



PALAIS DU PHARO
□ MARSEILLE □

SAVE THE DATE
24 • 25 • 26
JANVIER 2024

WWW.HIGHTECH-CARDIO.ORG

The complex block is a vertical rectangular area with a blue border. It contains three main sections: a top section with the text "PALAIS DU PHARO" and "□ MARSEILLE □" in white on a blue background; a middle section with "SAVE THE DATE" in blue, "24 • 25 • 26" in white, and "JANVIER 2024" in white on a blue background; and a bottom section with the website "WWW.HIGHTECH-CARDIO.ORG" in white on a blue background. The background of the middle section features a grid of small, colorful images of water and nature.

Obstruction coronaire: risque et solutions

Christophe Saint Etienne (Tours)

Disclosures

I have the following potential conflicts of interest to report:

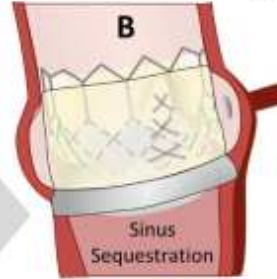
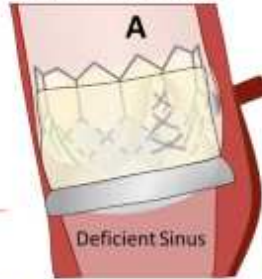
Proctor : Abbott Medical, Edwards Lifesciences,
Medtronic, Biotronik

Consultant : Abbott Medical, Edwards Lifesciences,
Medtronic, Boston Scientific

Risque : L'importance du scanner

Criteria 1 Coronary Ostia Occlusion

- Are aortic leaflets higher than the coronary ostia?
- AND
- Is the VTC <4mm?



Criteria 2 Sinus Sequestration

- Do aortic leaflets reach the STJ?
- AND
- Is there risk of sealing the STJ (by visual assessment with virtual valve)?

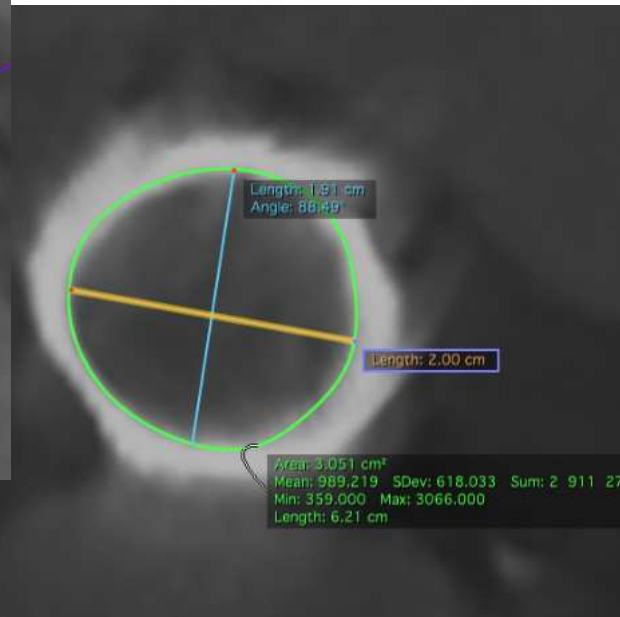
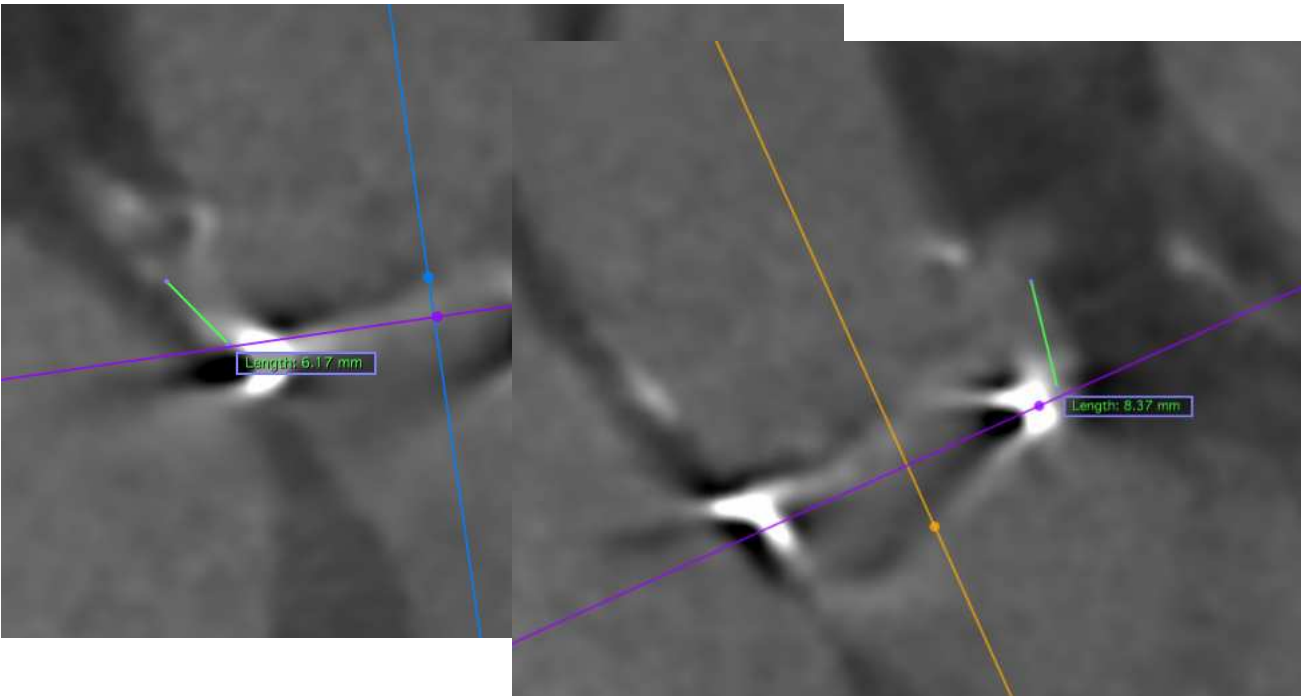
Features that accentuate risk

- Externally mounted bioprosthetic valve leaflets
- Stentless bioprosthetic valves
- Bioprosthetic valve fracture planned
- Absent coronary filling on BAV angiography

Features that mitigate risk

- Native aortic valves
- Bioprosthetic valves with internally mounted porcine leaflets
- Functional coronary artery bypass grafts

Solution : protection coronaire

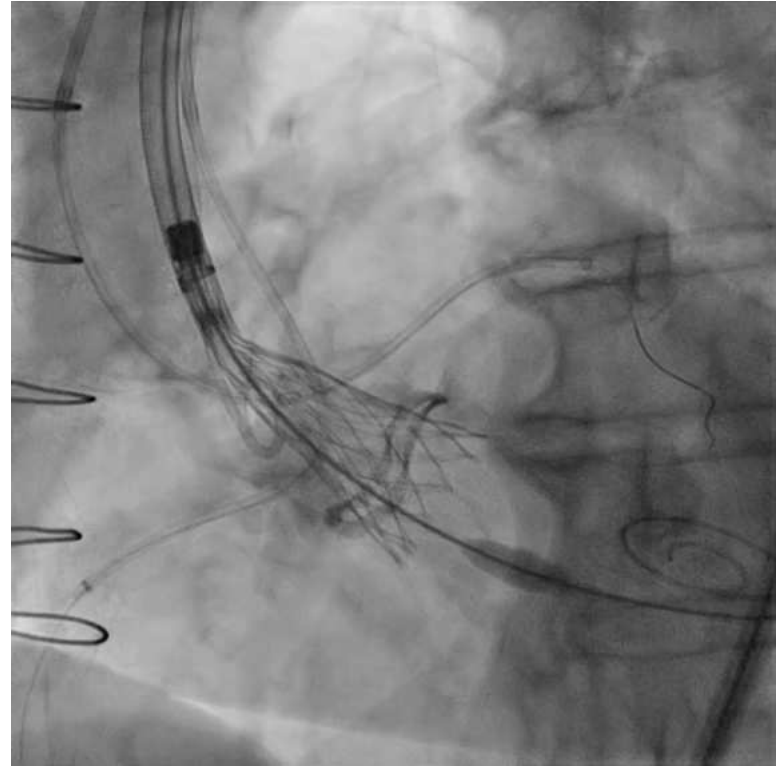
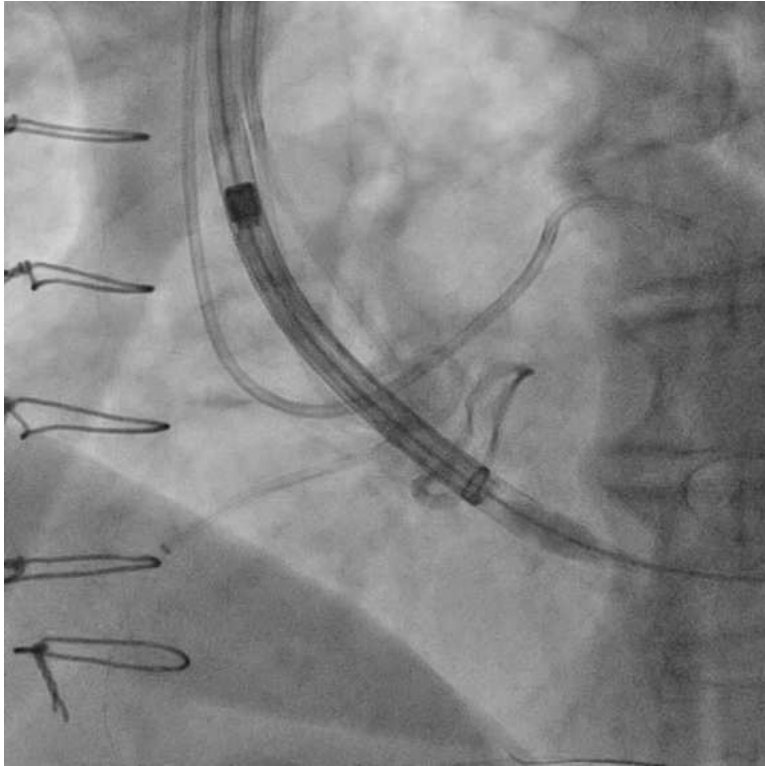


