

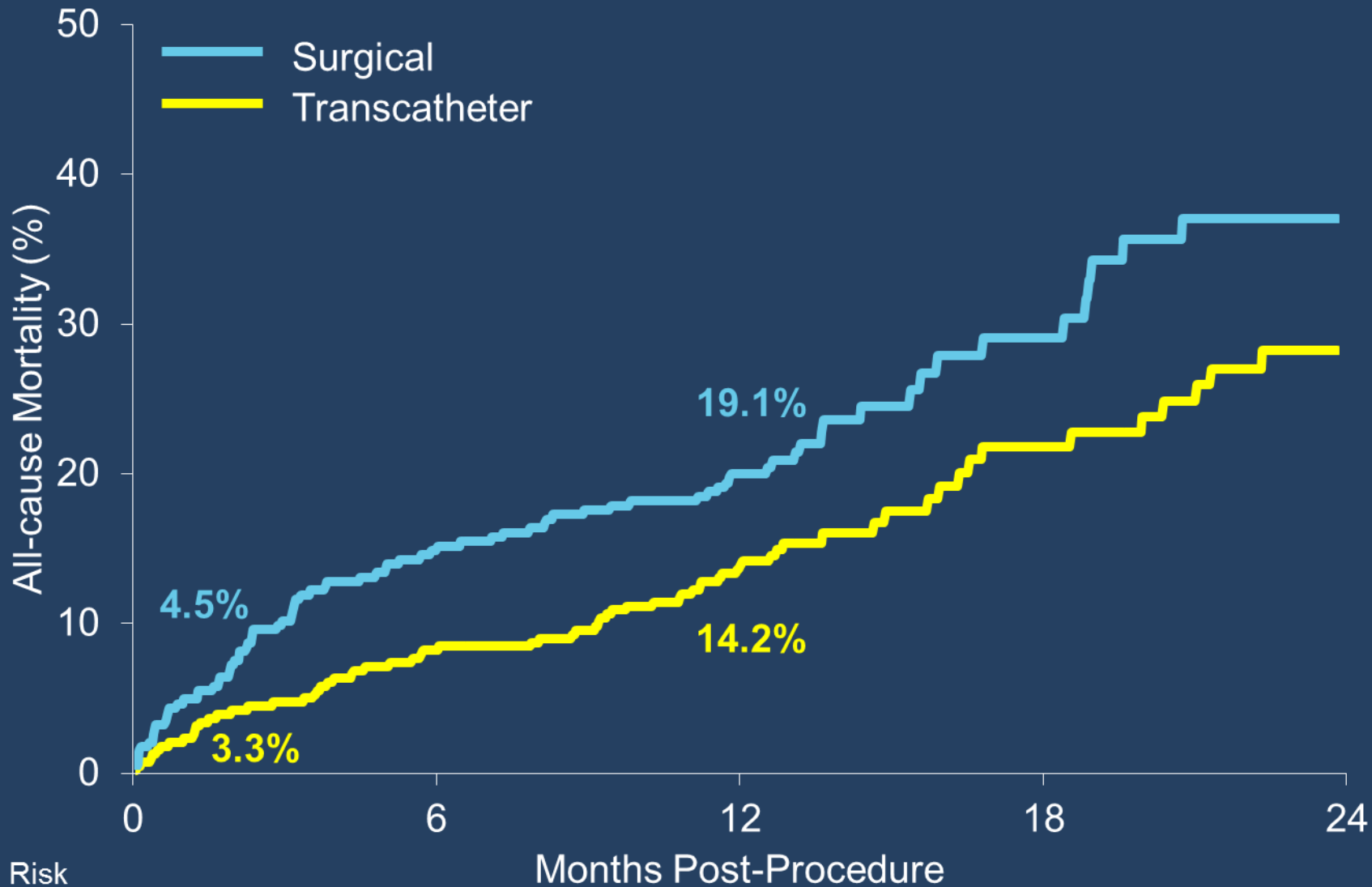
Aortic valve intervention after CABG : valve replacement or TAVI?

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2-Year All-cause Mortality

ACC 2014



No. at Risk

| | | | | | |
|---------------|-----|-----|-----|----|----|
| Surgical | 357 | 341 | 274 | 28 | |
| Transcatheter | 390 | 377 | 329 | 38 | 26 |

Issues of TAVI in CABG patients

- Results of TAVI in this population ?
- Characteristics of this population?
- Risk of reoperation?
- Advantages of reoperation and AVR ?
- Consensus based on clinical experience

Characteristics of this cohort

Am J Cardiol. 2015 Aug 1;116(3):431-5. doi: 10.1016/j.amjcard.2015.04.055. Epub 2015 May 9.

Outcomes of Transfemoral Transcatheter Aortic Valve Implantation in Patients With Previous Coronary Bypass.

Leshem-Rubinow E¹, Abramowitz Y², Steinvil A², Ben-Assa E², Chorin E², Shacham Y², Yankelson L², Konigstein M², Keren G², Banai S², Finkelstein A².

