

HYBRID APPROACH TO TREAT CONCOMITANT SEVERE CORONARY ARTERY DISEASE AND AORTIC VALVE STENOSIS

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OBJECTIVES

Severe **coronary artery disease (CAD)** is a common finding in patients with **severe aortic valve stenosis (AS)** scheduled for **TAVI**. While current guidelines recommends concomitant CABG and surgical AVR, this approach might be at **high risk** in fragile, elder patients. While benefits of a **complete** percutaneous revascularization concomitantly with TAVI is still debated, the only target providing a prognostic benefit seems to be the revascularization of the left anterior descending artery (LAD). However the complexity of the LAD lesions may provide suboptimal results when PCI is performed.

We report our experience in providing a combined **HYBRID APPROACH** by means of a **minimally invasive revascularization strategies + TAVI** for the treatment of concomitant CAD and severe AS.

Baseline Characteristics

N° Patients	11
Age mean (SD)	79.4 ± 5.4
Female n (%)	3 (27.3)
BMI mean (SD)	27.2 ± 3.7
Creat (mg/dL) mean (SD)	1.2 ± 0.7
2 procedures ES-II mean (SD)	5.3 ± 2
CABG-only ES-II mean (SD)	3.1 ± 1.3

METHODS

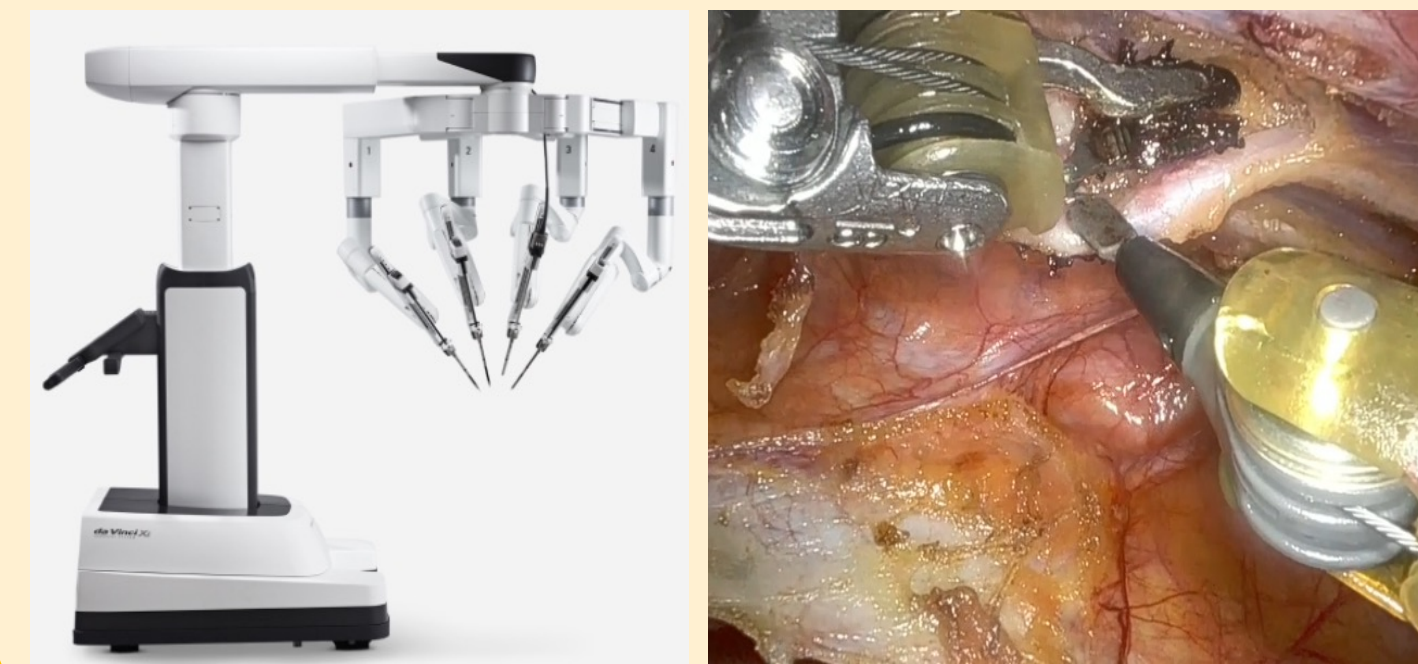
Retrospective analysis of patients with severe LAD stenosis + AS scheduled for TAVI

