



ABSTRACTS
NVVC Najaarscongres 2025
Donderdag 6 november
09.00 – 10.30 uur

SESSIE 3: Cardiac surgery & valvular heart disease

	Zaal 6/7	Voorzitters: dr. Berto Bouma, cardioloog Amsterdam UMC, dr. Frederique Peeters, AIOS cardiologie Maastricht UMC+
1	09.00 - 09.10	Real-World Experience with a Fiberoptic TAVI Guidewire for Invasive Haemodynamic Guidance during Transcatheter Aortic Valve Implantation: A Single-Center Registry Study <i>G.A.A. Versteeg (Radboudumc, Nijmegen)</i>
2	09.11 - 09.21	Distinct Inflammatory Profiles in Patients with Aortic Stenosis with and without Concomitant Atherosclerotic Cardiovascular Disease <i>A. van Broekhoven (Radboudumc, Nijmegen)</i>
3	09.22 - 09.32	Evaluating Mitral Regurgitation Progression and Treatment Outcomes from the Significant Mitral Insufficiency Limburg Evaluation (SMILE) Registry <i>M.J.M. Welman (Maastricht UMC+, Maastricht)</i>
4	09.33 - 09.43	Transcatheter Tricuspid Valve Replacement With the EVOQUE System: Early Experience <i>A.E. Geerlings (Amsterdam UMC)</i>
5	09.44 - 09.54	Developing a Minimally Invasive Aortic Surgery Program through Upper-hemi Sternotomy: from SCAR to Root to Selected Arch Procedures <i>J.R. Olsthoorn (Isala, Zwolle)</i>
6	09.55 - 10.05	Transaxillary Aortic Valve Surgery: Early Experience with a Novel Minimally Invasive Approach in the Netherlands <i>S. van Straten (Isala, Zwolle)</i>
7	10.06 - 10.16	Digital Cardiac Counseling Trial Subanalysis on Teleprehabilitation and Cardiac Symptoms Prior to Coronary Artery Bypass Grafting <i>R.F.R. van Mierlo (Maastricht UMC+, Maastricht)</i>
8	10.17 - 10.27	Dedicated versus Non-Dedicated Transcatheter Valves for Pure Native Aortic Regurgitation: A Single-Center Experience <i>L. Uchoa de Assis (Erasmus MC, Rotterdam)</i>



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Abstract 1

Real-World Experience with a Fiberoptic TAVI Guidewire for Invasive Haemodynamic Guidance during Transcatheter Aortic Valve Implantation: A Single-Center Registry Study

Presenting author: G.A.A. Versteeg

Department: Cardiologie

G.A.A. Versteeg (Radboudumc, Nijmegen); G.A.A. Versteeg (Radboudumc, Nijmegen); N.A. Stens (Radboudumc, Nijmegen); M.H. van Wely (Radboudumc, Nijmegen); A.C. Dimitriu-Leen (Radboudumc, Nijmegen); R.J.M. van Geuns (Radboudumc, Nijmegen); L.A.F.M. van Garsse (Radboudumc, Nijmegen); G.S.C. Geuzebroek (Radboudumc, Nijmegen); M.W.A. Verkroost (Radboudumc, Nijmegen); R.H. Heijmen (Radboudumc, Nijmegen); N. van Royen (Radboudumc, Nijmegen); L.X. van Nunen (Radboudumc, Nijmegen)

Purpose:

Haemodynamic guidance during TAVI is usually performed with two fluid-filled pigtail catheters. A new TAVI guidewire with fiberoptic pressure sensor enables for continuous haemodynamic guidance without need to exchange for a second pigtail. Real-world data on efficacy and safety of this new guidewire remain scarce. This study aims to assess the real-world experience with this novel fiberoptic TAVI guidewire.

Methods:

A prospective registry is being performed at the RadboudUMC. All patients treated using the fiberoptic guidewire are included. Haemodynamic assessment is performed pre- and post-TAVI using the fiberoptic guidewire and the aortic pigtail.

Endpoints for this study were procedural success (i.e., successful implantation over the fiberoptic guidewire), successful pacing capture, assessable invasive haemodynamic measurements, and valve performance at 30-day follow-up using TTE-derived mean valvular gradients.

Results:

At time of submission a total of 97 patients were included. Mean age of the study population was 79 (± 6.6) years, and 49 (50.5%) patients were male. The median Euroscore II was 1.84% [IQR; 1.46-2.55].