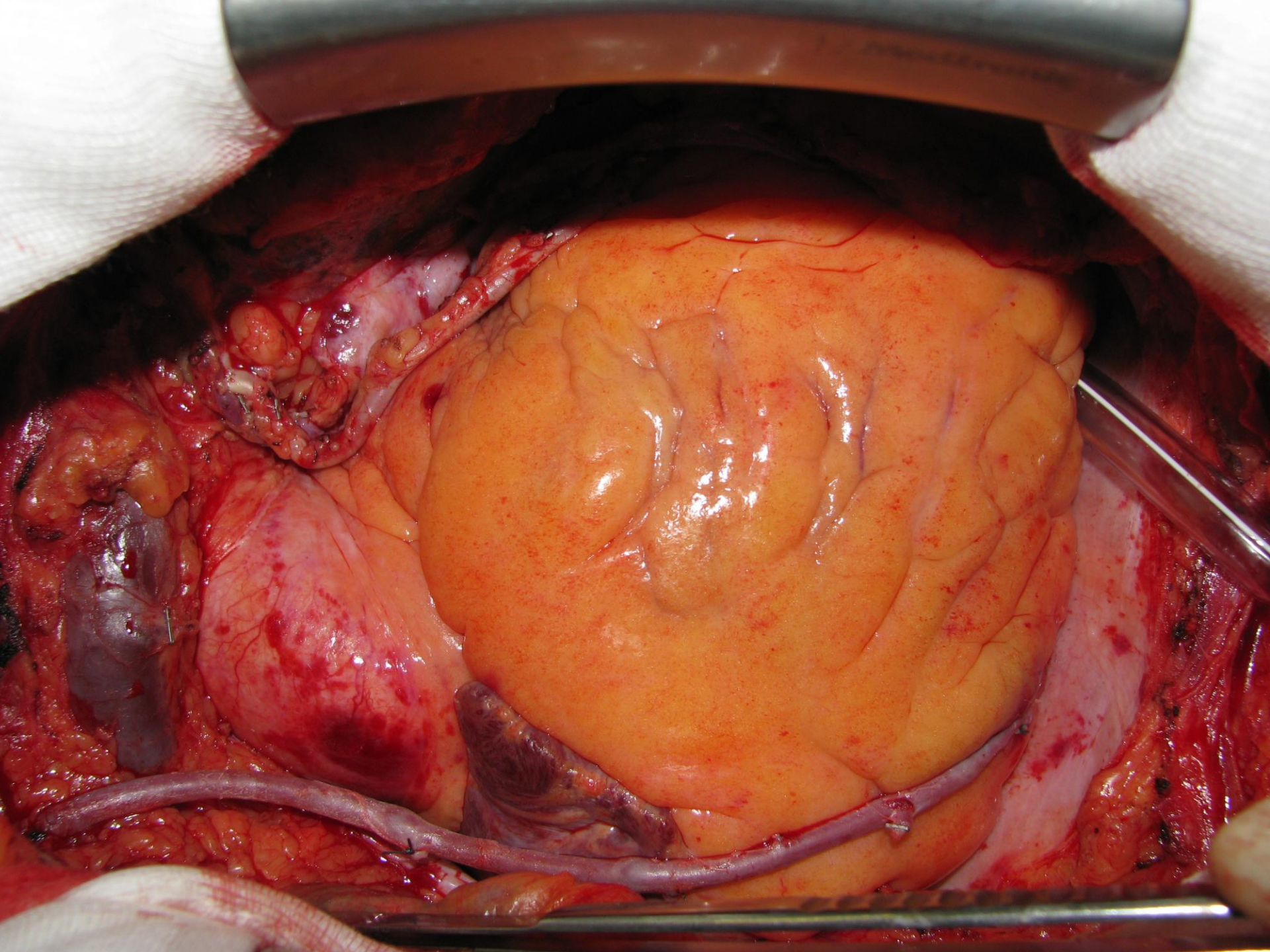
Author information

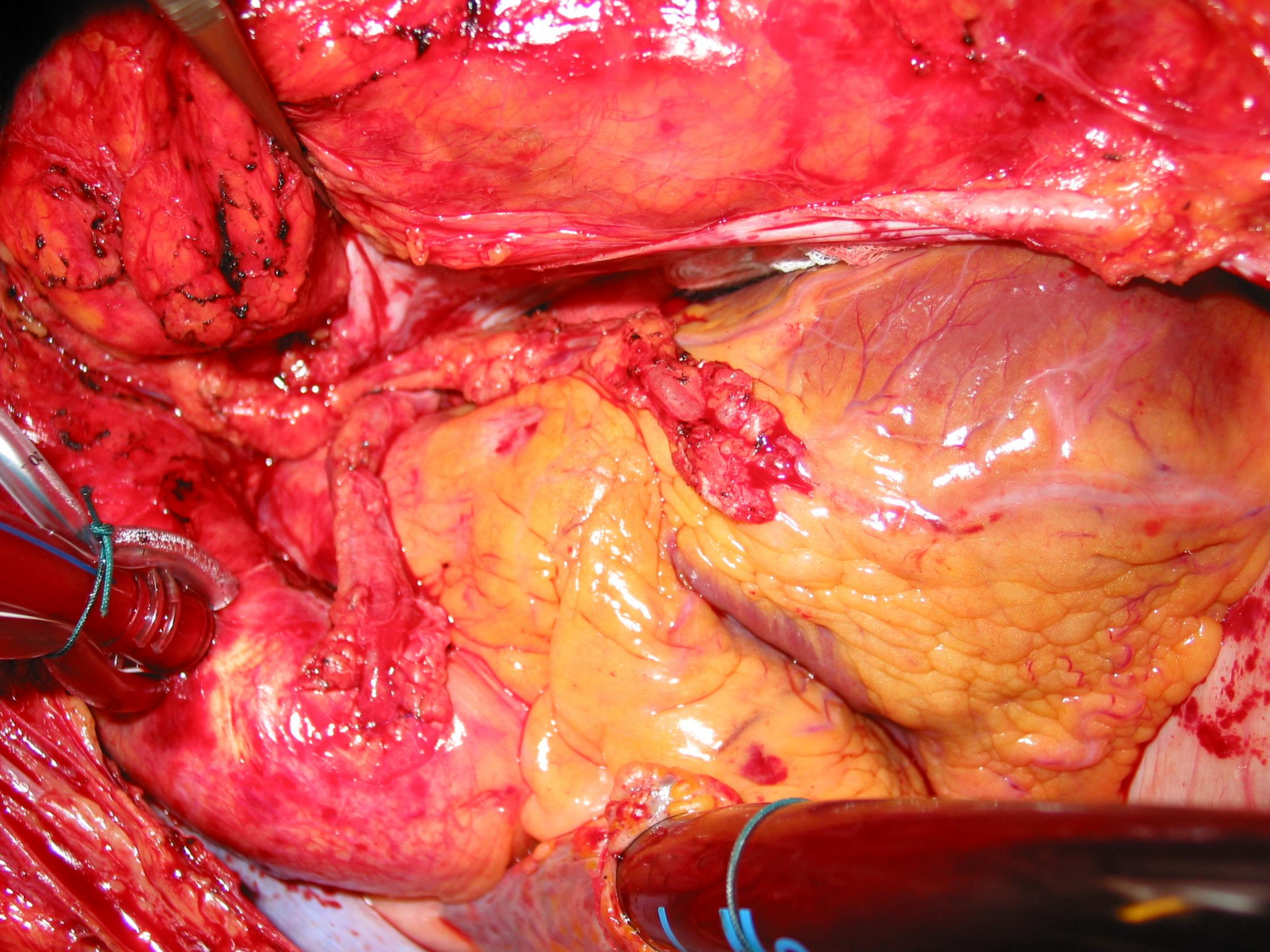
Abstract

Patients with previous coronary artery bypass grafting (CABG) are considered to be at increased perioperative risk for a redo cardiac operation. In the era of transcatheter aortic valve implantation (TAVI), these patients constitute a considerable portion of those with severe aortic stenosis referred for TAVI. We evaluated the impact of previous CABG on transfemoral TAVI outcomes. Patients with severe symptomatic aortic stenosis (n = 515) who underwent transfemoral TAVI were divided according to the presence of history of CABG. Patients with previous valvular surgery were excluded (n = 12). TAVI clinical end points and adverse events were considered according to the Valve Academic Research Consortium 2 definitions. Survival was estimated using Cox regression models at the enter mode with the dependent variable defined as all-cause mortality. Of the total 503 patients who underwent TAVI, 91 (18.1%) had previous CABG. At baseline, patients with previous CABG were younger (80.8 vs 83.1 years, p <0.001), mostly men (85% vs 35%, p <0.001), had more cardiac and vascular co-morbidities, higher mean logistic EuroSCORE (32.8 vs 22; p <0.001), lower ejection fraction (53% vs 56%, p <0.001), and lower AV gradients and larger valve area. At a mean follow-up of 636 days, the overall Valve Academic Research Consortium 2-adjudicated end points did not differ. No differences in mortality were observed at 30 days, 6 months, and 1 year after TAVI (hazard ratio 1.34, p = 0.55, Cox regression). We conclude that patients with previous CABG who underwent TAVI do not have increased risk of periprocedural complications or mortality, although having distinct clinical features compared with the total TAVI population.

Is there a risk for reintervention ?

- Risk of reopening the chest
- Risk of atheroembolism from diseased vein grafts
- Risk of injury of patent arterial grafts
- Risk of suboptimal cardioprotection with patent IMA
- Risk of transfusion, arrhythmias , phrenic nerve palsy ,suboptimal wound healing....



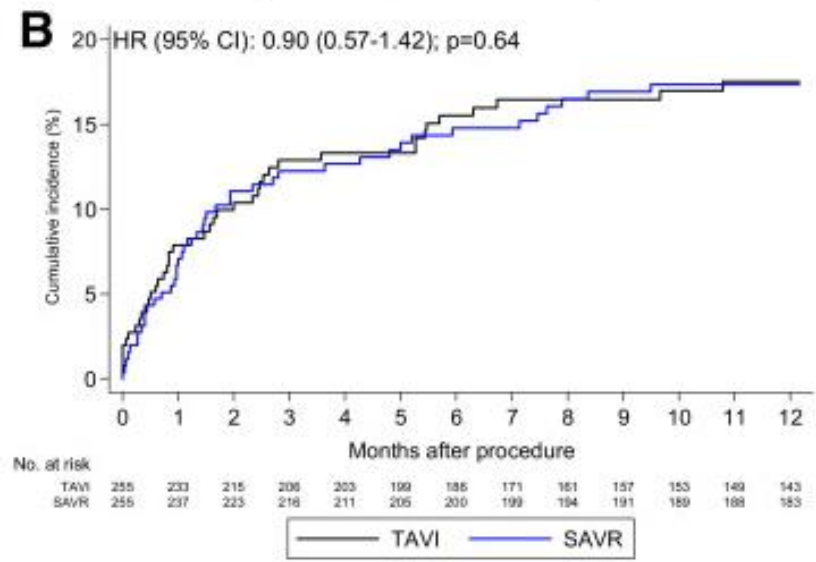
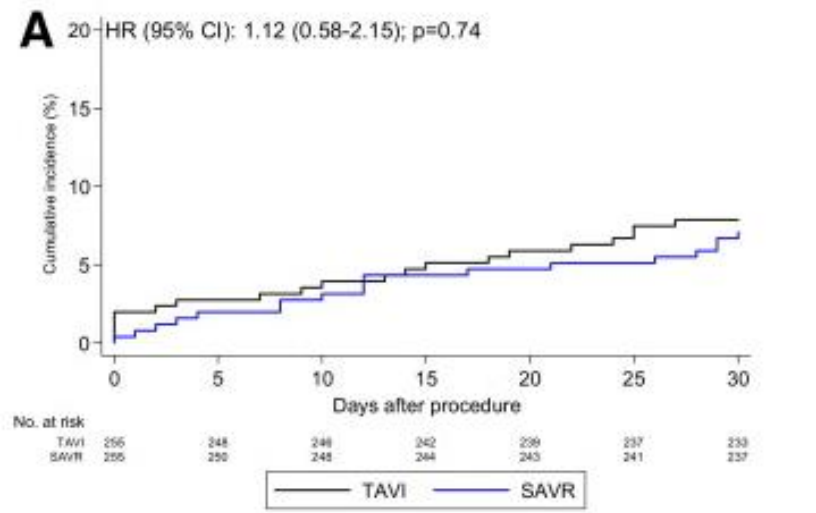


TAVI in intermediate risk patients

3-4 % \geq PROM \leq 8-10%

- Partner II Trial Sapien[®] / Sapien XT[®]
- SURTAVI Trial Corevalve[®]

Conclusions Cumulative all-cause mortality at 30 days and 1 year was similar among propensity-score matched TAVI and SAVR patients at intermediate surgical risk. (Surgical Replacement and Transcatheter Aortic Valve Implantation [SURTAVI]; NCT01586910)



Decision making for a given patient with patent grafts and AS

Valve replacement

- Low /medium risk patients
- Age and fitness requiring the actual standard of RVAo
- Long term life expectancy
- Combined procedure required or desirable

Percutaneous procedure

- Medium / high risk
- Limited life expectancy

Case n°1; Mrs P 83 years old

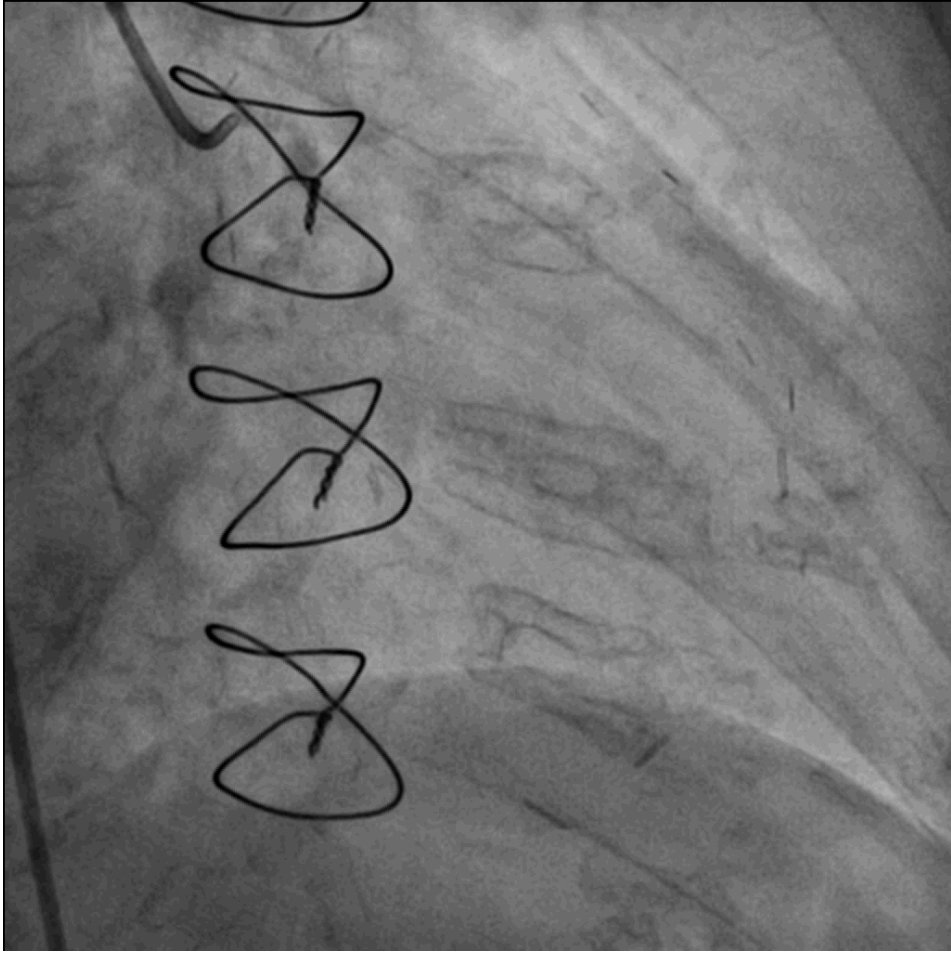
- 2010 (78 Y old) Triple vessels disease, angina II
Aortic sclerosis ; 25mmhg max
Normal LVF
- 2015 (83) DOE (II B)
AS 45mmhg mean gradient
moderately impaired LVF
Moderate MI