INCLUSION CRITERIA

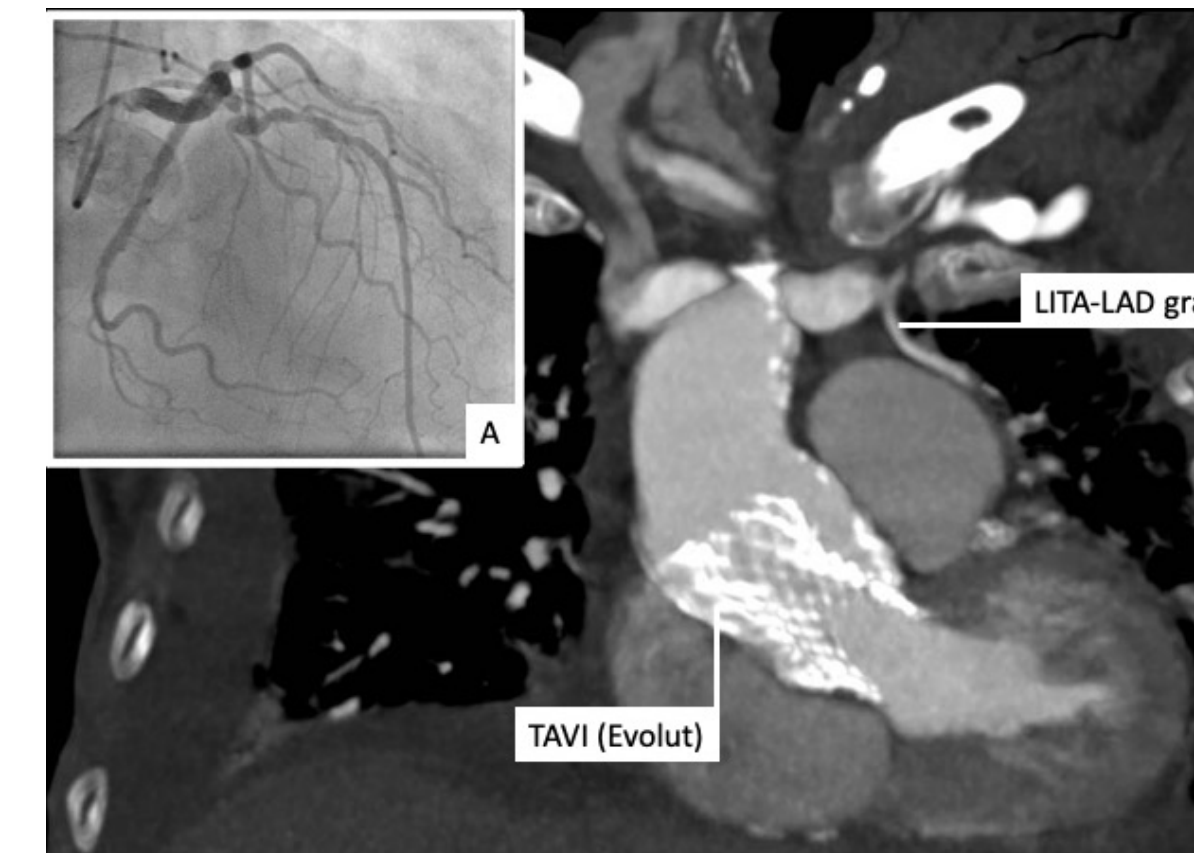
- Concomitant 2 procedures at **high surgical risk** (frailty, age, comorbidities or ESII >5)
- **LAD stenosis at high risk for PCI (syntax >30)** and suitable for surgical revascularization

Techniques & Timing

LAD revascularization strategies



Minimally Invasive
OFF-PUMP
surgery:
• **RA - MIDCAB**
• **Direct - MIDCAB**



Followed by
TAVI

CONCLUSIONS

This **patient-tailored** approach showed a high safety profile. A significant breakdown of the overall risk was guaranteed to fragile patients although the best treatment options were provided for both LAD revascularization, by means of a **minimally invasive off-pump technique, as well as TAVI** for AS in elderly.

Results

Surgical strategy for revascularization	
RA-MIDCAB n (%)	6
Direct-MIDCAB n (%)	5
Conversion to sternotomy n (%)	0
Surgical time (min) mean (SD)	174 ± 42
ICU stay (days) median (IQR)	1(1-3)
MV >72h n (%)	0
AKI requiring haemodialysis n (%)	0
New Atrial Fibrillation n (%)	2(18.2)
TAVI prosthesis	
Self-Expandable n (%)	8(72.7)
Balloon-Expandable n (%)	3(27.3)
Vascular complication during TAVI n (%)	1(9.1)
Definitive PM implant n (%)	2(18.2)
Minor stroke n (%)	1(9.1)
Major Stroke n (%)	0
Median Length of stay (days)	
Single hospitalization	16(12-22)
Interval between procedures (days) mean (SD)	7(3.6)
Two hospitalization (TAVI – MI-CABG)	5(5-5); 8(8-9)
In-Hospital mortality n (%)	0
30-Day mortality n (%)	0
CV Death at FU median 12 months (11.5-17.5)	0
Reintervention on aortic valve n (%)	0
Repeated revascularization n (%)	0

Table & Figure legend:

ES-II: EuroSCORE; LAD: Left Anterior Descending; MV: Mechanical Ventilation; AKI: Acute Kidney Injury; CV: Cardio Vascular; RA: Robotic Assisted; AS: Aortic Valve Stenosis; FU: Follow-Up