A primary pacing-over-the-wire-strategy was used in 95 patients (97.9%), procedural success was achieved in all but one patient (99.0%). In all patients successful pacing during valve deployment was achieved, and post-TAVI invasive haemodynamic measurements were available in 90 patients (92.8%). No periprocedural complications related to the fiberoptic guidewire occurred. At 30-day follow-up TTE-derived mean gradient was 7.1 (± 3.2) mmHg.

Conclusion:

The use of a novel fiberoptic TAVI guidewire for simultaneous guidance, pacing, and invasive haemodynamic measurements is feasible, safe, easy to use, and associated with high procedural success rates and excellent 30-day outcome.

Keywords:

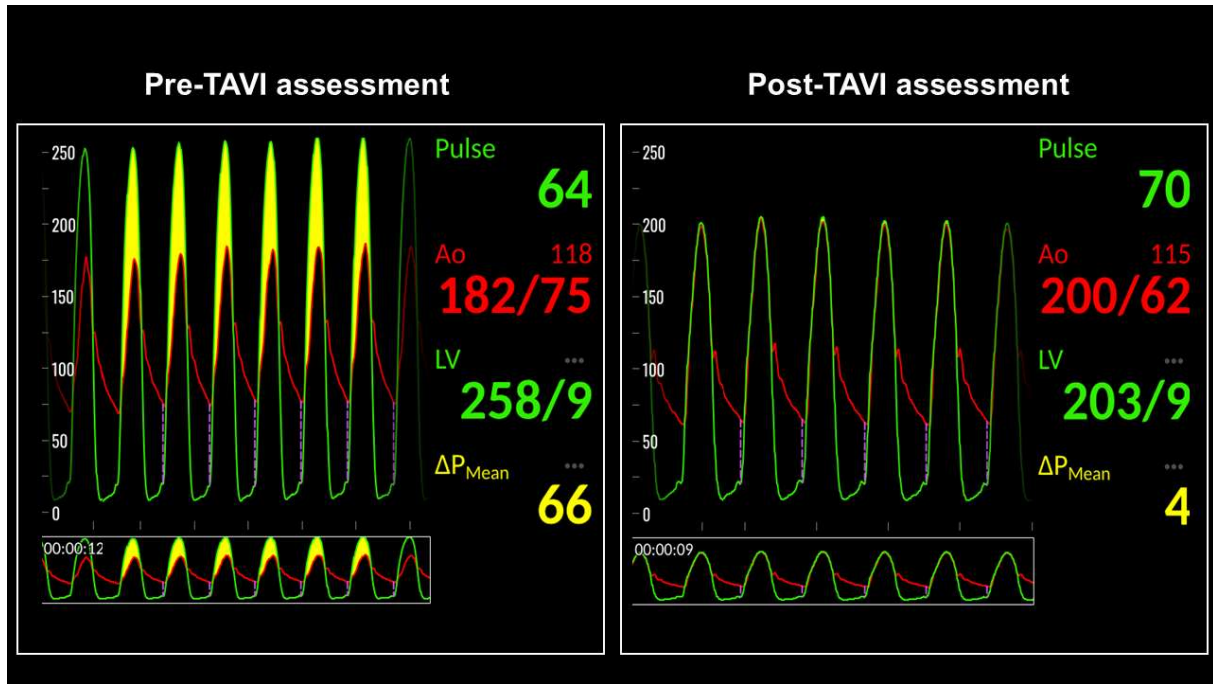
TAVI, Fiberoptic guidewire, Invasive haemodynamic measurements



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Figure:

Haemodynamic assessment pre- and post-TAVI using the fiberoptic guidewire and an aortic pigtail.





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Abstract 2

Distinct Inflammatory Profiles in Patients with Aortic Stenosis with and without Concomitant Atherosclerotic Cardiovascular Disease

Presenting author: A. van Broekhoven

Department: Cardiology

A. van Broekhoven (Radboudumc, Nijmegen); E.P.M. van Doorn (Radboud University Medical Center); W. Broeders (Radboud University Medical Center); A. Cetinyurek-Yavuz (Radboud University Medical Center); A.B.A. Vonk (Amsterdam University Medical Center); H.W.M. Niessen (Amsterdam University Medical Center); J. H. Cornel (Radboud University Medical Center and Northwest Clinics); N.P. Riksen (Radboud University Medical Center); S. El Messaoudi (Radboud University Medical Center)

Purpose:

Calcific aortic valve disease (CAVD) is a progressive disorder characterized by fibro-calcific remodeling of the aortic valve, ultimately leading to aortic stenosis (AS). While CAVD and atherosclerosis share pathological features and risk factors, not all AS patients develop atherosclerotic cardiovascular disease (ASCVD), suggesting heterogeneity in disease mechanisms. This study aimed to investigate whether AS with or without concomitant ASCVD is associated with distinct inflammatory markers and whether these relate to differences in valvular remodeling.