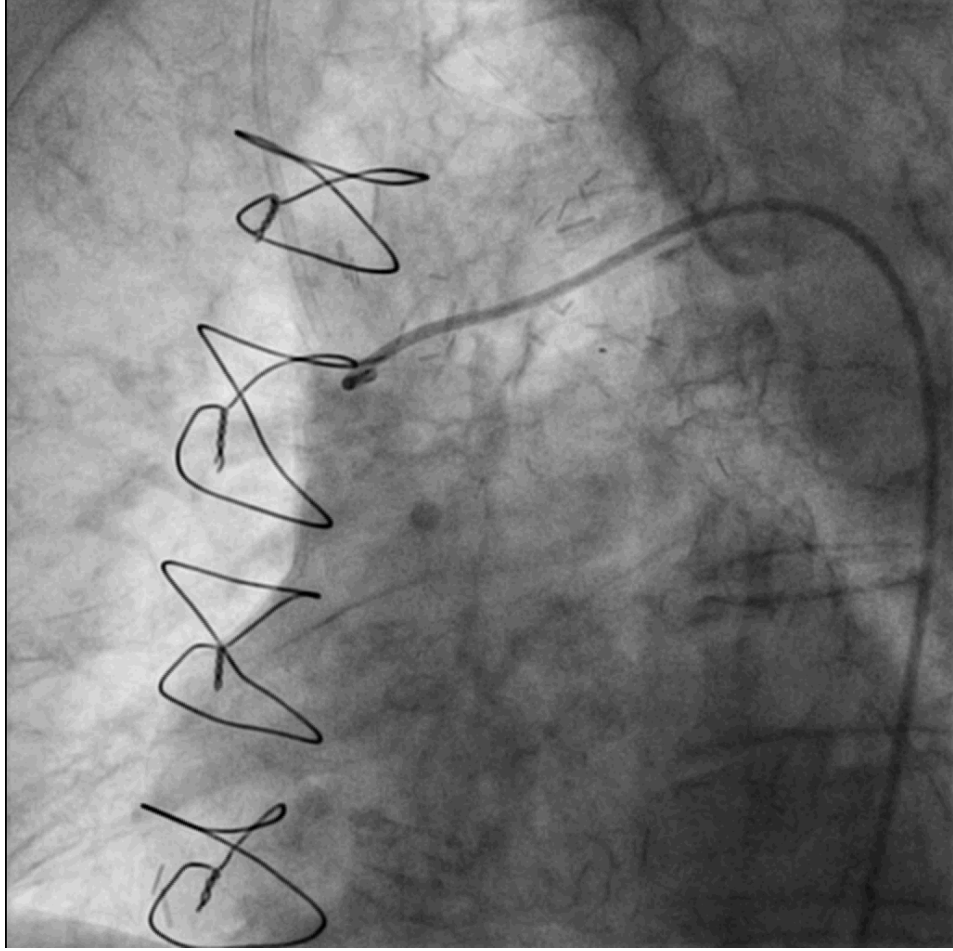
STS mortality 6.16 %

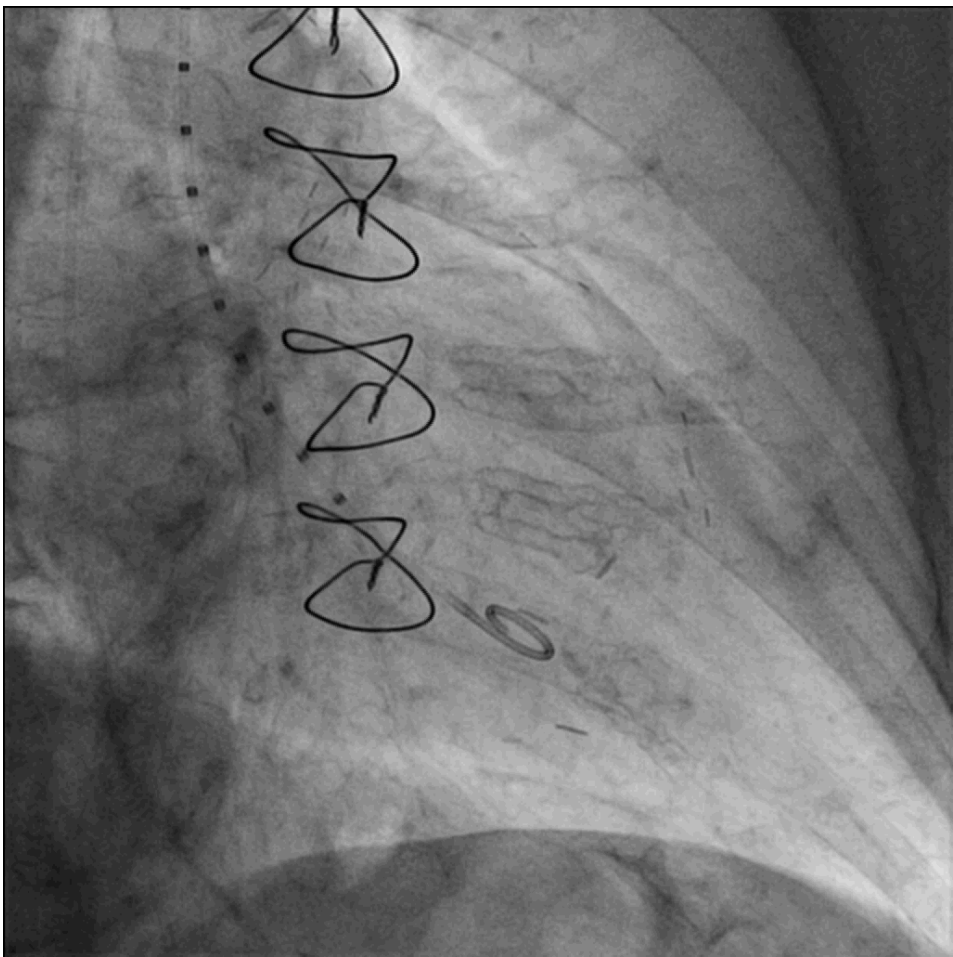
Morbidity/ mortality 28.6 %

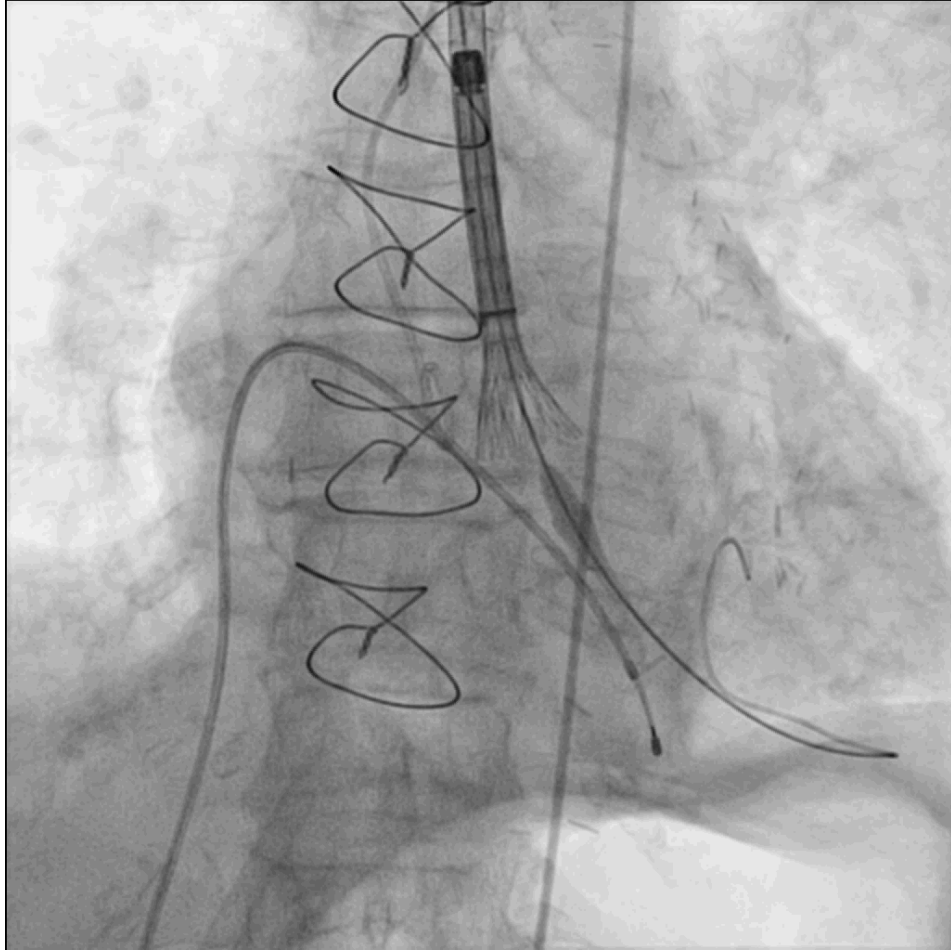
Euroscore 2 : 6.26 %

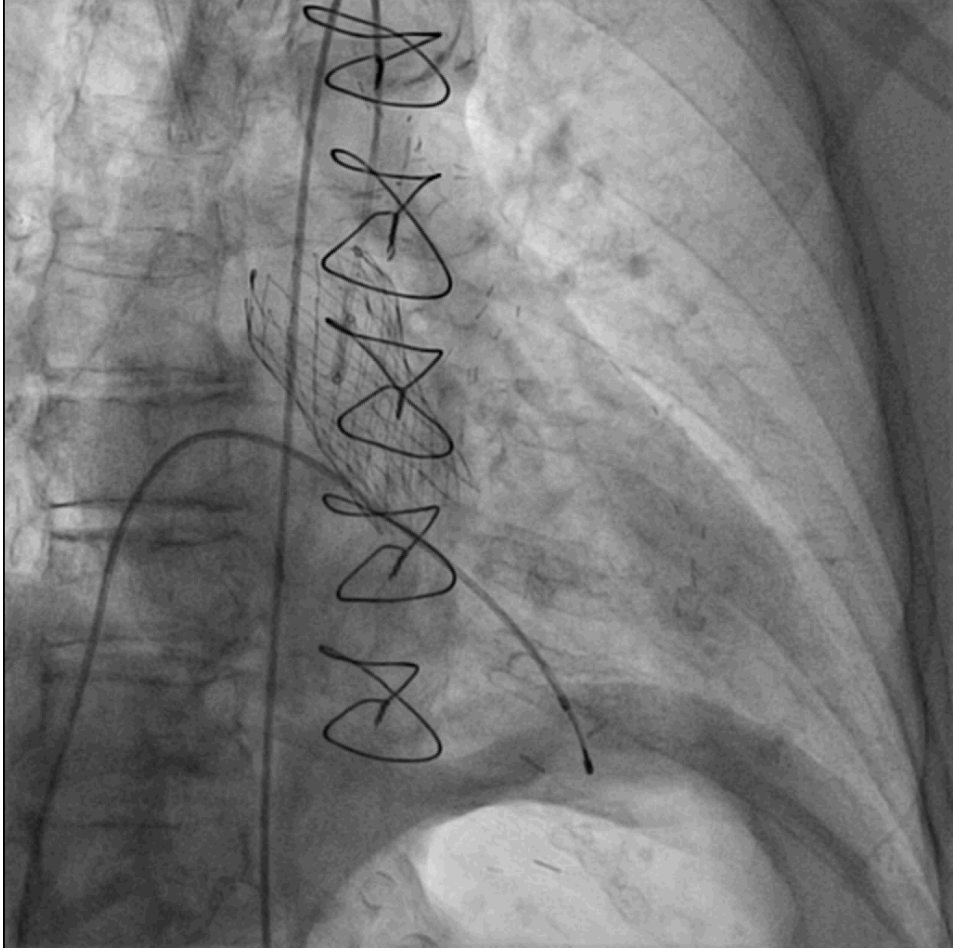


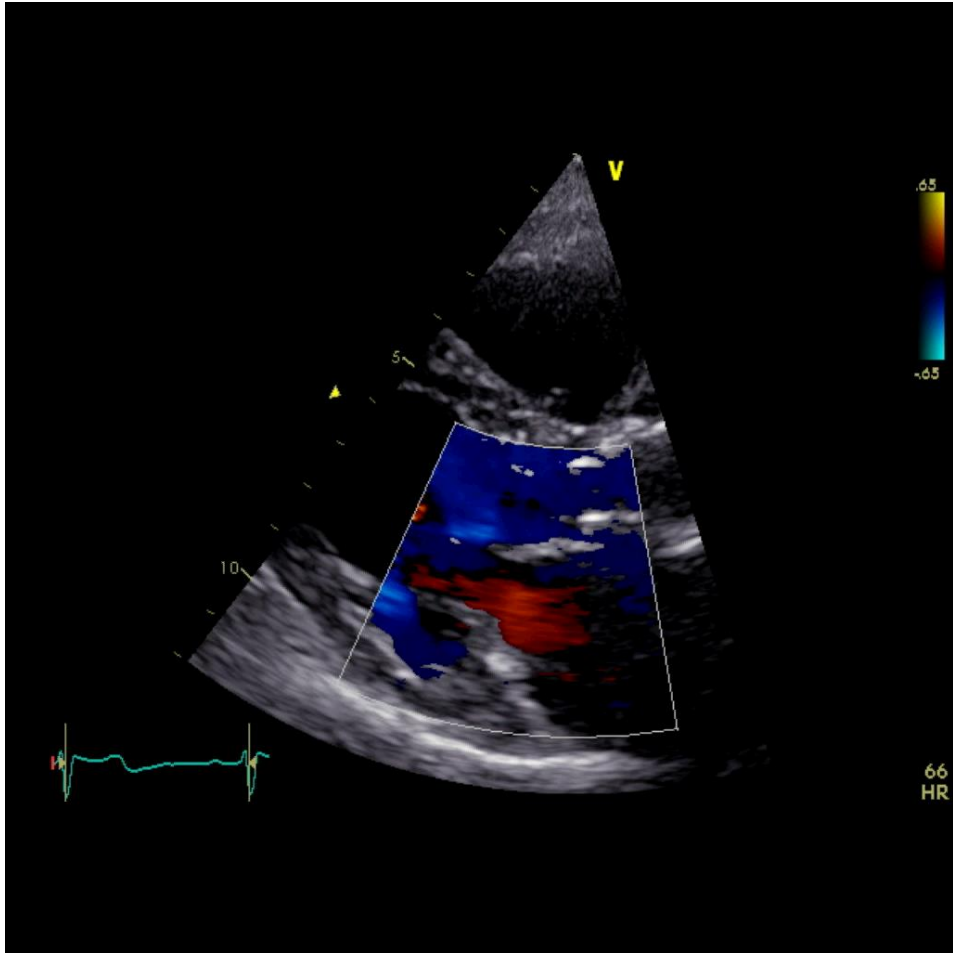