Risque d'occlusion coronaire devant :

- hauteur coronaire < 10 mm
- VIV mitroflow
- sinus étroit

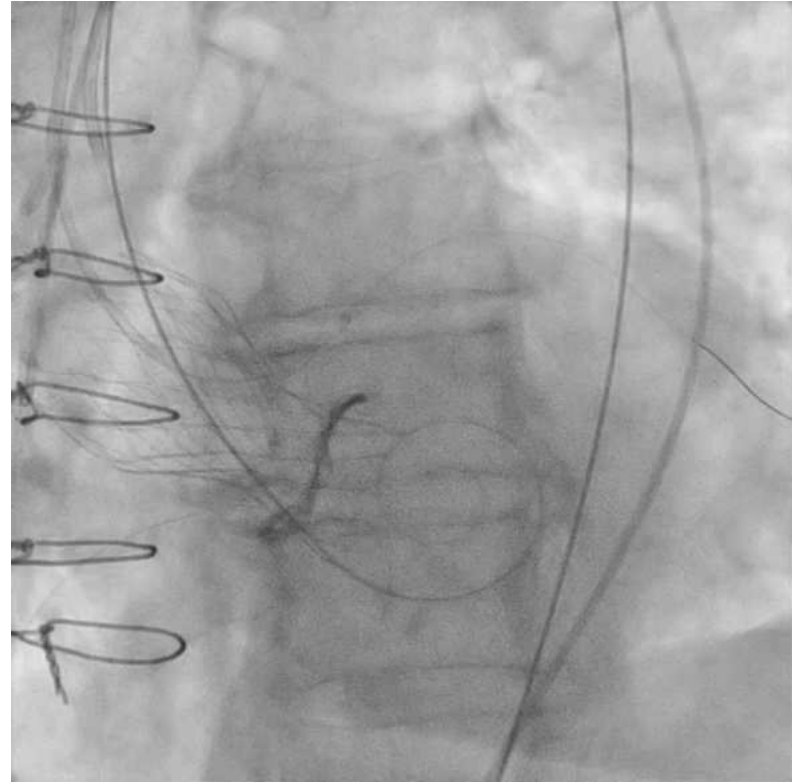
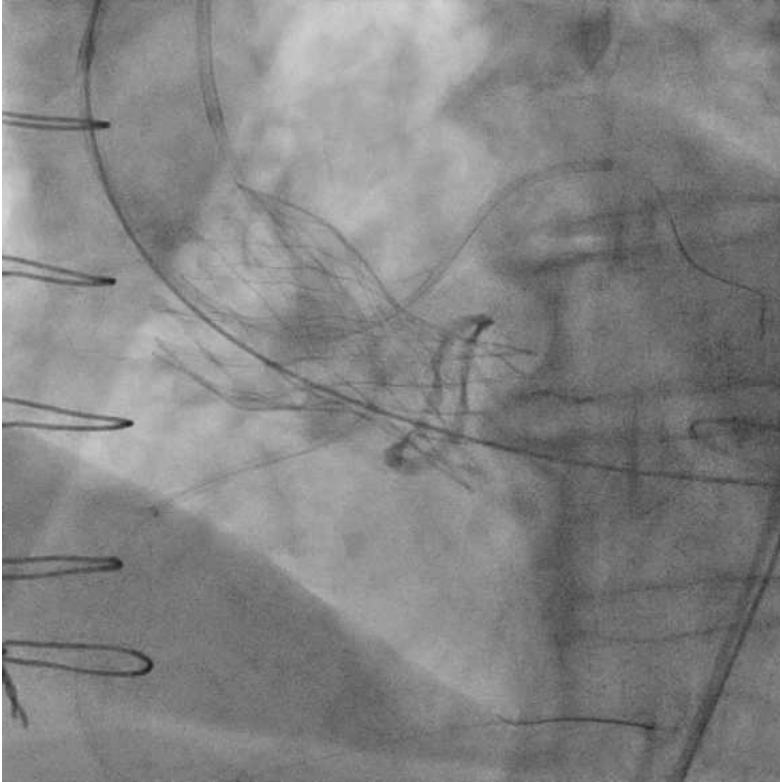
www.hightech-cardio.org

Solution : protection coronaire

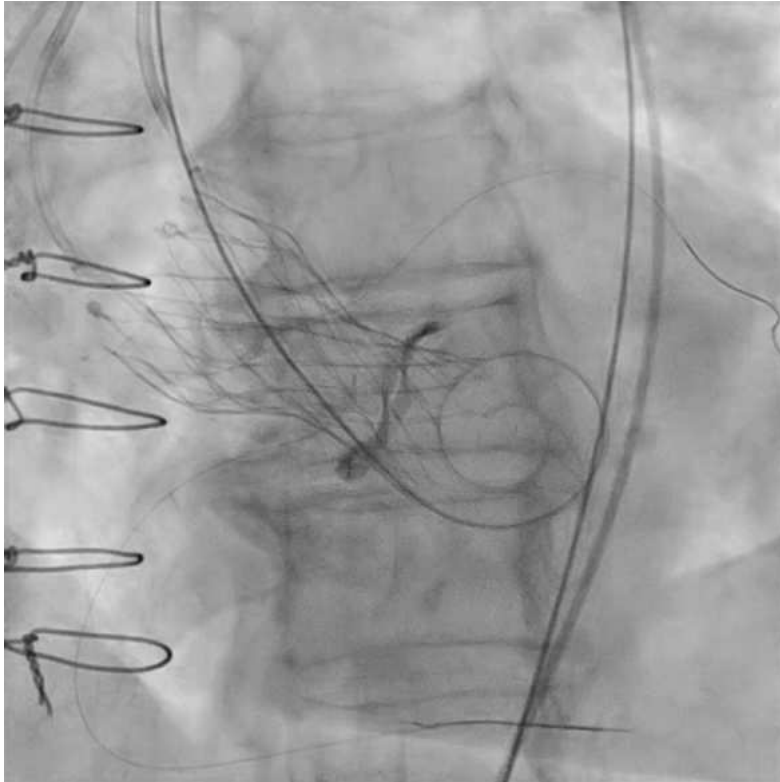


EVOLUT R 23

Solution : protection coronaire



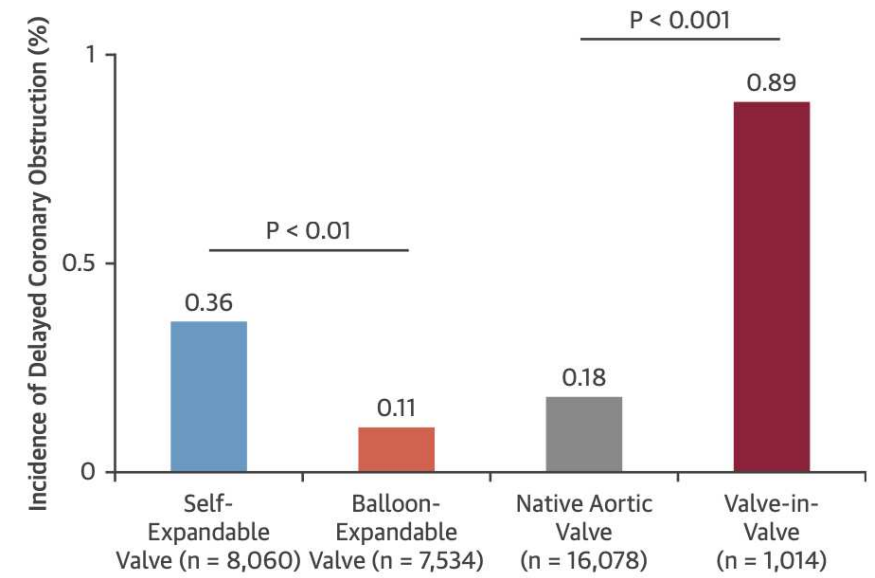
Solution : protection coronaire



Mais quid de l'occlusion différée ?