Methods:

In this multi-center case-control study, 128 patients with tricuspid AS (59% with ASCVD) and 105 healthy controls were included. Plasma C-reactive protein (CRP), interleukin (IL)-6, immune cell composition, and monocyte surface markers were assessed by flow cytometry. Cytokine production capacity was measured by ex vivo stimulation of peripheral blood mononuclear cells (PBMCs). In a subset of 46 patients undergoing surgical aortic valve replacement (SAVR), valve tissue was analyzed (immuno)histochemically.

Results:

IL-6 levels were higher in AS patients with ASCVD compared to without ASCVD, whereas CRP levels did not differ. Monocytes from AS patients without ASCVD showed higher C-C chemokine receptor (CCR)2 expression. No significant differences in ex-vivo PBMC cytokine production were observed between AS patients with and without ASCVD. No significant differences in valvular fibrocalcific remodeling were observed, although CD68⁺ macrophage infiltration was higher in patients with ASCVD compared to without ASCVD.

Conclusion:

AS patients with and without concomitant ASCVD exhibit differences in monocyte phenotypes, despite similar valve remodeling. These findings highlight immunological heterogeneity within AS, supporting more personalized approaches to disease assessment and treatment.

Keywords:

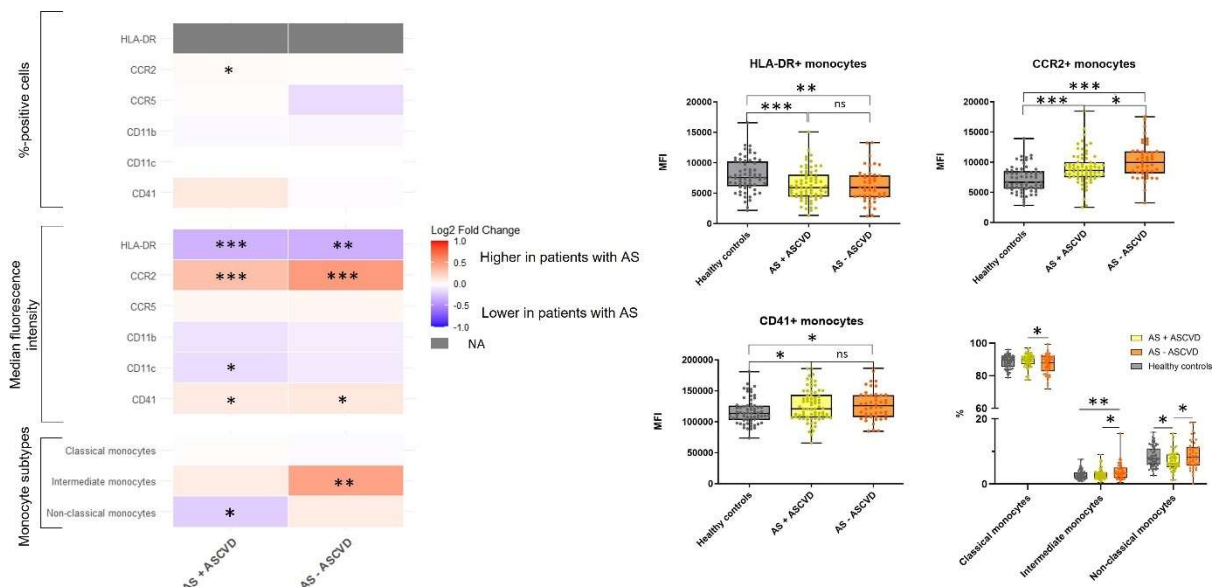
Aortic Stenosis, Atherosclerotic Cardiovascular Disease, Inflammation



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Figure:

Differences in monocyte phenotype between AS patients with and without ASCVD and healthy control subjects. Heatmap illustrating differential expression of monocyte surface markers among AS patients stratified by the presence or absence of concomitant ASCVD, compared to healthy control subjects. Monocyte phenotype is represented by the percentage of marker-positive cells (upper panel) and median fluorescence intensity (MFI; lower panel). Comparisons between each AS subgroup and healthy controls were adjusted for age, sex, BMI, active smoking status, and year and season of blood collection via backward covariate elimination. Color intensity reflects the magnitude of difference, represented by log₂ fold change, with red indicating higher values and blue indicating lower values in AS patients compared to controls. Asterisks (*) denote statistical significance ($p \leq 0.05$). Corresponding findings are also displayed in the accompanying boxplots as $p \leq 0.05$ (*), $p \leq 0.01$ (**), and $p \leq 0.001$ (***). (AS) aortic stenosis, (ASCVD) atherosclerotic cardiovascular disease, (CCR) C-C chemokine receptor, (MFI) median fluorescence intensity.





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Abstract 3

Evaluating Mitral Regurgitation Progression and Treatment Outcomes from the Significant Mitral Insufficiency Limburg Evaluation (SMILE) Registry

Presenting author: M.J.M Welman

Department: Cardiology

M.J.M. Welman (Maastricht UMC+, Maastricht); M.J.M. Welman (Maastricht University Medical Centre+, Maastricht); R.A.L.J. (Maastricht University Medical Centre+, Maastricht); N.S.A. Wolfs (Maastricht University Medical Centre+, Maastricht); S.A.F. Streukens (Maastricht University Medical Centre+, Maastricht); C. Jaarsma (Zuyderland Medical Centre, Heerlen); G. Tjeerdsma, (VieCuri Medical Centre, Venlo); L.P. Hoebbers (VieCuri Medical Centre, Venlo); P. Luyten (Laurentius Hospital, Roermond); J. Vainer, (Maastricht University Medical Centre+, Maastricht); P. Sardari Nia (Maastricht University Medical Centre+, Maastricht); S. Heuts (Maastricht University Medical Centre+, Maastricht); P. Seegers (Maastricht University Medical Centre+, Maastricht); A. van 't Hof (Maastricht University Medical Centre+, Maastricht); P.A. Vriesendorp (Maastricht University Medical Centre+, Maastricht)

Purpose:

Mitral regurgitation (MR) is often asymptomatic and undertreated, delaying intervention. The Significant Mitral Insufficiency Limburg Evaluation (SMILE) registry was established to evaluate treatment outcomes in MR patients.

Methods:

Since 2020, 364 patients with moderate-to-severe MR were prospectively enrolled across four hospitals in Limburg, the Netherlands. Primary endpoints were MR progression, treatment success, and quality of life (QoL) over five years. Interim analyses focused on one-year outcomes by treatment strategy.

Results:

At baseline, primary MR (PMR, n=203) patients more often had sinus rhythm and better left ventricular function than secondary MR (SMR, n=119) (LVEF $p<0.001$; LVEDD $p=0.004$), but more severe MR (EROA $p<0.001$). PMR patients exhibited higher physical (PCS, $p=0.006$) and mental (MCS, $p=0.045$) health scores than SMR patients. In 42 patients, the aetiology remained uncertain. At 1-year follow-up, 39.5% of PMR and 29.9% of SMR patients were discussed by the the Mitral Valve Heart Team (MDT), of whom 70.6% and 65.0% underwent intervention, respectively. MR grade improved in both PMR ($p<0.001$) and SMR ($p<0.001$) groups, while LVEF declined in PMR ($p=0.005$). Intervention was associated with improved physical health in PMR patients ($p=0.01$) and improvements in both PCS ($p=0.003$) and MCS ($p=0.014$) in SMR patients. In contrast, patients managed conservatively or evaluated by the MDT without intervention showed no significant QoL change in PMR and SMR.

Conclusion:

The SMILE registry highlights distinct differences by MR aetiology, tracks disease progression, and demonstrates that intervention improves one-year QoL, emphasizing the need for timely, individualized treatment and further research with larger cohorts and longer follow-up.