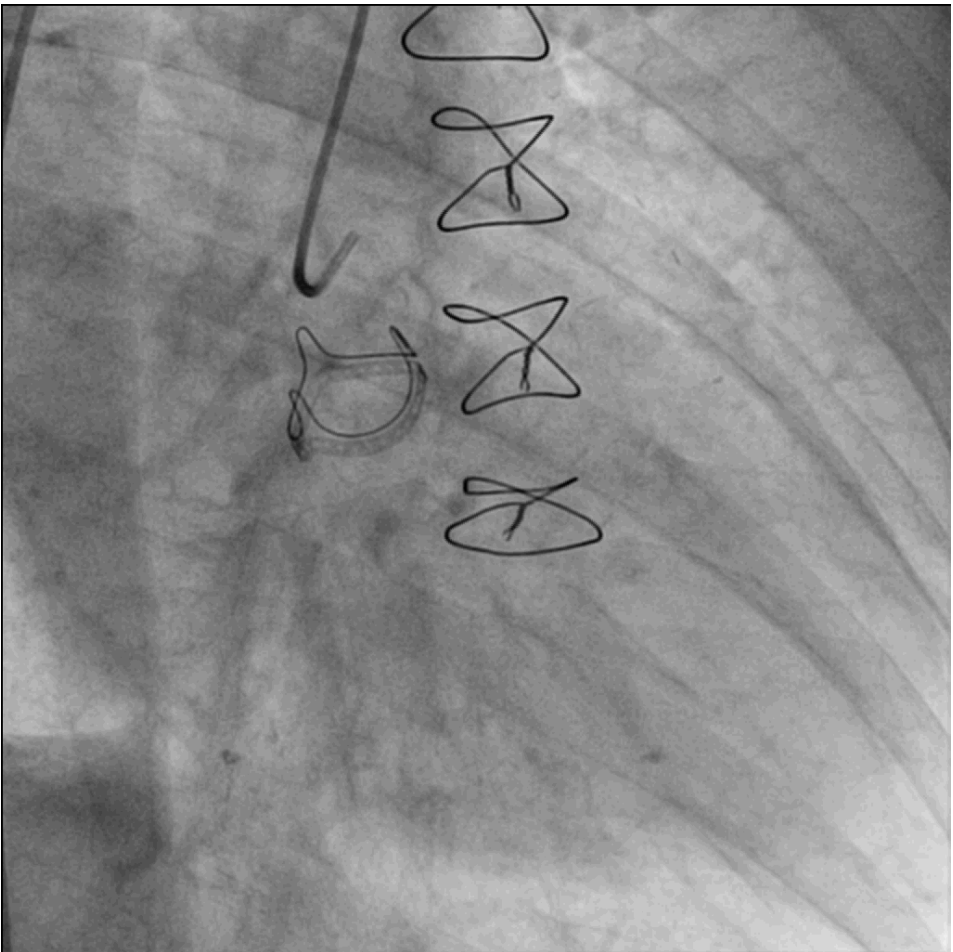


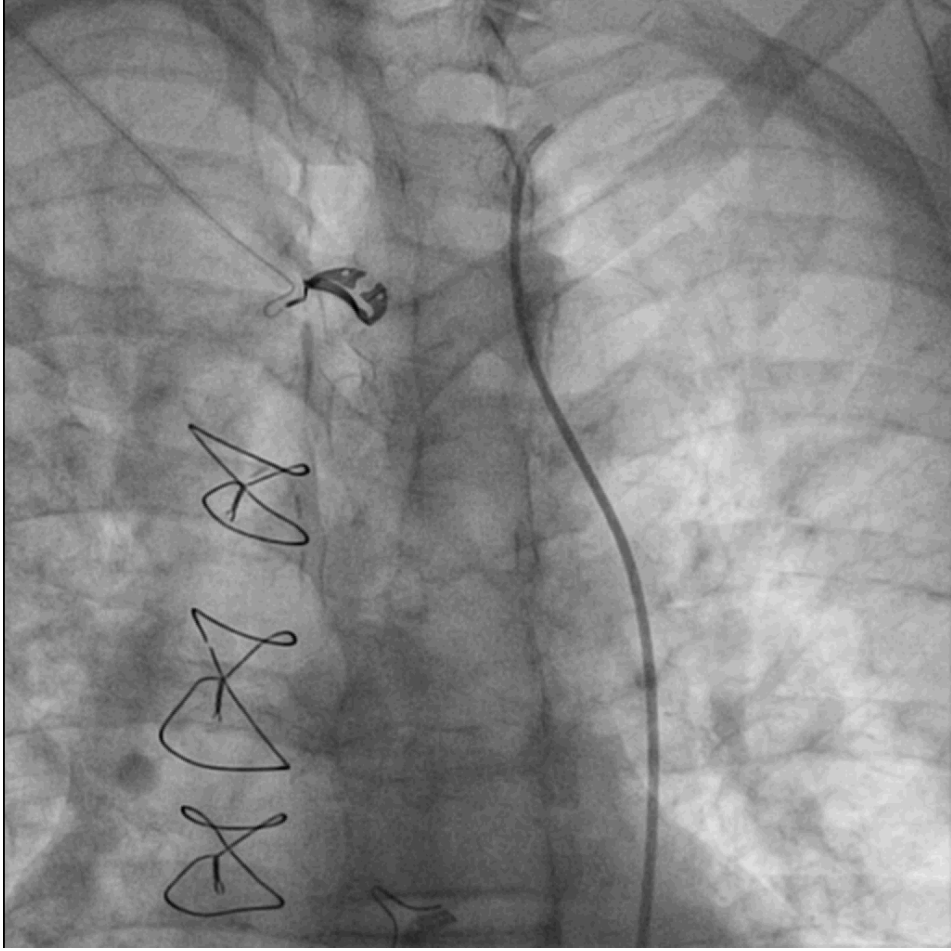


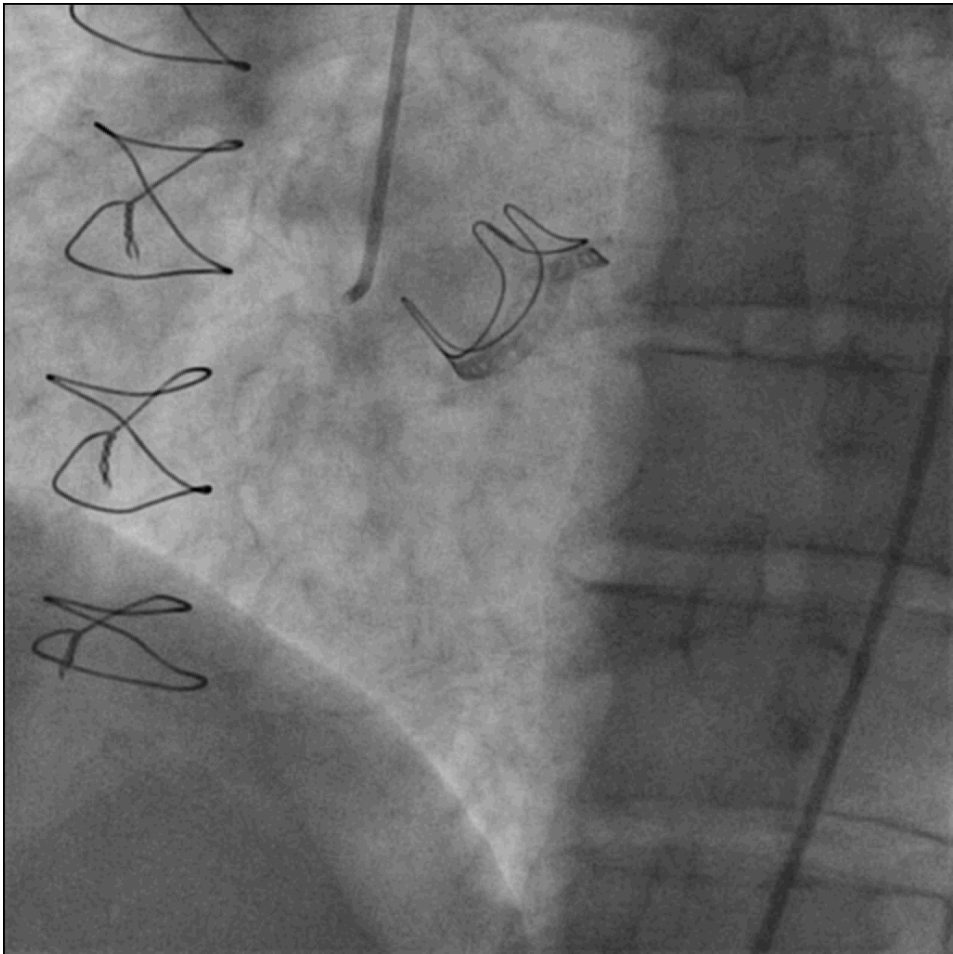


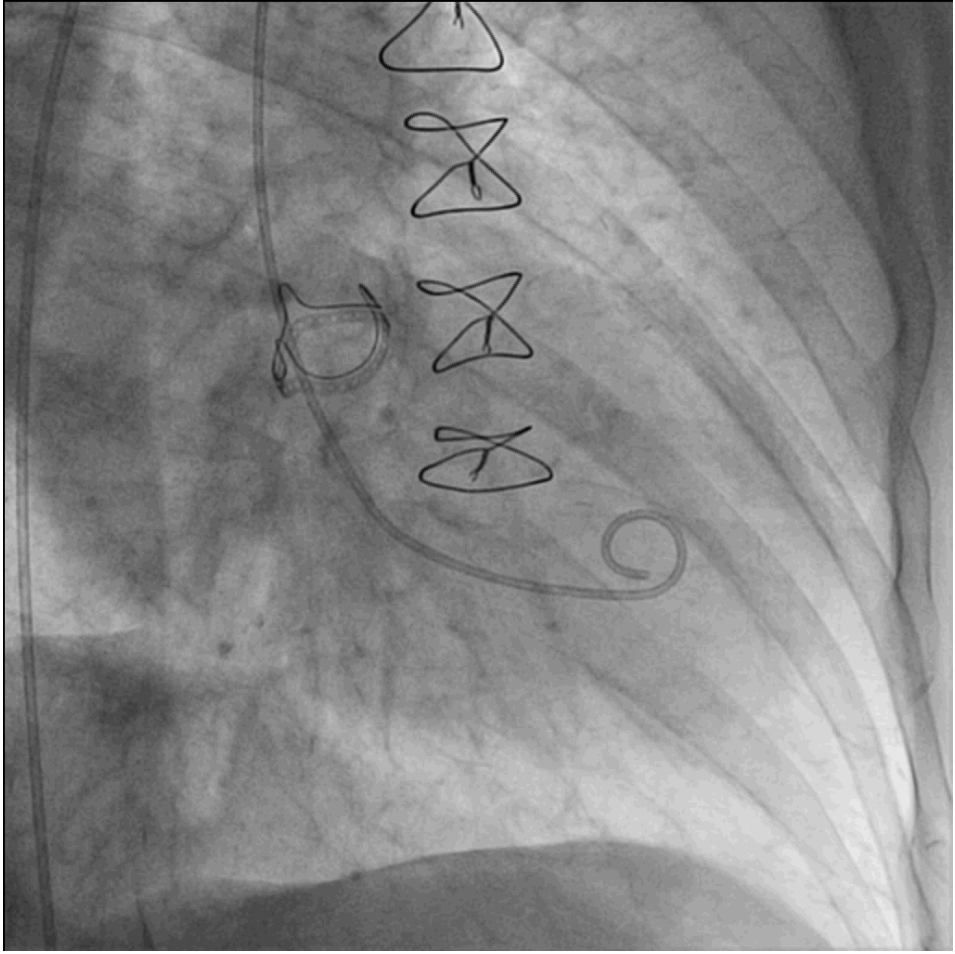
Case n° 2 : Mr G 69 years old

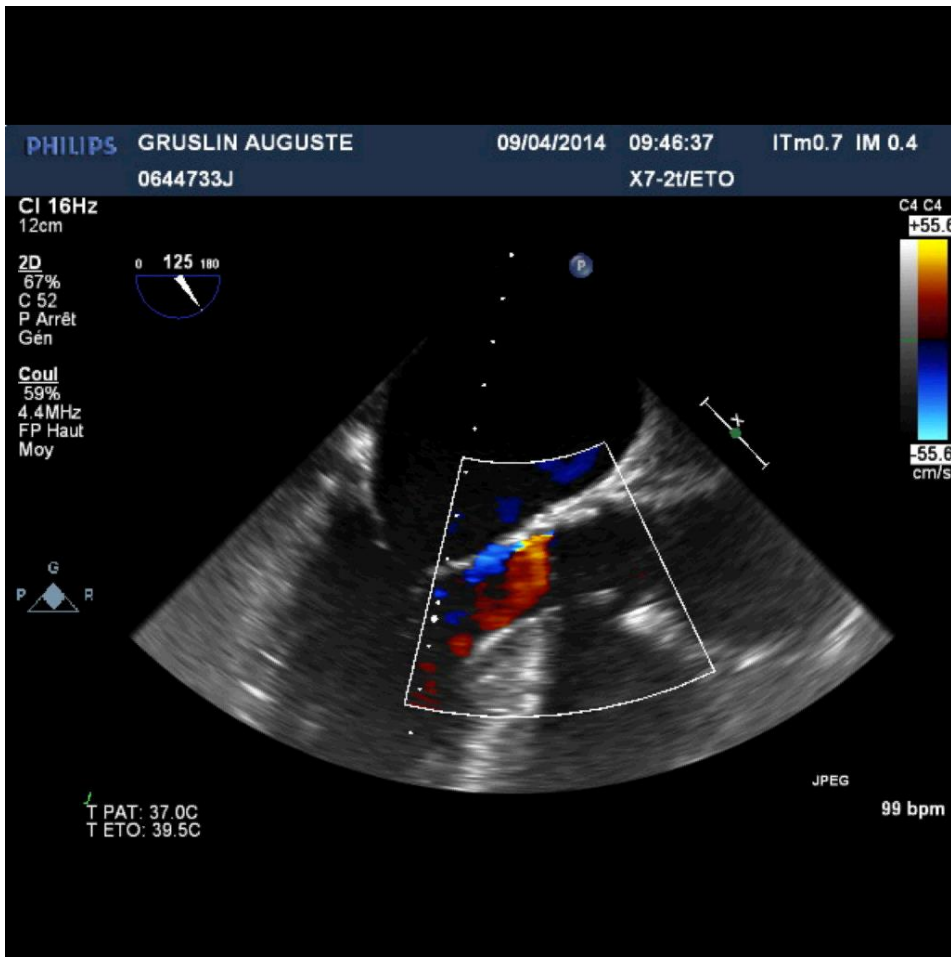
- 12/2001 (54) AVR bioprosthesis (23 CE)
LIMA to LAD and SVG to PDA
- 04 / 2014 Fibrillo – flutter EP ablated
- 04 / 2015 DOE II, AR II and moderate MR
- 09 / 2015 Bioprosthesis degeneration
Moderate ischemic MR
severe PHT (54mm hg) V wave
48, Wedge P 27, EF 56 %
Euroscore II 6.8% ,