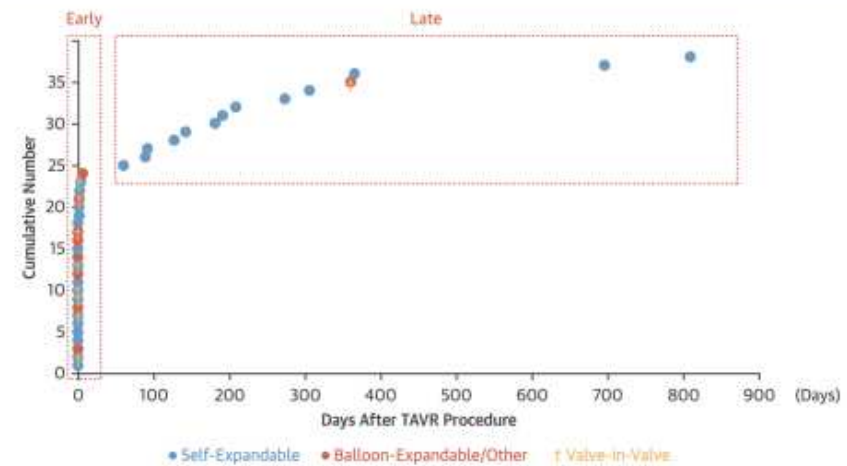
Occlusion coronaire différée

FIGURE 1 Incidence of Delayed Coronary Obstruction According to Valve Type and TAVR Procedure



38 DCO from multicenter international registry
17092 TAVR between Nov 2005 and Dec 2016

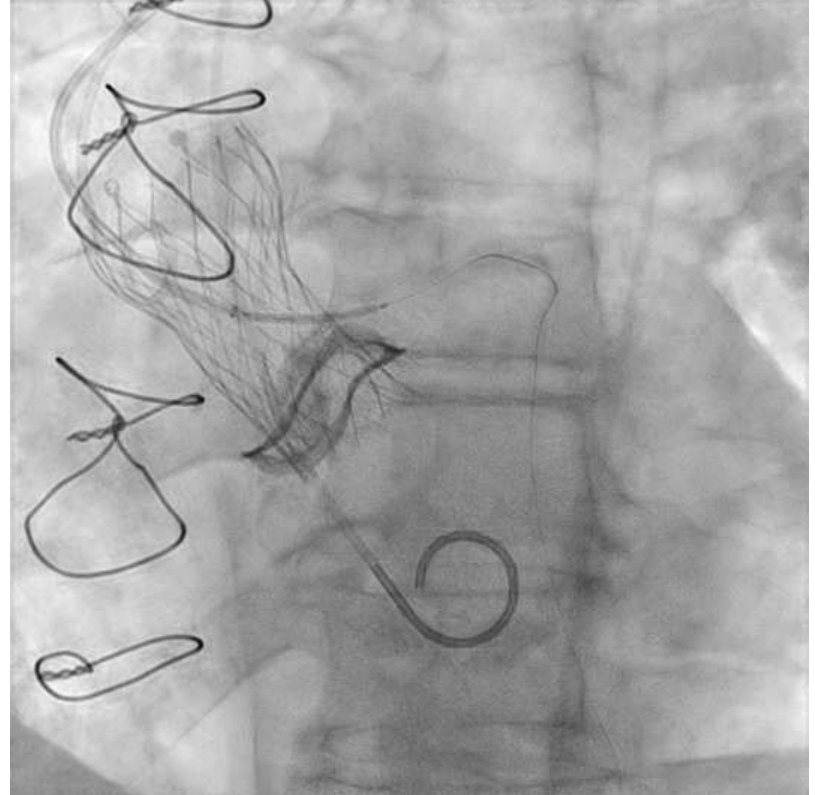
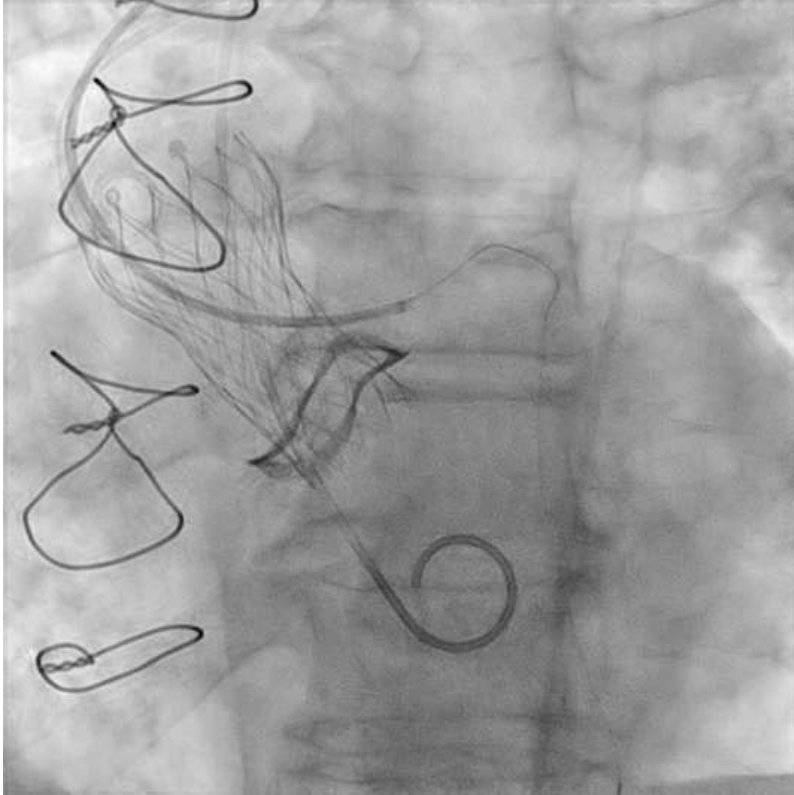
FIGURE 2 Timing of Delayed Coronary Obstruction Events Following TAVR Procedure