Keywords:

Mitral regurgitation, Quality of life, Treatment outcomes



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Figure:

Patient Characteristics and One-Year Outcomes. BMI: Body Mass Index; EROA: Effective Regurgitant Orifice Area; LAVi: Left Atrial Volume indexed; LVEF: Left Ventricular Ejection Fraction; LVEDD: Left Ventricular End-Diastolic Diameter; LVESD: Left Ventricular End-Systolic Diameter; MCS: Mental Component Score; MKT: Multidisciplinary Heart Team Discussion; MR: Mitral Regurgitation; NYHA: New York Heart Association; PCS: Physical Component Score; PISA: Proximal Isovelocity Surface Area; sPAP: Systolic Pulmonary Artery Pressure

Variable	Overall (n=364)	Primary (n=203)	Secondary (n=119)	Unknown (n=42)	p- value
Gender					0.476
Male	205 (56.3%)	121 (59.6%)	64 (53.8%)	20 (47.6%)	
Age (years)	75.0 [68.0, 80.0]	73.0 [66.0, 78.0]	76.0 [69.5, 80.0]	79.0 [75.0, 83.0]	<0.001
BMI (kg/m²)	24.8 [22.7, 27.2]	24.6 [22.4, 27.0]	25.6 [23.1, 27.5]	24.7 [22.8, 26.3]	0.257
NYHA Class					0.058
I	167 (45.9%)	106 (52.2%)	41 (34.5%)	20 (47.6%)	
II	140 (38.5%)	67 (33.0%)	57 (47.9%)	16 (38.1%)	
III	39 (10.7%)	23 (11.3%)	14 (11.8%)	2 (4.8%)	
IV	5 (1.4%)	3 (1.5%)	2 (1.7%)	0 (0.0%)	
Unknown	13 (3.5%)	4 (2.0%)	5 (4.1%)	4 (9.5%)	
Heart Rhythm					0.002
Atrial fibrillation/Flutter	112 (30.9%)	46 (22.8%)	47 (39.5%)	19 (45.2%)	
History of Surgery					0.027
Yes	23 (6.6%)	18 (9.3%)	1 (0.9%)	4 (9.8%)	
LVEF (%)	55.0 [47.8, 60.0] (n=357)	57.0 [54.0, 61.0] (n=197)	46.4 [35.0, 55.0] (n=116)	55.0 [48.0, 55.0] (n=44)	<0.001
ERO (cm²)	0.3 [0.2, 0.4] (n=173)	0.3 [0.2, 0.5] (n=92)	0.2 [0.1, 0.3] (n=69)	0.3 [0.1, 0.4] (n=12)	<0.001
LAVi (mL/m²)	55.7 [44.6, 72.7] (n=353)	55.7 [43.0, 71.0] (n=199)	57.8 [46.6, 75.0] (n=110)	52.3 [43.3, 75.8] (n=44)	0.352
Max EtopS (cm/s)	96.8 [77.0, 124.1] (n=323)	100.0 [81.0, 129.2] (n=185)	92.9 [74.2, 114.0] (n=98)	88.2 [76.0, 110.2] (n=40)	0.058
Vena Contracta (mm)	6.0 [4.4, 7.4] (n=139)	6.0 [5.0, 7.8] (n=82)	6.0 [4.0, 7.0] (n=53)	4.8 [3.4, 6.5] (n=4)	0.362
PISA Radius (mm)	8.1 [6.3, 10.2] (n=168)	9.1 [7.0, 12.3] (n=89)	7.3 [5.8, 9.0] (n=66)	8.6 [6.0, 9.4] (n=13)	<0.001
LVEDD (mm)	54.0 ± 7.9 (n=364)	53.4 ± 7 (n=203)	56.0 ± 8.8 (n=117)	51.4 ± 7.9 (n=44)	0.004
LVESD (mm)	38.0 [33.0, 44.8] (n=274)	36.0 [32.8, 40.0] (n=164)	43.5 [35.2, 51.8] (n=94)	39.5 [29.8, 43.2] (n=16)	<0.001
sPAP (mmHg)	33.0 [25.1, 40.0] (n=307)	31.0 [25.0, 40.0] (n=165)	35.0 [26.6, 40.0] (n=102)	35.0 [30.0, 40.0] (n=40)	0.512
MR degree					<0.001
II	120 (33.0%)	50 (24.6%)	42 (35.3%)	28 (66.7%)	
III	142 (39.0%)	80 (39.4%)	53 (44.5%)	9 (21.4%)	
IV	102 (28.0%)	73 (36%)	24 (20.2%)	5 (11.9%)	
PCS	63.8 [43.7, 86.2] (n=277)	70.6 [46.9, 88.8] (n=157)	51.9 [39.4, 80.9] (n=82)	62.2 [33.3, 83.8] (n=38)	0.006
MCS	75.8 [55.6, 87.3] (n=277)	78.6 [60.0, 89.3] (n=157)	68.9 [48.7, 85.6] (n=82)	72.7 [59.3, 83.0] (n=38)	0.035
Follow up one-year	Overall (n=164)	Primary (n=86)	Secondary (n=67)	Unknown (n=11)	p- value
Mortality	14 (8.5%)	4 (4.7%)	9 (13.4%)	1 (9.1%)	0.155
MDT discussion	55 (33.5%)	34 (39.5%)	20 (29.9%)	1 (9.1%)	0.112
Admission heart failure	16 (9.8%)	8 (9.3%)	7 (10.4%)	1 (9.1%)	0.963
Mitraclip	12 (7.3%)	6 (7.0%)	6 (9.0%)	0 (0.0%)	0.588
MVR	3 (1.8%)	3 (3.5%)	0 (0.0%)	0 (0.0%)	0.255
MVP	18 (11.0%)	15 (17.4%)	3 (4.5%)	0 (0.0%)	0.021
Carillon	5 (3.0%)	0 (0.0%)	4 (6.0%)	1 (9.1%)	0.044
PCS	66.2 [52.5, 84.5] (n=64)	74.4 [59.5, 88.4] (n=34)	58.8 [49.3, 76.3] (n=29)	52.5 [52.5, 52.5] (n=1)	0.03
MCS	74.9 [63.2, 87.5] (n=64)	81.6 [65.7, 90.7] (n=34)	70.0 [62.0, 81.7] (n=29)	74.6 [74.6, 74.6] (n=1)	0.121