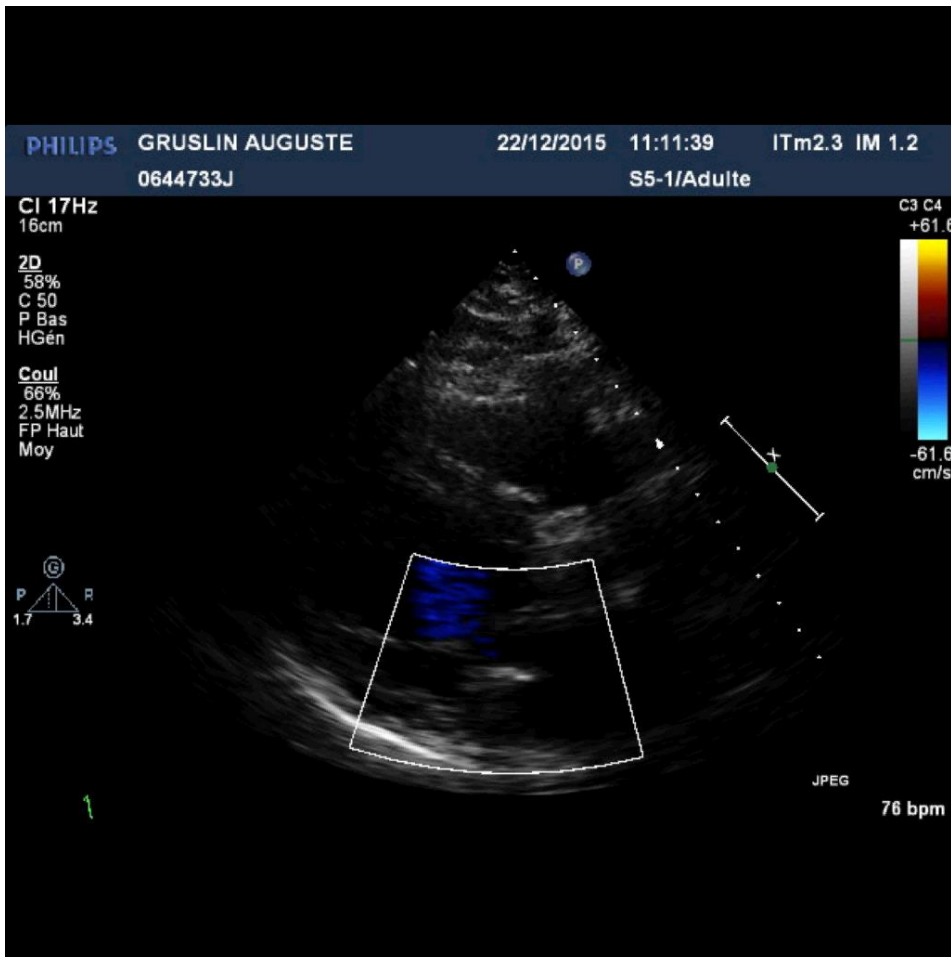


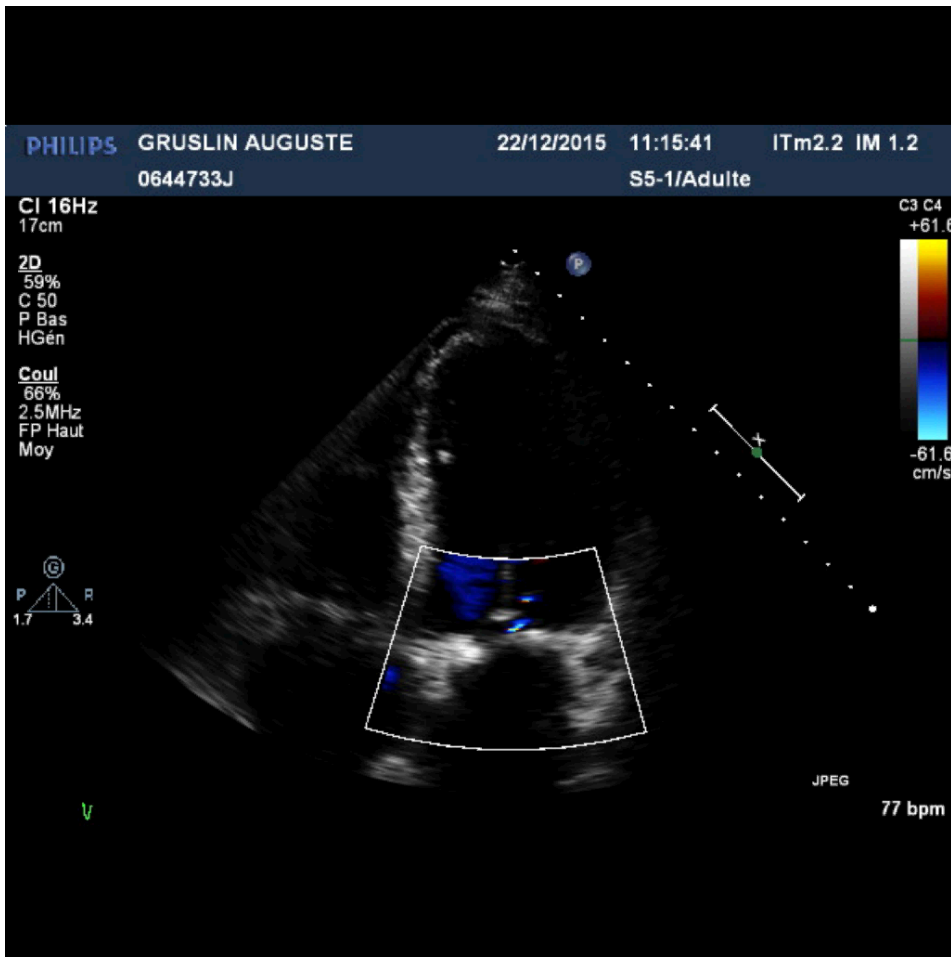












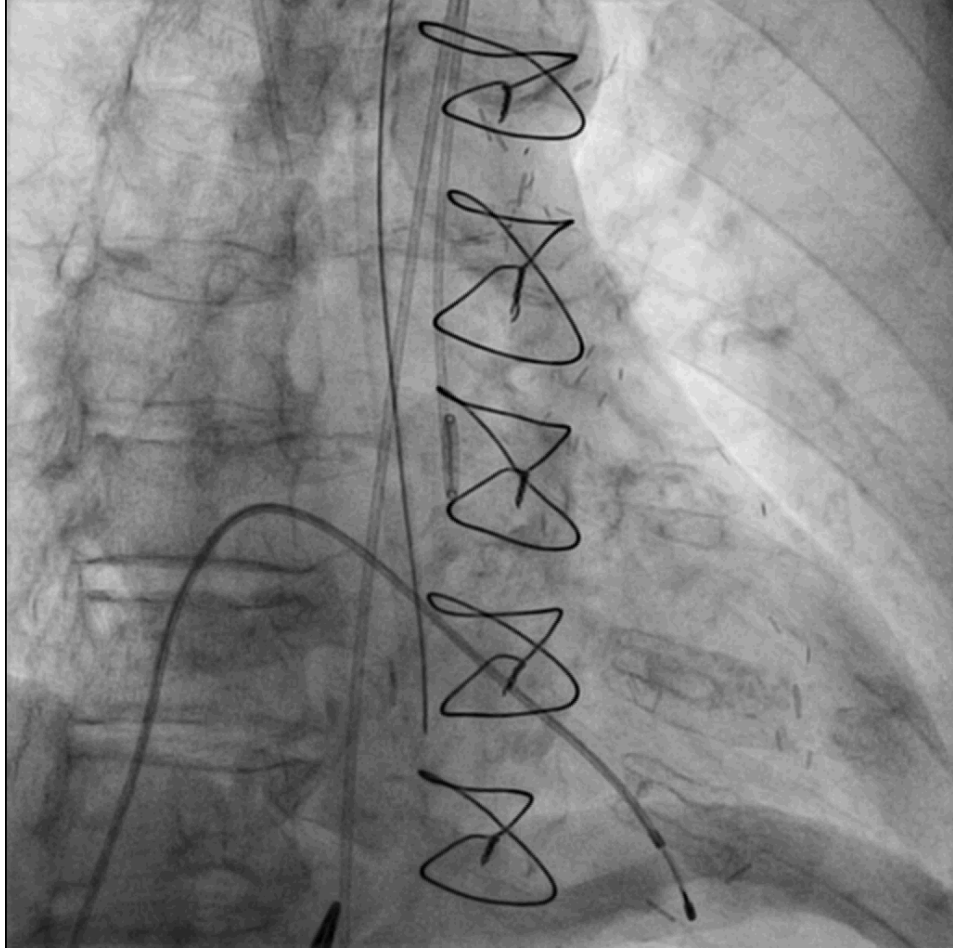
Conclusions

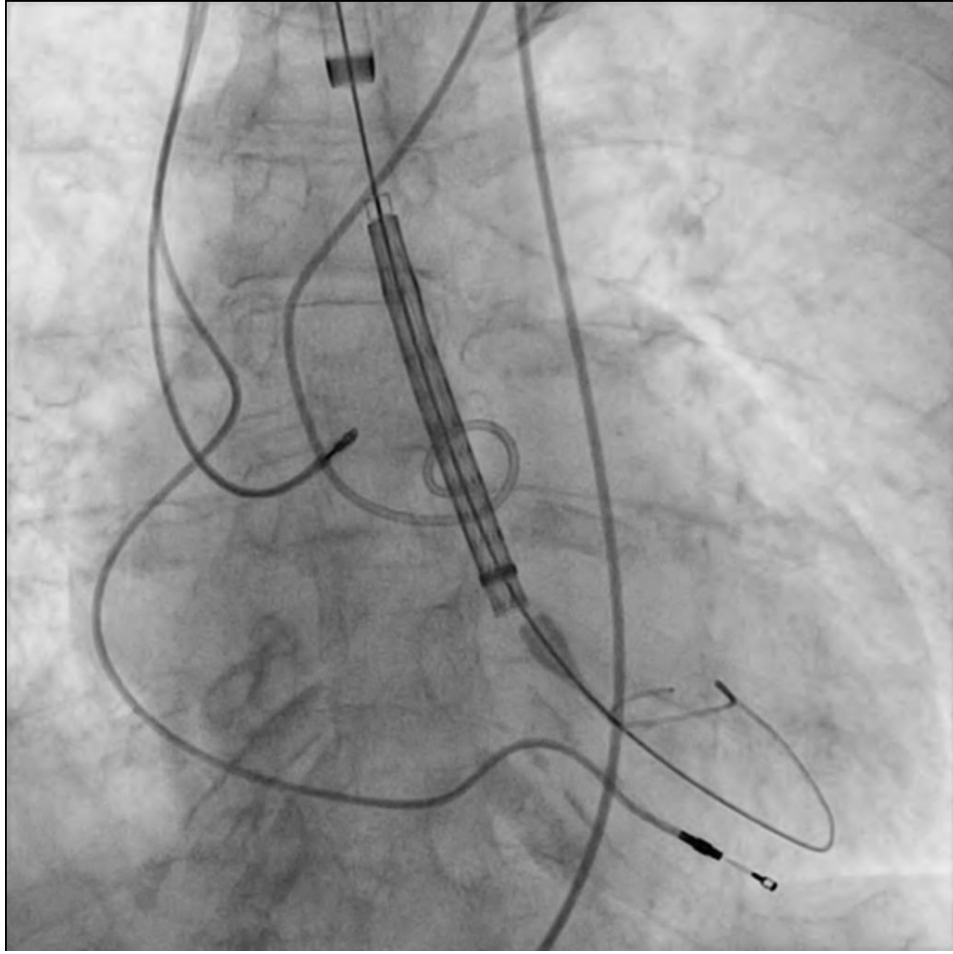
Extreme surgical risk → TAVR

High risk → probably TAVR

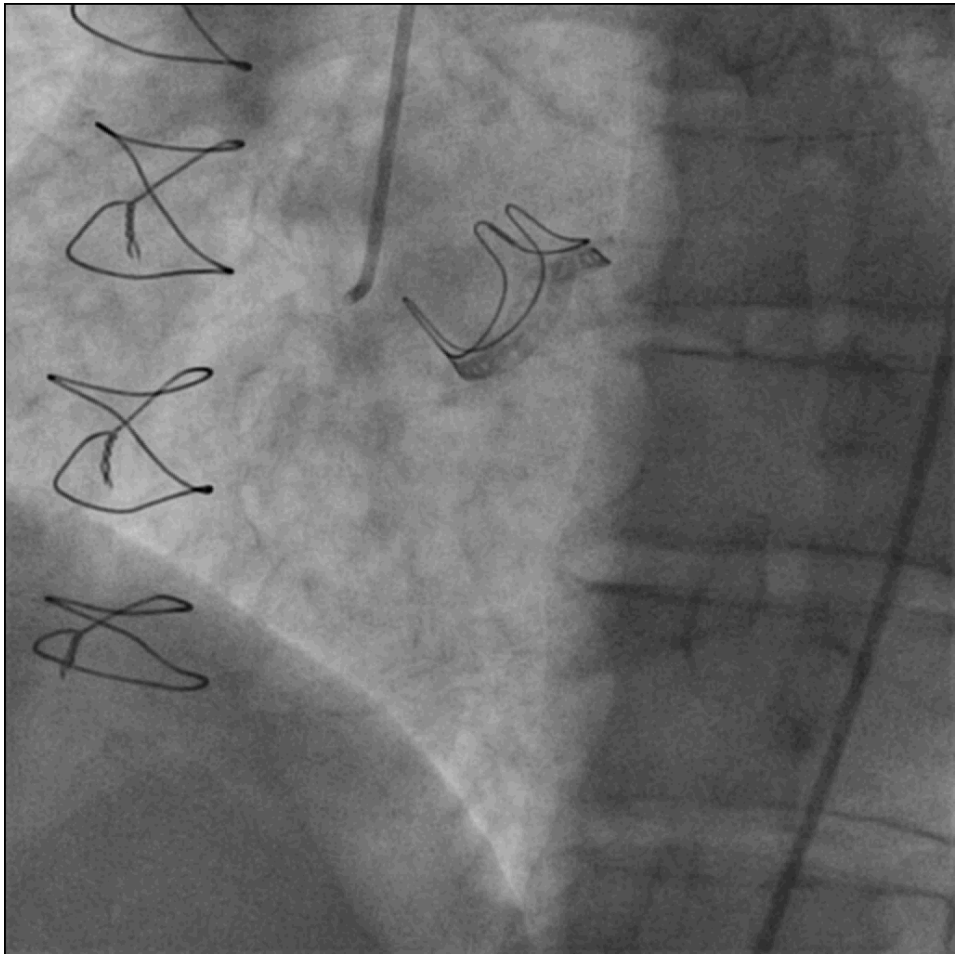
Intermediate risk → ???