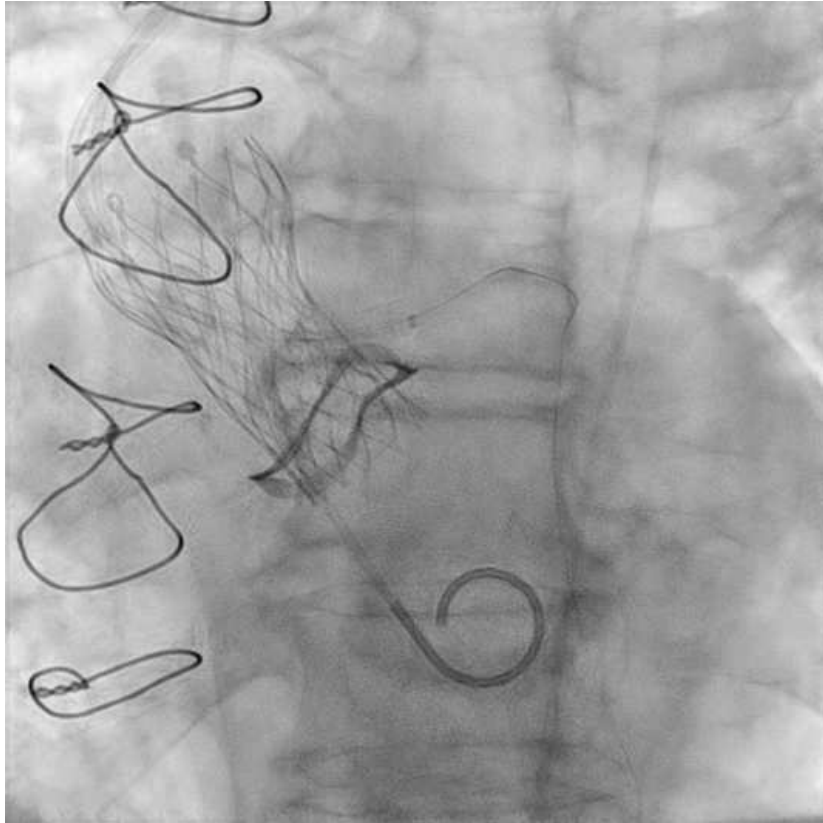
Mortality rate 50%

Jabbour et al. JACC 2018

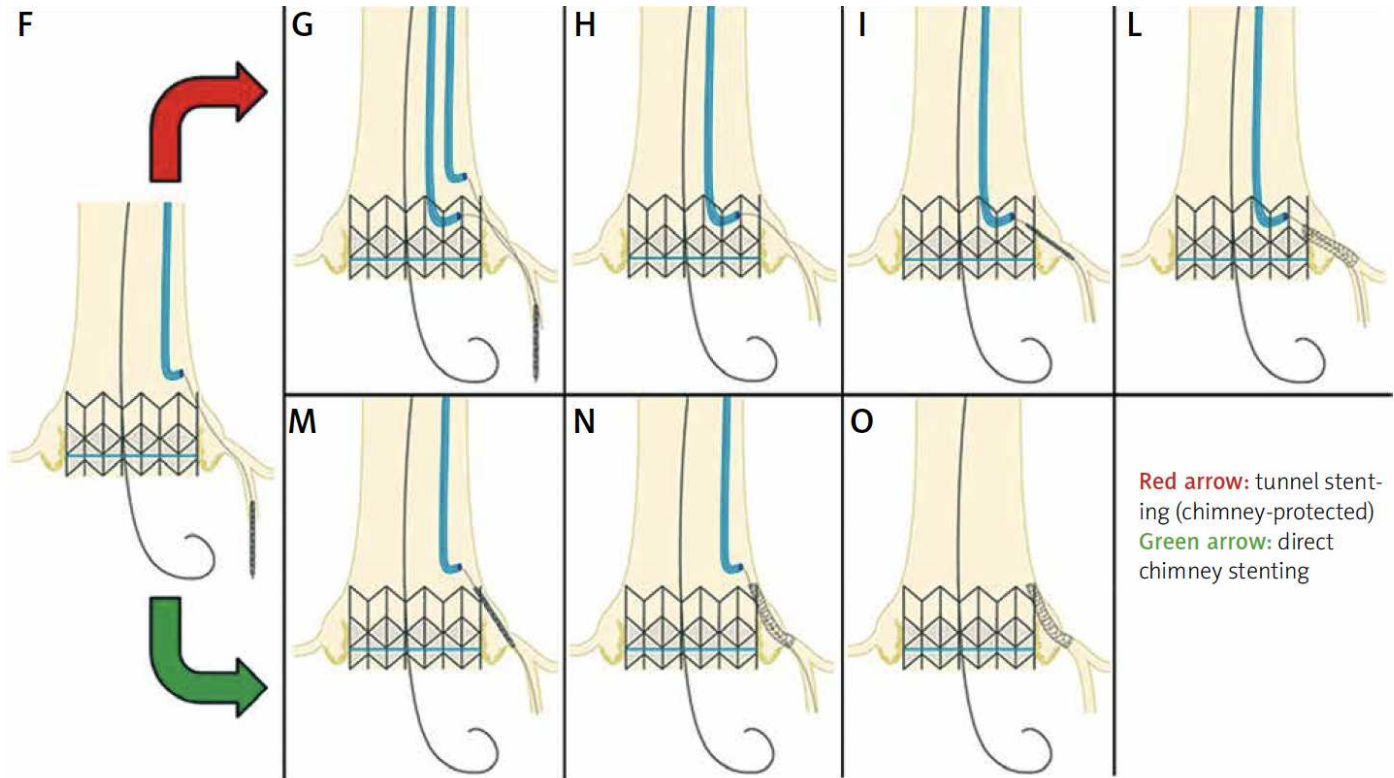
Solution : Cheminée



Solution : Cheminée



Solution : tunnel

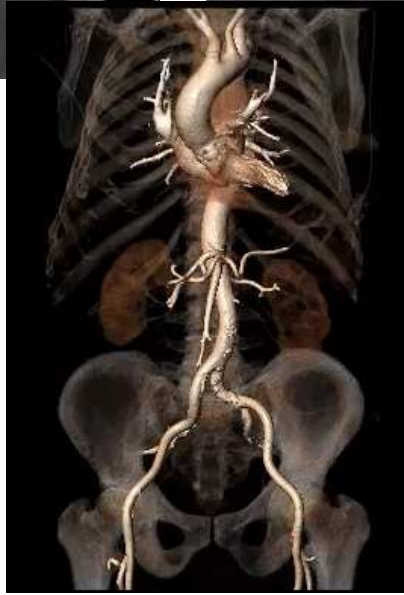
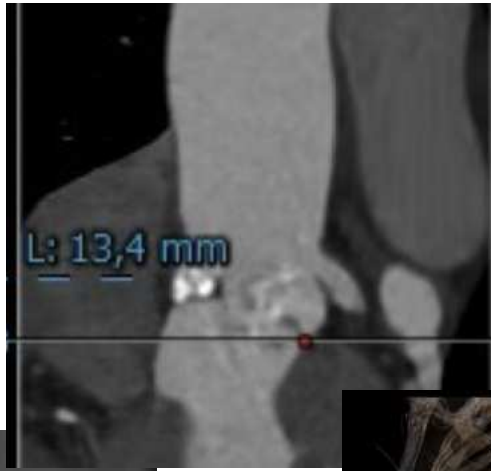
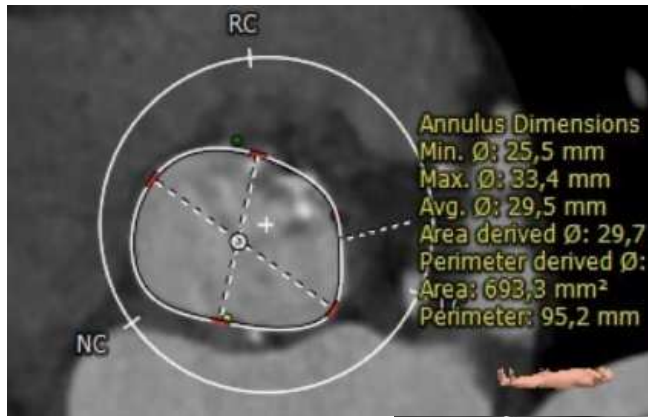


Tunnel technic

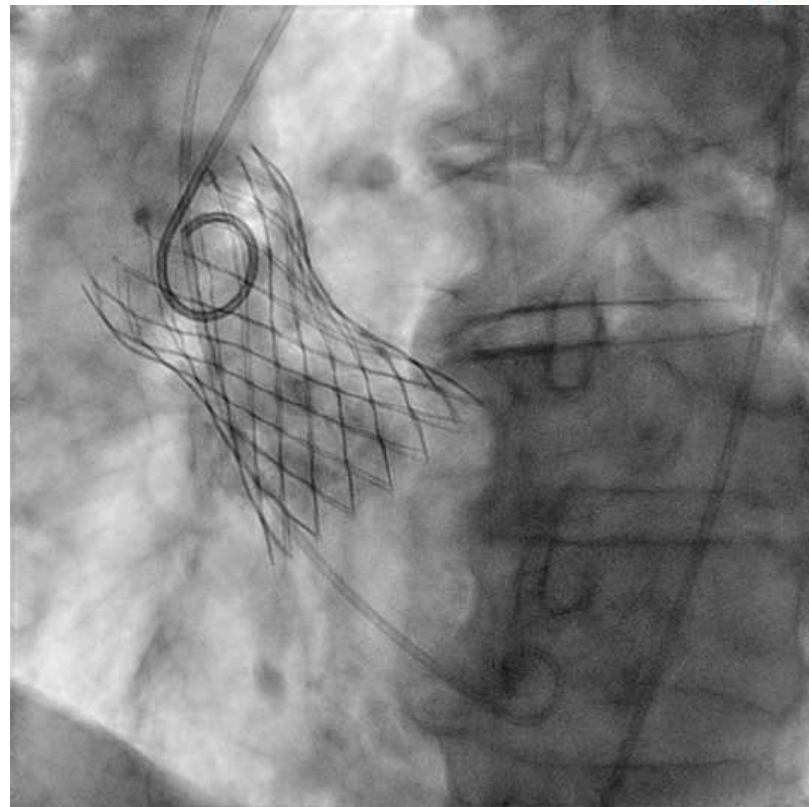
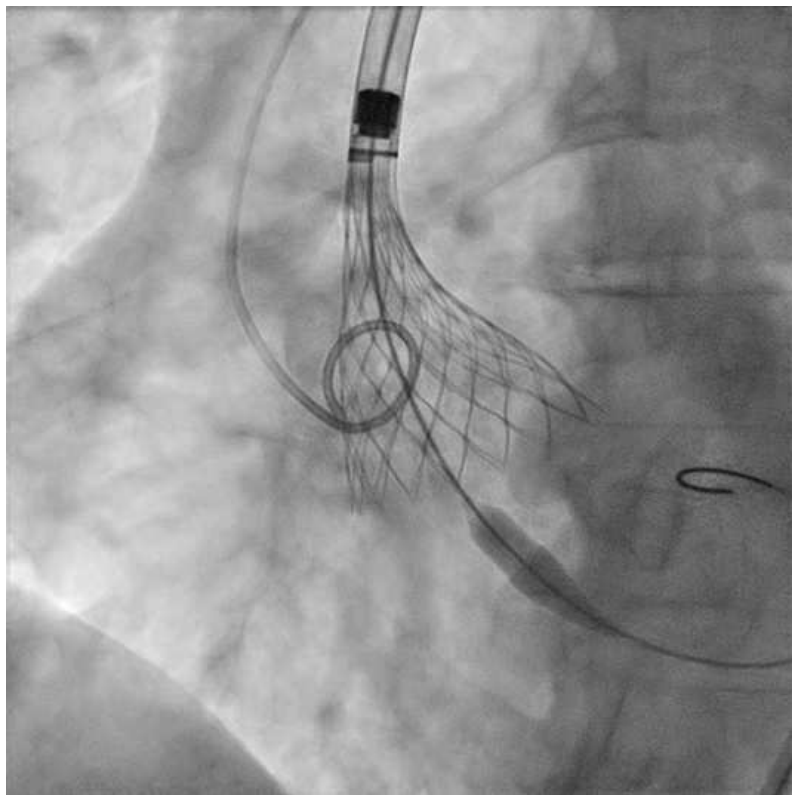
Chimney technic

Red arrow: tunnel stenting (chimney-protected)
 Green arrow: direct chimney stenting