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Abstract 4

Transcatheter Tricuspid Valve Replacement With the EVOQUE System: Early Experience

Presenting author: A.E. Geerlings

Department: Cardiology

A.E. Geerlings (Amsterdam UMC); A.E. Geerlings (Amsterdam UMC, Amsterdam); K.V.V. Lieve (Amsterdam UMC, Amsterdam); D.R. Robbers-Visser (Amsterdam UMC, Amsterdam); M.M. Vis (Amsterdam UMC, Amsterdam); M.A.M. Beijik (Amsterdam UMC, Amsterdam); S.M. Boekholdt (Amsterdam UMC, Amsterdam); J. Baan (Amsterdam UMC, Amsterdam); B.J. Bouma (Amsterdam UMC, Amsterdam)

Purpose:

Tricuspid regurgitation (TR) is a condition associated with increased cardiovascular morbidity and mortality. Isolated surgical tricuspid valve intervention remains high-risk. Recently, transcatheter therapies have emerged as alternatives. The EVOQUE transcatheter tricuspid valve replacement system (Edwards Lifesciences, Irvine, CA, USA) received FDA approval in February 2024. Here, we report our first clinical experience.

Methods:

Between January and August 2025 five patients underwent transfemoral EVOQUE implantation at Amsterdam UMC. Efficacy and safety endpoints were defined according to the Tricuspid Valve Academic Research Consortium criteria.

Results:

Five patients underwent the EVOQUE procedure (mean age 80.6 years, 60% female). All had secondary TR, TR grade ≥ 3 , NYHA class $\geq II$, mean Euro-SCORE II 3.31. Before EVOQUE, 3 patients had moderate/severe right ventricular dysfunction. Procedural success was achieved in all with no in-hospital mortality. TR was reduced to none or trace in all. Two patients developed complete AV block and required leadless pacemaker implantation. One patient with severely impaired RV function had prolonged hospitalization with worsening mitral regurgitation (grade 4+) and underwent additional MitraClip therapy. At 30-day follow-up, all reported symptomatic improvement and were NYHA class II. No deaths or rehospitalizations occurred beyond pacemaker implantation in one patient.

Conclusion:

In this early experience, transfemoral EVOQUE transcatheter tricuspid valve replacement in inoperable patients with severe TR was technically successful, resulted in consistent TR reduction, and showed a favorable short-term safety profile. These findings support the potential benefit of this novel therapy for patients with TR and limited options.