Low risk → Surgery



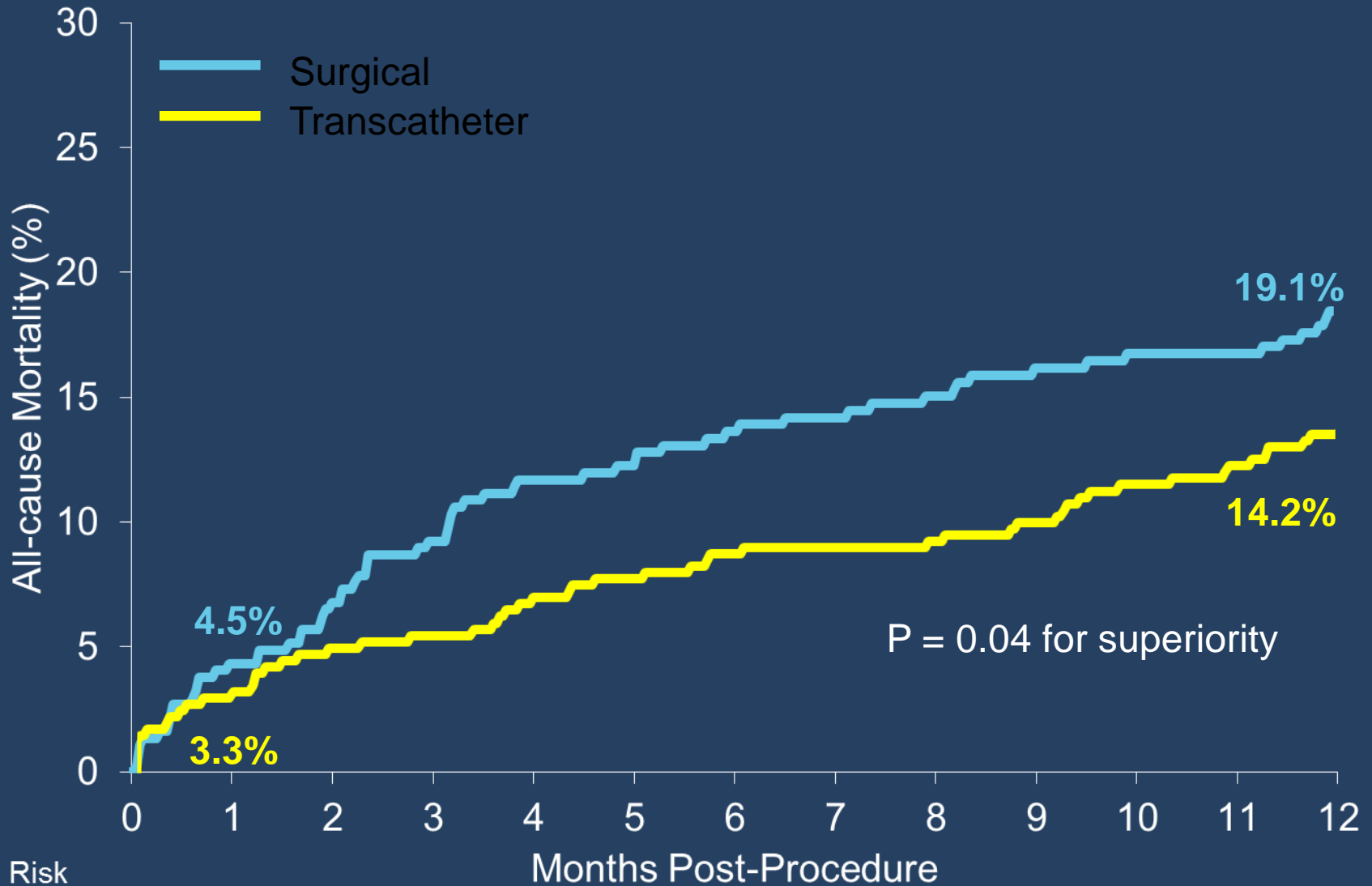






Primary Endpoint: 1 Year All-cause Mortality

ACC 2014



P = 0.04 for superiority

No. at Risk

| | 0 | 1 | 6 | 12 |
|---------------|-----|-----|-----|-----|
| Surgical | 357 | 341 | 297 | 274 |
| Transcatheter | 390 | 377 | 353 | 329 |