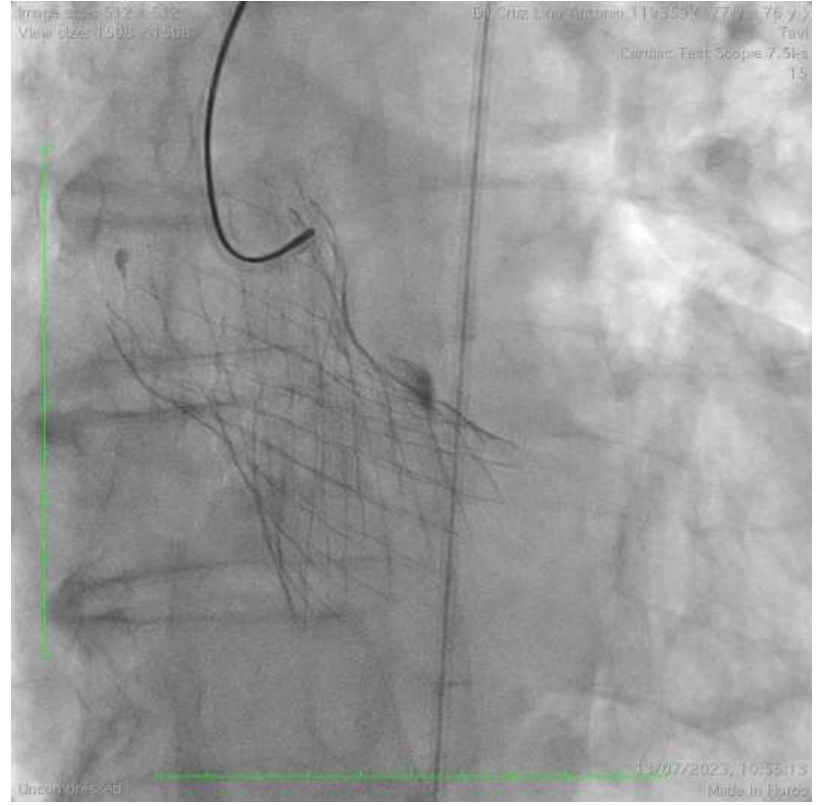
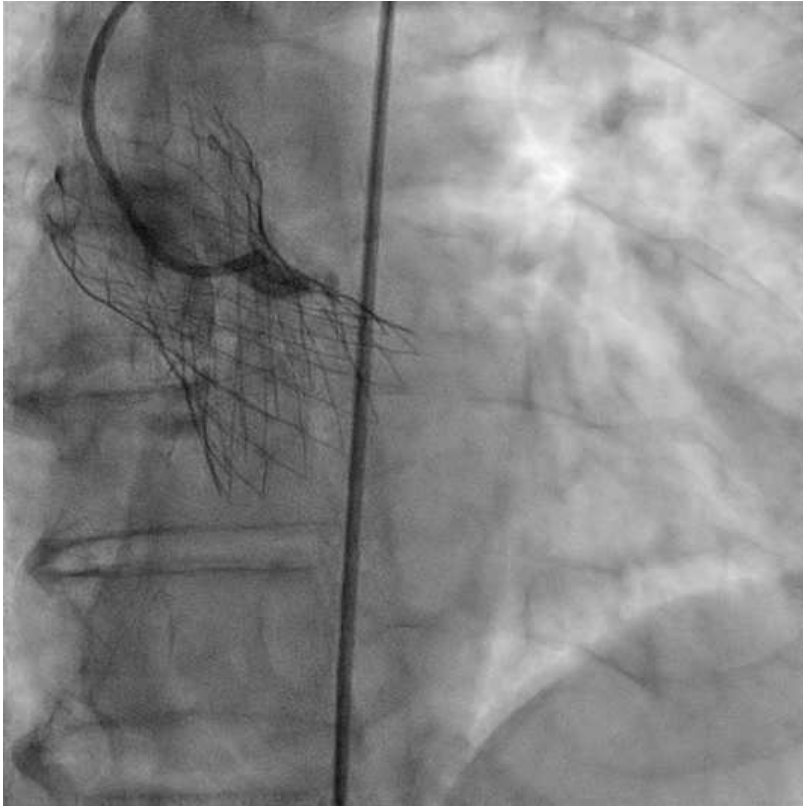
Solution : tunnel



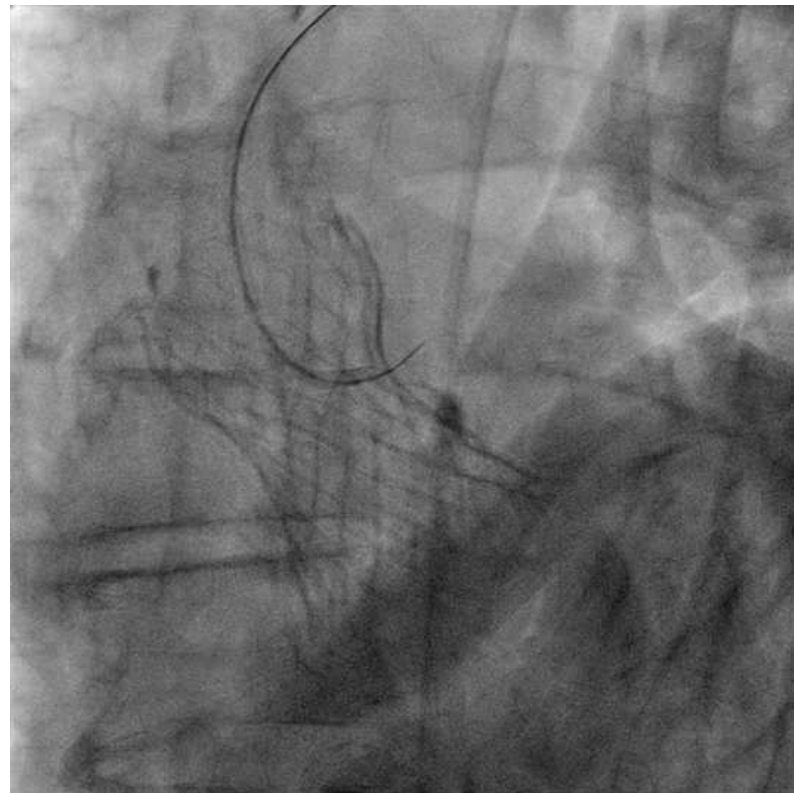
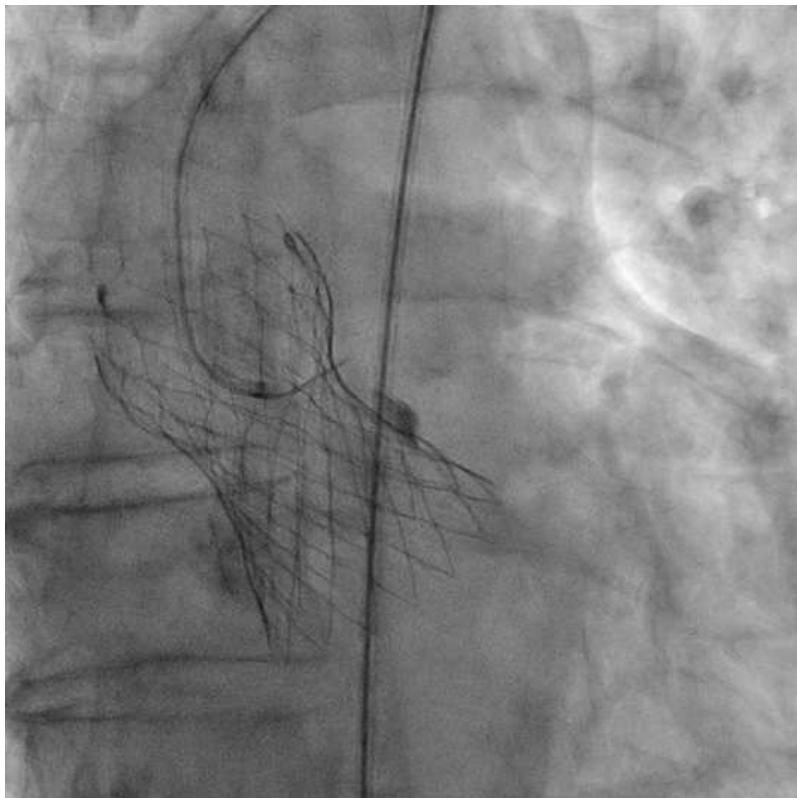
Solution : tunnel



