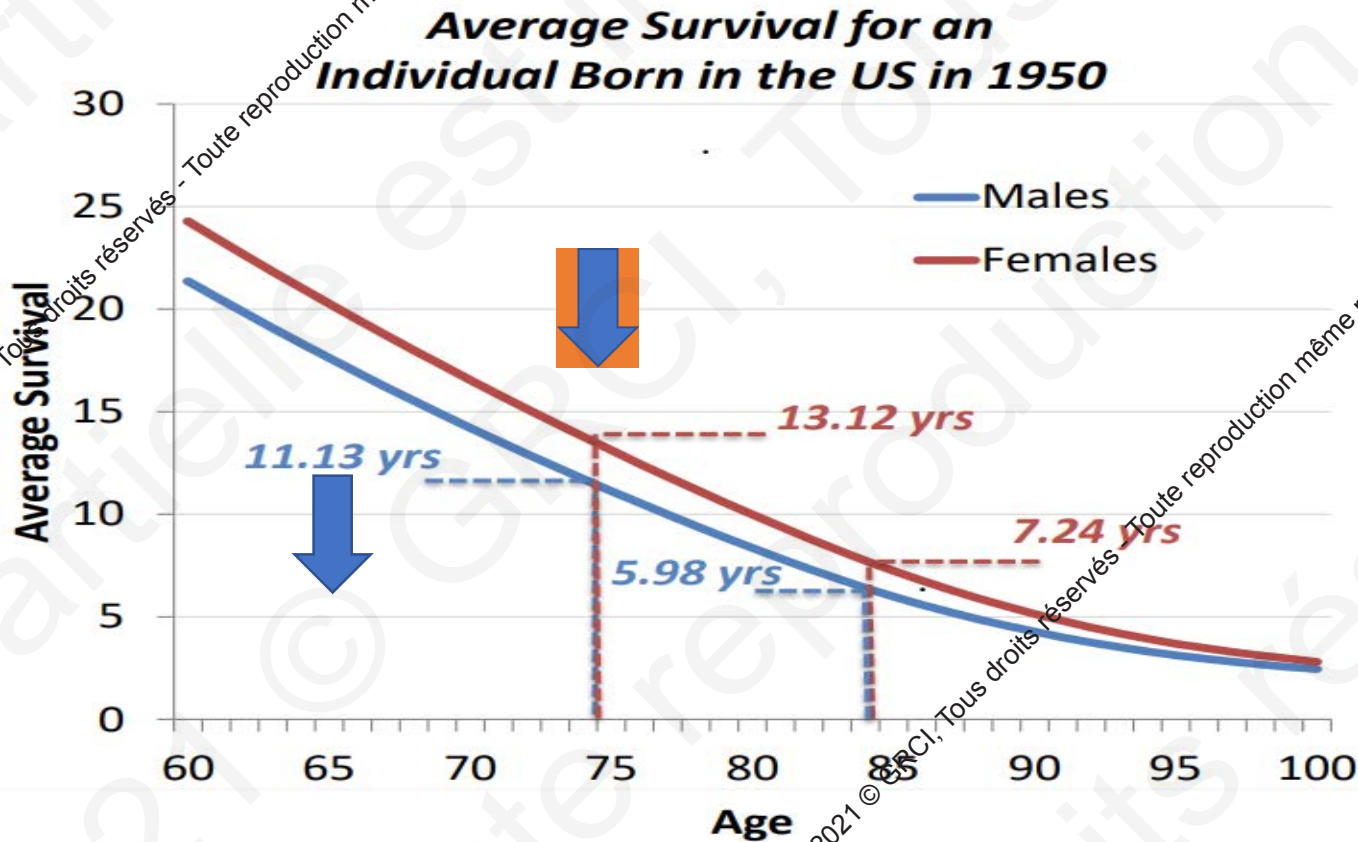
**1 | INTRODUCTION**  
Transcatheter aortic valve implantation (TAVI) has emerged as the established treatment for patients with aortic stenosis. The transfemoral approach is the most common route to reach the aortic annulus. However, in patients with poor vascular access, the transfemoral approach is not always possible. In these cases, the transfemoral approach is not always possible. In these cases, the transfemoral approach is not always possible. In these cases, the transfemoral approach is not always possible.