Pivotal Trial Design

CoreValve US Pivotal Trial

Extreme Risk

Iliofemoral Access >
18 Fr Sheath

High Risk

Randomization* 1:1

CoreValve
Iliofemoral

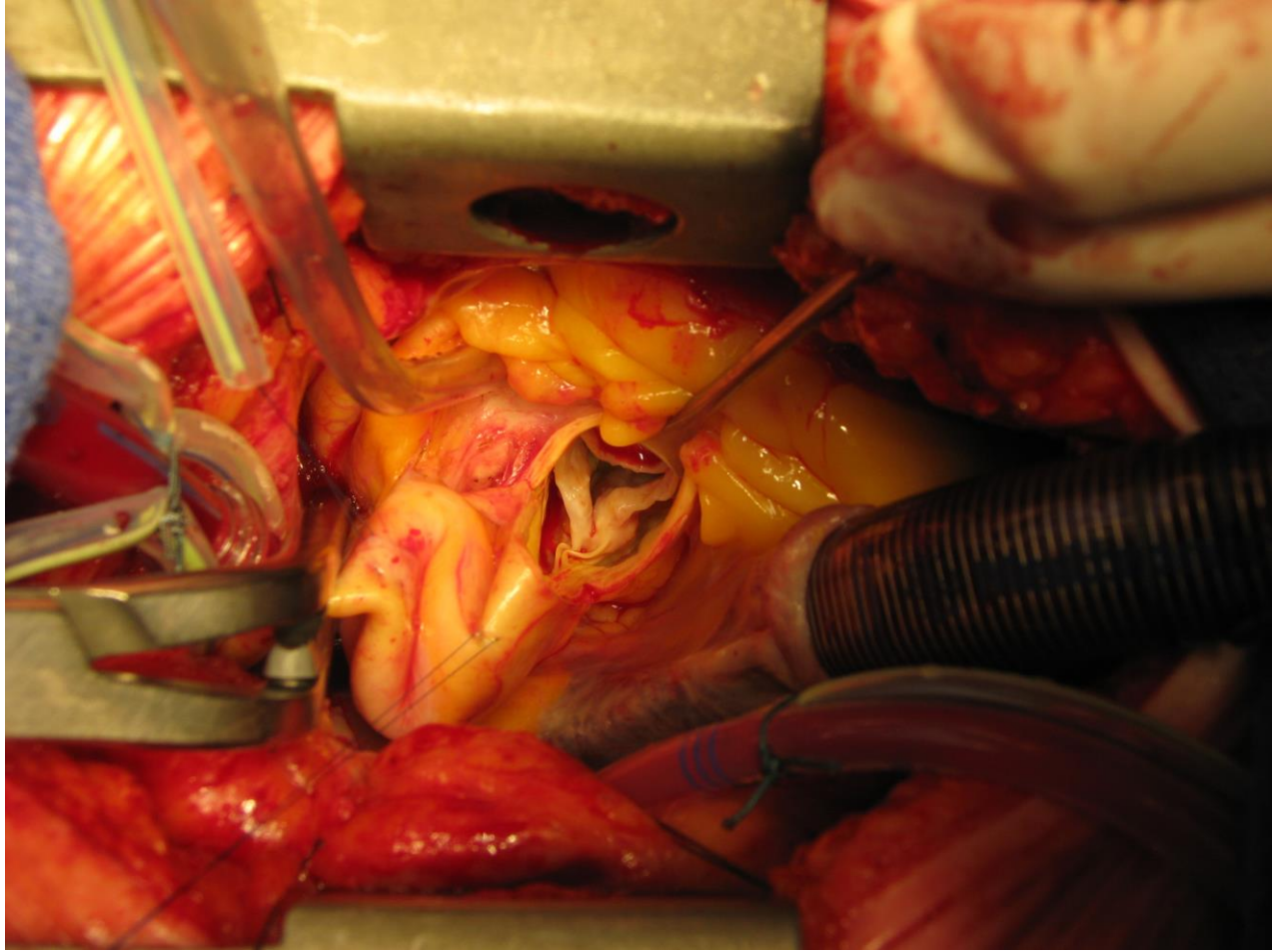
CoreValve
Non-
Iliofemoral

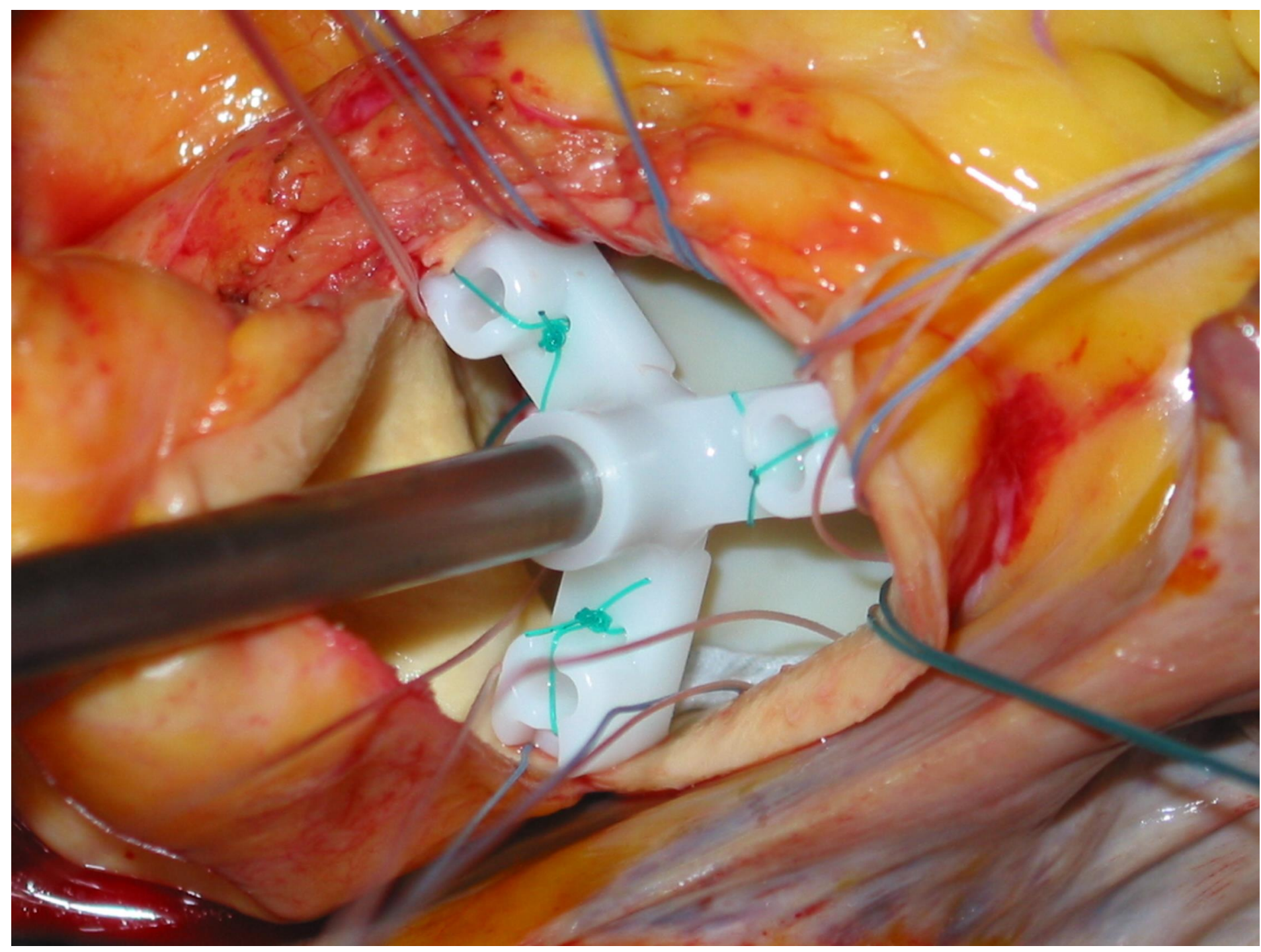
CoreValve
(any route)

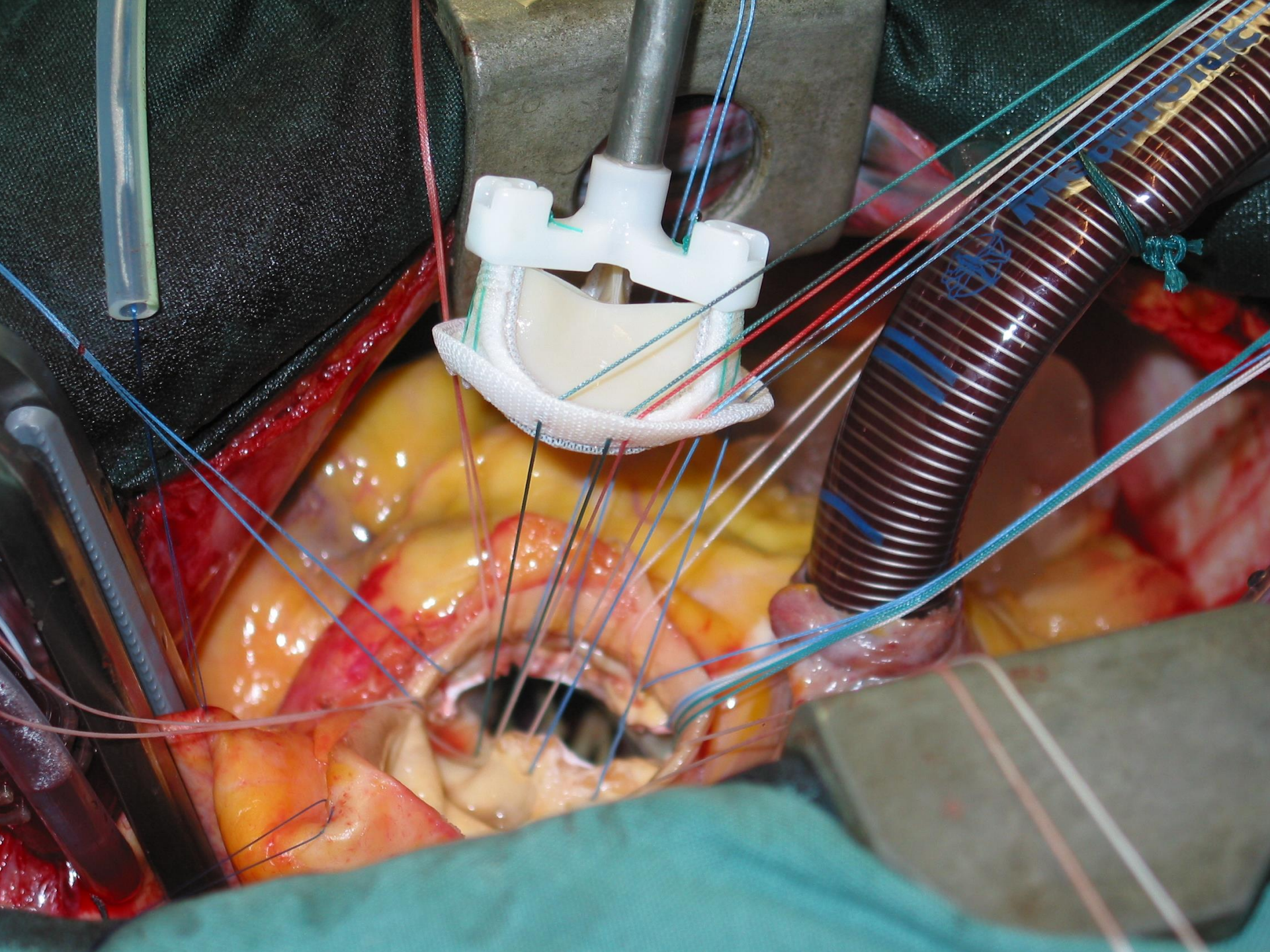
SAVR

Profile of an intermediate risk patient

- Male, 83 years , 74 kg, 160 cm
- No past medical history, no CAD, CVD, PVD, COPD, PHT
- NYHA III (dyspnea on light activity)
- EF = 65%
- Biochemistry : GFR 32 ml/min , creatinine 1,6mg/dl
- **STS PROM 3.25 %**







Comparison of Outcome of Transcatheter Aortic Valve Implantation With Versus Without Previous Coronary Artery Bypass Grafting (from the FRANCE 2 Registry).

Castellani P¹, Didier R¹, Bezon E¹, Couturaud F¹, Eltchaninoff H², Jung B³, Donzeau-Gouge P⁴, Chevreul K⁵, Fajadet J⁶, Leprince P⁶, Lequerrier A⁷, Lievre M⁸, Prat A⁹, Teiger E⁵, Laskar M¹⁰, Boschat J¹, Gilard M¹¹; FRANCE 2 Investigators.

⊕ Author information

Abstract

Previous coronary artery bypass grafting (CABG) increases operative risk in conventional valve replacement. Transcatheter aortic valve implantation (TAVI) has been shown to be successful in high-risk patient subgroups. The present study compared outcome and overall survival in patients who underwent TAVI with and without history of CABG. From January 2010 to December 2011, 683 of the 3,761 patients selected for TAVI in 34 French centers (18%) had a history of CABG. Outcomes (mortality and complications) were collected prospectively according to the Valve Academic Research Consortium (VARC) criteria. Patients with previous CABG were younger, with higher rates of diabetes and vascular disease and higher logistic European System for Cardiac Operative Risk Evaluation (29.8 ± 16.4 vs 20.1 ± 13.0 , $p < 0.001$) but lower rates of pulmonary disease. Two types of valve (Edwards SAPIEN and Medtronic CoreValve) were implanted in equal proportions in the 2 groups. The 30-day and 1-year mortality rates from all causes on Kaplan-Meier analysis (9.2% vs 9.7% , $p = 0.71$; and 19.0% vs 20.2% , $p = 0.49$, respectively) did not differ according to the history of CABG. There were no significant differences in the Valve Academic Research Consortium complications (myocardial infarction, stroke or vascular, and bleeding complications). On multivariate analysis, CABG was not associated with greater 1-year post-TAVI mortality. In conclusion, previous CABG did not adversely affect outcome in patients who underwent TAVI, which may be an alternative to surgery in high-risk patients with severe aortic stenosis and history of CABG.

Impact of previous coronary artery bypass grafting on patients undergoing transcatheter aortic valve implantation for aortic stenosis.

Minha S¹, Magalhaes MA¹, Barbash IM¹, Ben-Dor I¹, Dvir D¹, Okubagzi PG¹, Chen F¹, Torguson R¹, Kent KM¹, Suddath WO¹, Satler LF¹, Pichard AD¹, Waksman R².

Ⓜ Author information

Erratum in

Am J Cardiol. 2014 Aug 15;114(4):656.

Abstract

Re-operation after coronary artery bypass grafting (CABG) is associated with increased risk for morbidity and mortality. Transcatheter aortic valve implantation (TAVI) is an alternative for patients with aortic stenosis, but the outcomes of patients with a history of CABG are unknown. The aim of this study was to explore the association between previous CABG and the outcome of patients undergoing TAVI. Out of 372 consecutive patients who underwent TAVI from 2007 to 2013, 122 (32.8%) had previous CABG, whereas 250 (67.2%) did not. A comparison was made between groups. Subgroup analysis compared patients with and without previous CABG in 3 patient subsets: inoperable, operable, and those who underwent transapical TAVI. Patients with previous CABG were younger (81.99 ± 6.78 vs 84.81 ± 7.06 years, respectively, $p < 0.001$). These patients also had more high-risk features (e.g., peripheral vascular disease, previous myocardial infarction, past cerebrovascular disease, and lower average left ventricular ejection fraction ($p < 0.05$ for all)). Procedural aspects were mostly similar between groups. No disparities in mortality rates at 1 year were noted (22.1% vs 21.6%, respectively, $p = 0.91$). Subgroup analyses yielded similar outcomes for all 3 groups. In conclusion, although patients with previous CABG present with more high-risk features, they share similar short- and long-term outcomes with patients without previous CABG, irrespective of their surgical risk. This includes patients who underwent transapical access. TAVI in patients with previous CABG is safe and does not confer a significant risk for adverse outcome.