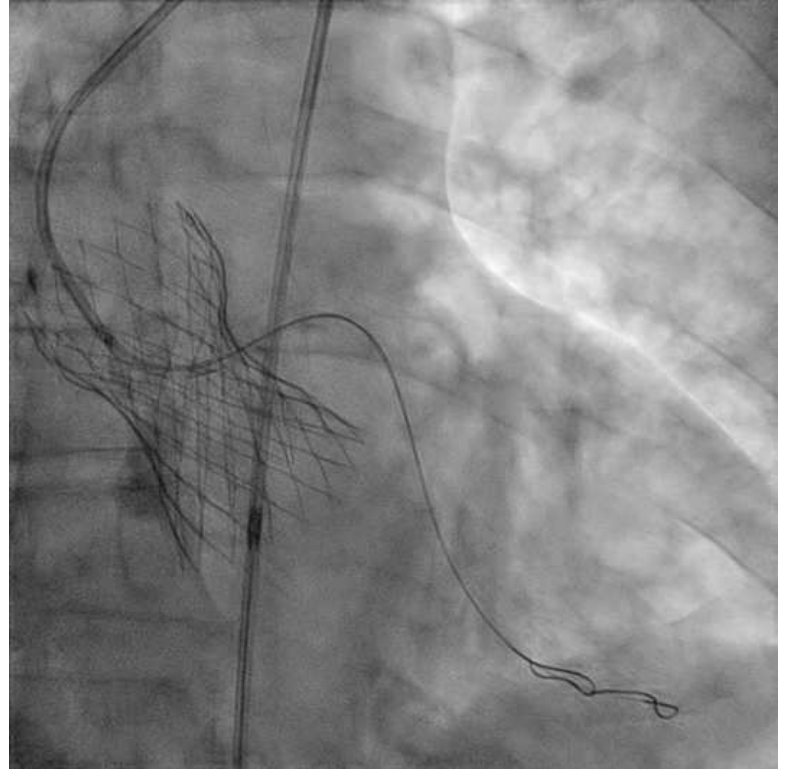
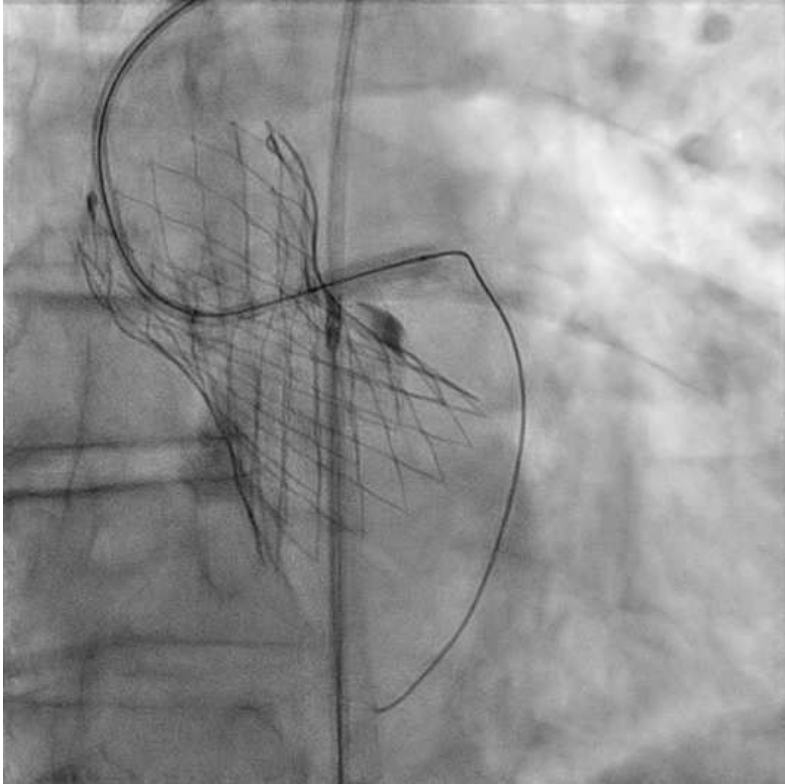
Solution : tunnel



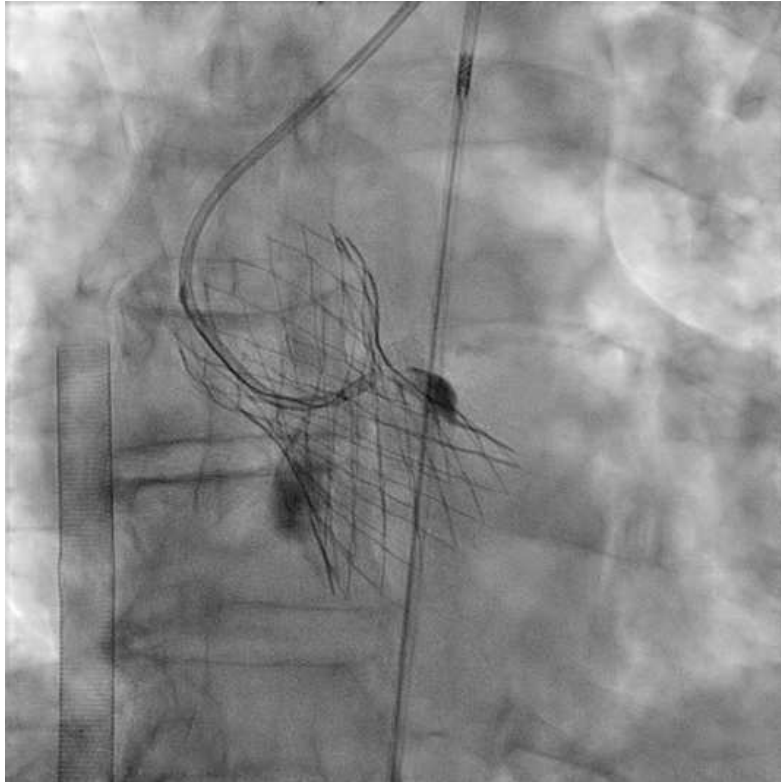
Solution : tunnel



Solution : tunnel



Solution : tunnel



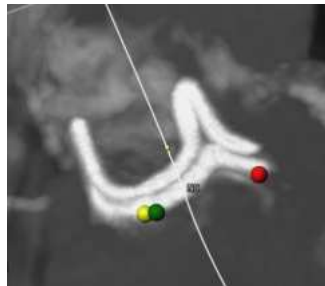
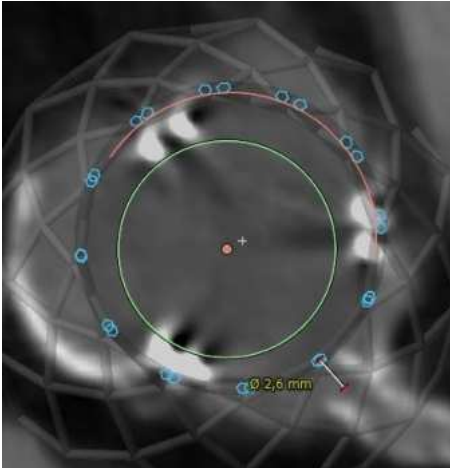
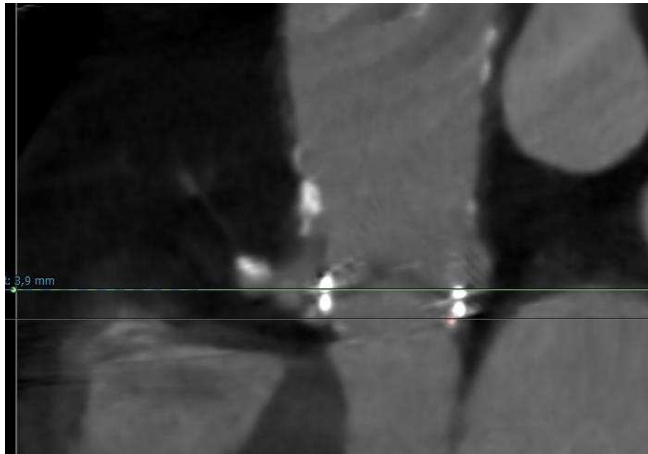
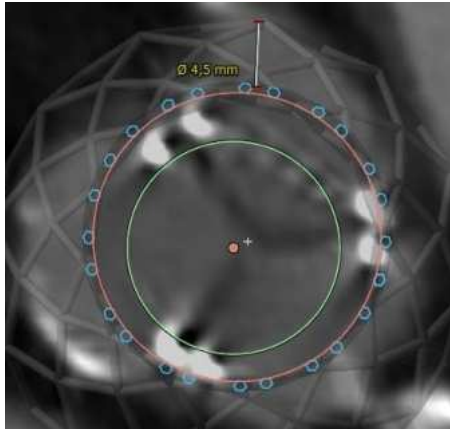
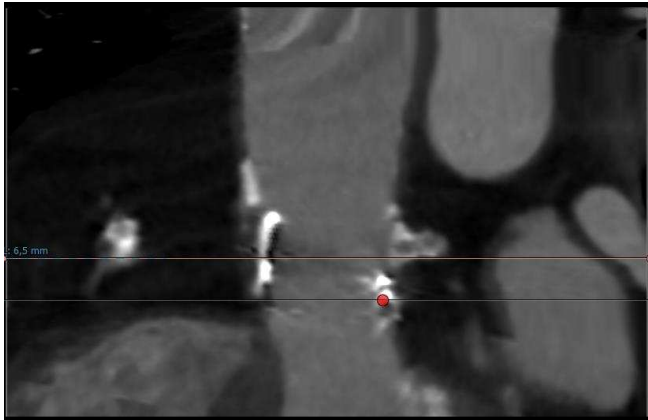
Evolution neurologique défavorable.