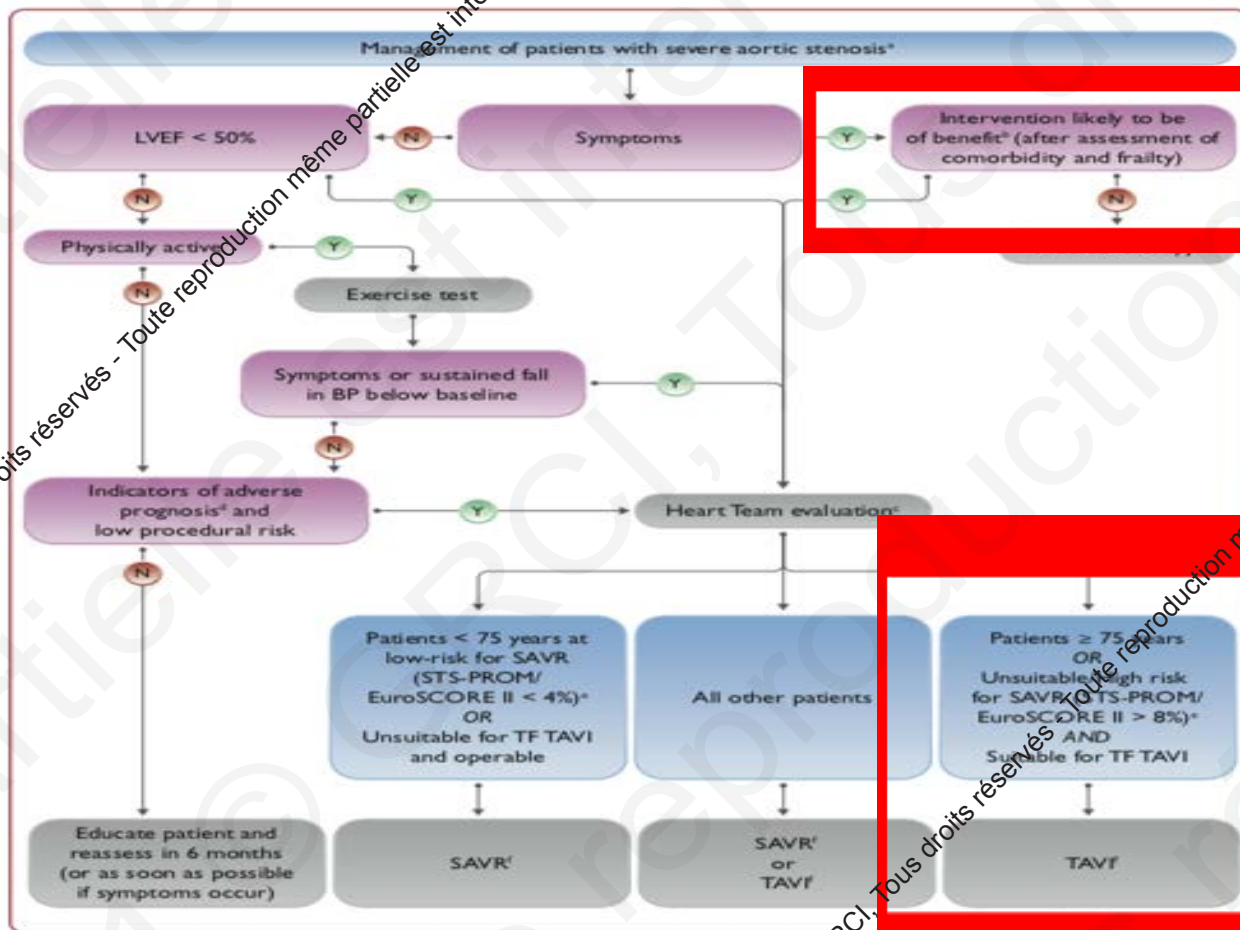
**2 | CASE REPORT**  
An 85-year-old woman with history of arterial hypertension, dyslipidemia, and cognitive impairment, and severe aortic stenosis (AS) was referred to our department for TAVI upon the diagnosis of severe aortic stenosis at transthoracic echocardiography performed due to worsening effort dyspnea (NYHA class II). Computed tomography (CT) angiography showed diffuse atherosclerotic calcifications of aorta and ilio-femoral vessels (Figure 1). A transfemoral access through the right vein was not suitable due to a too narrow minimum lumen diameter (MLD) of external iliac artery (0.9 × 0.6 mm). Left vein was severely calcified as well, but MLD of proximal external iliac artery (3.1 × 6.0 mm, white arrow) appeared favorable with respect to the size of the 18-Fr delivery system of 29 mm Evolut-R valve (ECV). The patient did not report symptoms of intermittent claudication. An alternative access was not an option due to the patient's frailty and severe chronic obstructive pulmonary disease (COPD). As expected, the 18-Fr delivery system could not be advanced through the stenosis even after standard angioplasty with a 4.0 × 40 mm balloon (B). Thus, lithoplasty was attempted to dilate ilio-femoral vessels. Pre-lithoplasty transcatheter ultrasound (TUS) at the site of MLD showed near-circumferential calcifications with an elliptic minimum lumen area (MLA) of 2.3 × 0.8 mm<sup>2</sup>.

# Stratégie pour le long terme < 65 ans ?



# Durabilité TAVR vs pronostic court terme HD ?





Intervention likely to be of benefit\* (after assessment of comorbidity and frailty)

Patients  $\geq 75$  years OR Unsuitable/high risk for SAVR (STS-PROM/ EuroSCORE II  $> 8\%$ )\* AND Suitable for TF TAVI

2021 © GRCI, Tous droits réservés - Toute reproduction même partielle est interdite.

2021 © GRCI, Tous droits réservés - Toute reproduction même partielle est interdite.

# En conclusion

- Haut risque opératoire SAVR , comorbidités +++, TF++
- survie court terme + projet Tx rénale > durabilité long terme
- TAVI echo guidée , ponction et ETT , sans IODE
- Sous sédation consciente
- Anesthésie locale
- Procédure « minimaliste »
- Valve BE type Sapien S3 26 mm de diamètre , par voie TF , sans prédilatation , et stimulation guide VG
- Discussion à moyen terme de Tx rénale