Décès à J3

Discussion RMM :

- Double stratégie
- Reperfusion coronaire + Assistance

Solution : Basilica



Solution : Basilica

Bioprosthesis or native

Aortic

Scallop

Intentional

Laceration to prevent

Iatrogenic

Coronary

Artery obstruction

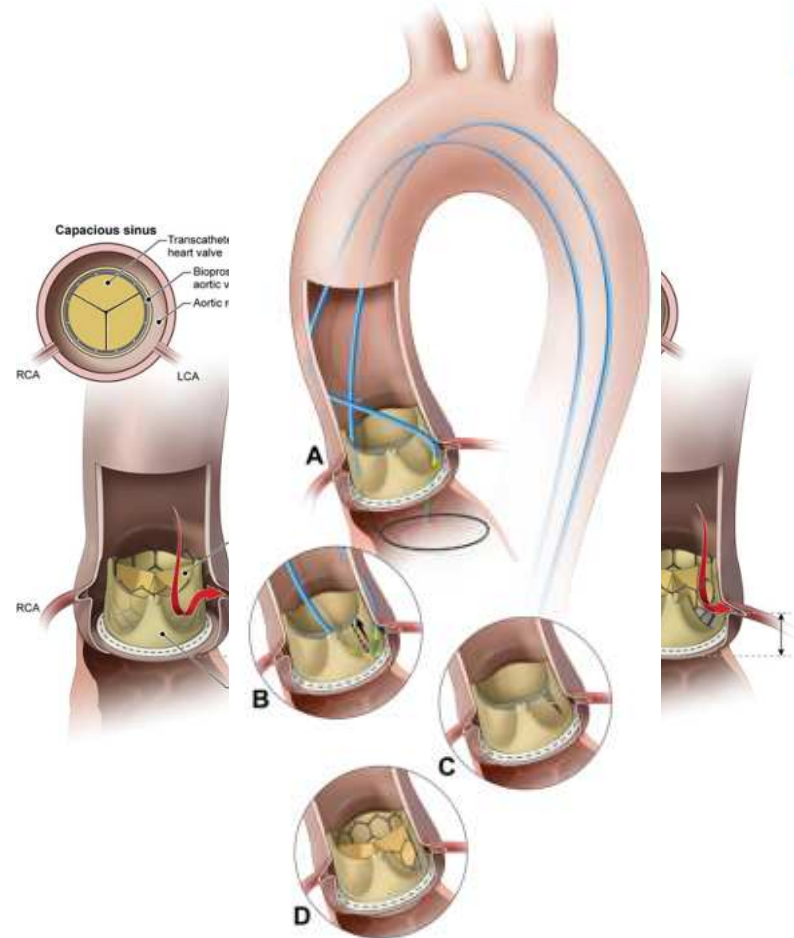


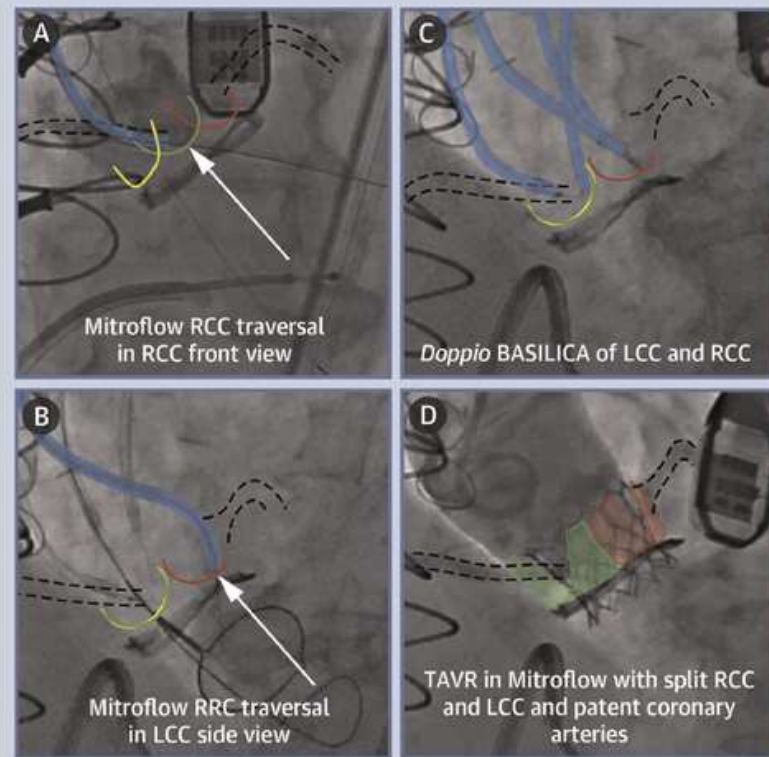
TABLE 1. MATERIALS REQUIRED TO PERFORM SOLO AND DOPPIO BASILICA

Material	No. Required for Solo	No. Required for Doppio	Comment
6-F MP1 guiding catheter	1	2	-
300-cm, 0.018-inch V-18 ControlWire guidewire	1	1	-
120-cm, 6-F Amplatz Goose Neck snare, sized 1:1 to the LVOT	1	1	-
Aortic guide catheter (as detailed in Table 2)	1	2	-
145-cm PiggyBack wire converter	1	2	Tight tolerances to 0.014-inch guidewire for better insulation and stiffer tip for better crossing
300-cm, 0.014-inch Astato XS 20 wire	1	2	Good tip stiffness without need for amputation and good electro-surgical properties
0.035-inch torque device	1	2	-
0.014-inch torque device	3	6	-
60-mL syringe filled with 5% dextrose in water	2	4	-
6-F pigtail catheter	1	1	-
Bovie/electrosurgical generator	1	1	Valleylab Force FX (Medtronic) is preferred
14- to 18-F DrySeal Flex introducer sheaths	1	2	Size to match intended TAVR valve delivery sheath

Abbreviations: LVOT, left ventricular outflow tract; MP, multipurpose; TAVR; transcatheter aortic valve replacement.

TABLE 2. CATHETERS USED IN BASILICA IN ORDER OF PREFERENCE

	LVOT Catheter	Aortic Catheter	Comments
Left BASILICA catheters	6-F MP1 (or JR4)	7 or 8 F (AL1-4; EBU 3,75, 4, 5*; PAL1-3*)	Larger aortic catheters allow for more vertically directed wires when traversing the left leaflet
Right BASILICA catheters	6-F MP1 (or JR4)	7 or 8 F (JR4, MP, IMA, ARI, P, JR4*)	A right BASILICA is more challenging because the optimal fluoroscopic projections are difficult to attain, and catheter position can be more unstable



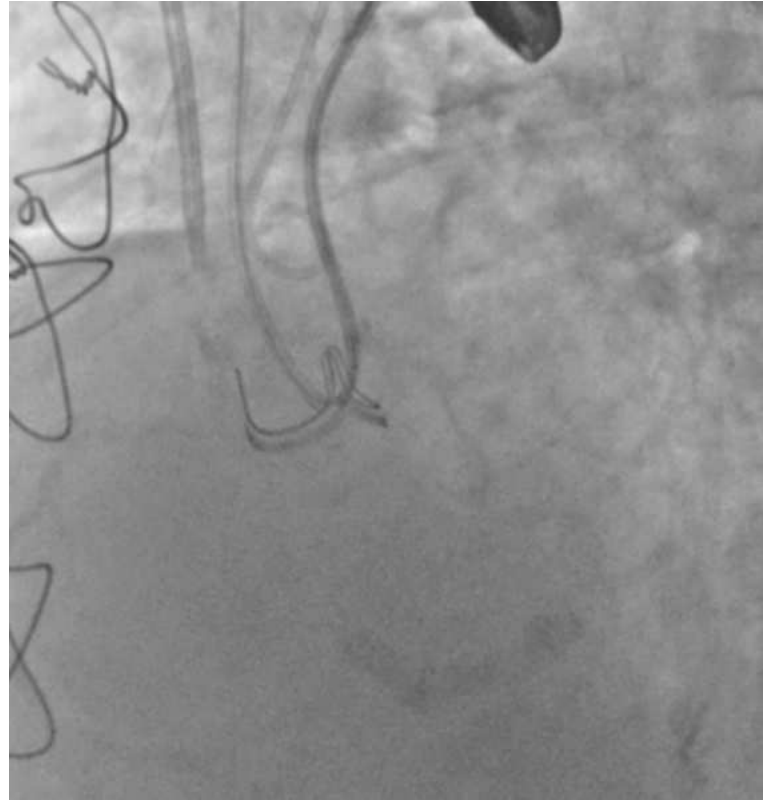
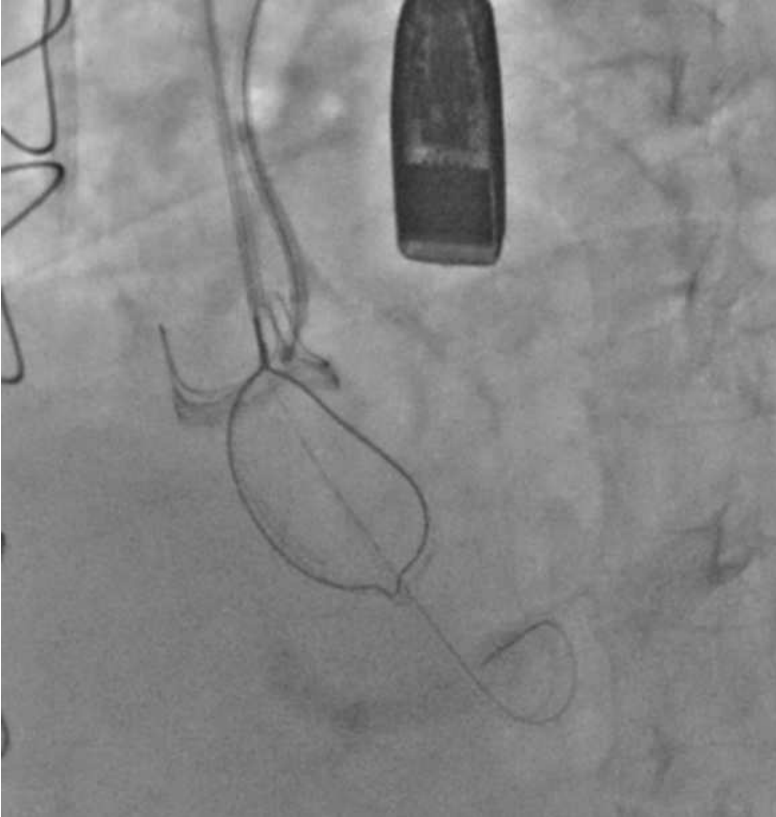
30 subjects at high risk of coronary obstruction from TAVR

Successful BASILICA traversal and laceration in 35/37 (95%) leaflets

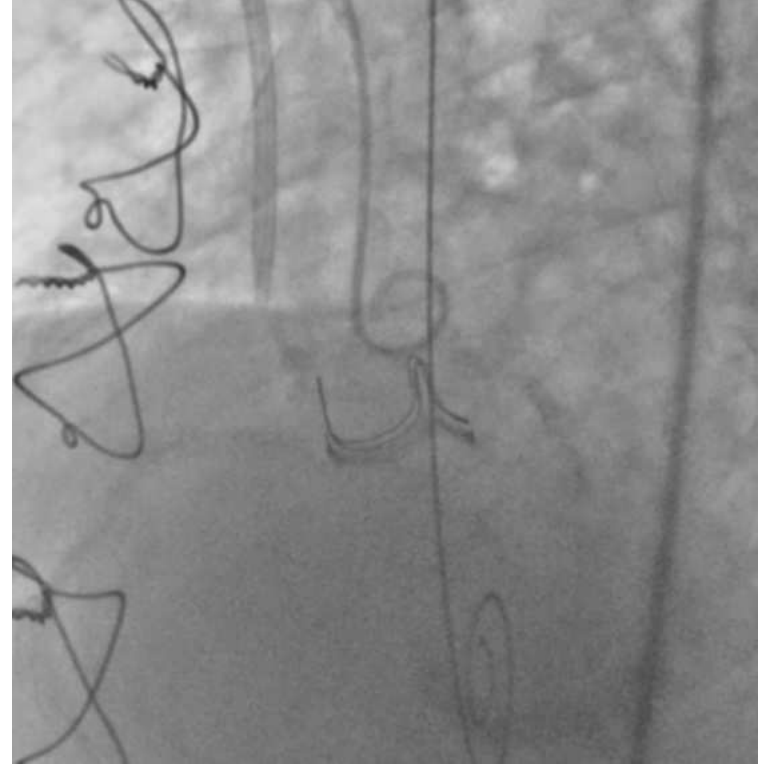
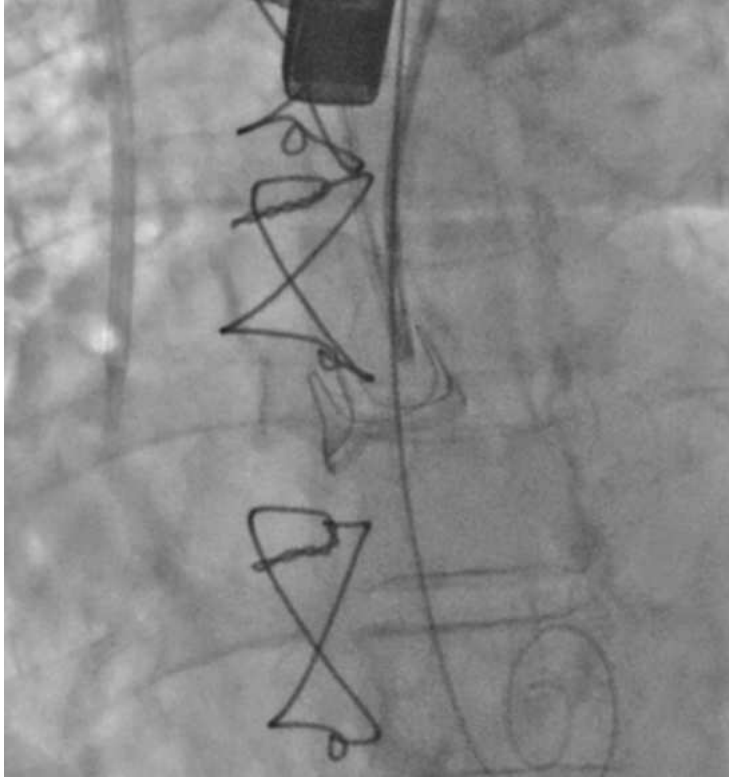
Primary endpoint of procedure success (28/30 patients) = 93%

Khan, J.M. et al. J Am Coll Cardiol Intv. 2019;12(13):1240-52.

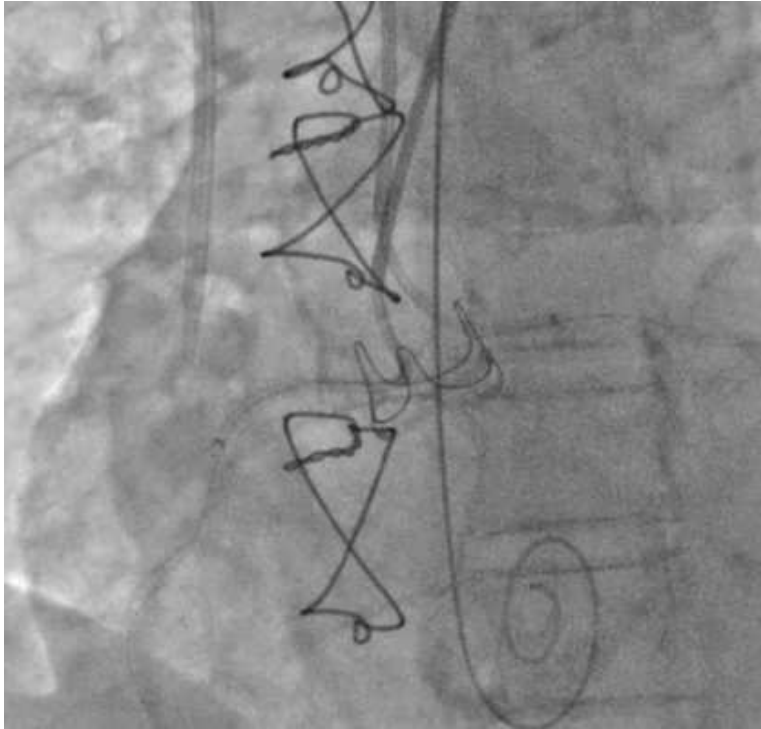
Solution : Basilica



Solution : Basilica



Solution : Basilica



Solution : Basilica

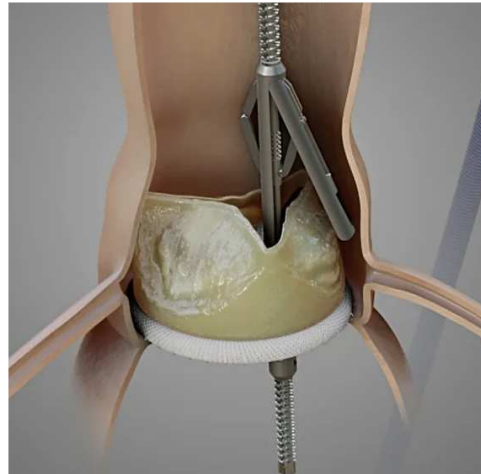


Solution : shortcut

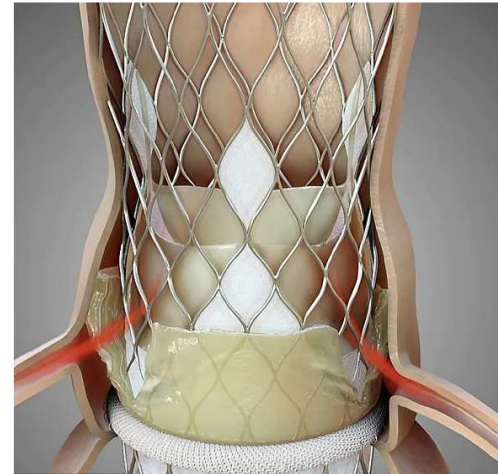
1^{er} dispositif transcatheter dédié à la lacération des feuillets aortiques



Intended to enable coronary access and prevent coronary obstruction during TAVI



Complete control over positioning and leaflet splitting location



Designed for safe, simple splitting of single or double leaflets, with short procedural times

Solution : shortcut



ShortCut™ Pivotal Study Objective & Endpoints

Study Objective: Assess safety & effectiveness of the ShortCut device for splitting bioprosthetic aortic valve leaflets in patients **at risk** for ViV-induced **coronary obstruction** (CO)

Primary

Safety: ShortCut procedure-related mortality, stroke assessed within 7D

Effectiveness: Leaflet splitting success assessed intra-procedurally

Secondary

Safety: Assessed through 30D

- All-cause mortality, stroke
- CO, MI w/ new evidence of CO requiring intervention
- Major vascular complications
- Cardiac tamponade, acute kidney failure & access related type III-IV bleeding

Effectiveness: Assessed through 30D post procedure

- Freedom from CO / intervention related to the intervened leaflet

Technical Success: Assessed at exit of procedure room

Rigorous Study Structure



Take home messages

- Occlusion coronaire :
 - complication rare (0.66%)
 - Mortalité J30 : 41%
- Solutions pour traiter en aiguë sont aléatoires
- Analyse du scanner pour stratégie préventive +++
- Nécessité de maîtriser les techniques de modifications des feuillets (BASILICA, Shortcut) avec l'augmentation des TAV in SAV et des TAV in TAV