Keywords:

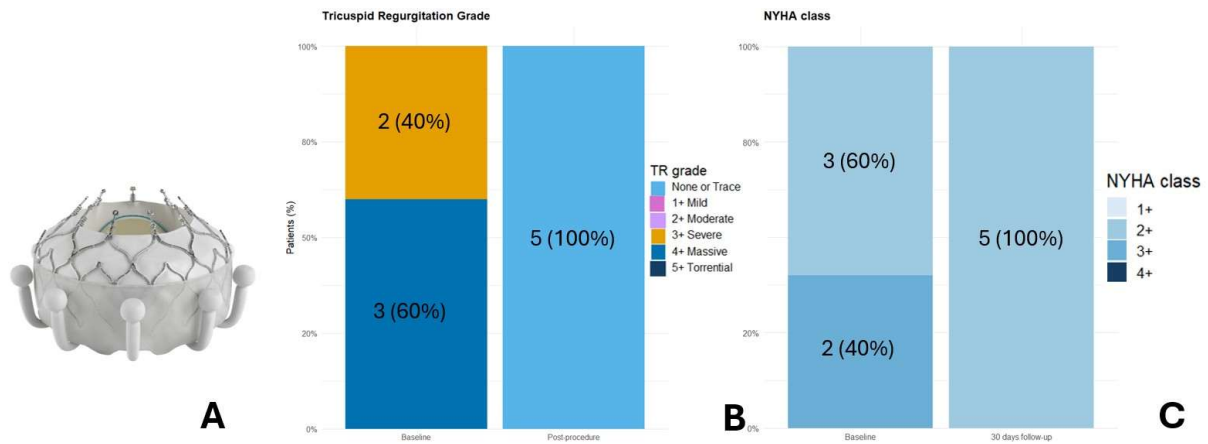
Transcatheter tricuspid valve replacement, tricuspid regurgitation, valve disease



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Figure:

(A) The EVOQUE transcatheter tricuspid valve replacement system. (B) Tricuspid regurgitation (TR) grade before and after the procedure. (C) New York Heart Association (NYHA) functional class at baseline and 30-day follow-up.





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Abstract 5

Developing a Minimally Invasive Aortic Surgery Program through Upper-hemi Sternotomy: from SCAR to Root to Selected Arch Procedures

Presenting author: J.R. Olsthoorn

Department: Cardiothoracic Surgery

J.R. Olsthoorn (Isala, Zwolle); J.R. Olsthoorn (Isala, Zwolle); K. Lam (Catharina Hospital, Eindhoven); E. Farag (Isala, Zwolle); T. van Brakel (Catharina Hospital, Eindhoven)

Purpose:

To evaluate the stepwise implementation of an upper-hemi sternotomy program for aortic surgery, evolving from supracoronary procedures to root replacement and selected arch extensions, and to report feasibility, safety and perioperative outcomes.

Methods:

All patients undergoing upper-hemi sternotomy for aortic surgery between May 2020 and August 2025 at two Dutch centers were retrospectively analyzed. Pre-, intra-, and postoperative data were collected. Procedures were categorized as supracoronary replacement (SCAR), root procedures (Bentall, DAVID, AVR with root enlargement) and arch procedures (hemi-, 1/3-, 2/3-arch). Trends in adoption and feasibility were assessed.

Results:

A total of 113 patients underwent upper-hemi sternotomy. Median age was 65 years [IQR 59–72], 73.5% were male, and median BMI was 26.0 [IQR 24.1–28.3]. Indications included valve disease (55.8%), aneurysm (32.7%), combined pathology (10.6%), and chronic dissection (0.9%). Procedures consisted of SCAR (14.2%), AVR + SCAR (55.8%), root procedures (23.9%), and arch procedures (4.4%). Median CPB time was 133.5 minutes [IQR 118.0–163.8], mean cross-clamp time 103.8 ± 25.7 minutes. Operative and 30-day mortality were 0%. Stroke occurred in 2.7%, re-exploration for bleeding in 8.8%, pneumonia in 2.7%, and postoperative atrial fibrillation in 30.1%. Median ICU stay was 1 day and hospital stay 6 days.

Conclusion:

Upper-hemi sternotomy can be safely applied in a structured aortic surgery program. Our experience demonstrates a stepwise evolution from isolated SCAR procedures to root replacement and selected arch extensions. Careful patient selection remains crucial, and further studies are warranted to define the role of minimally invasive versus full sternotomy approaches.

Keywords:

Minimally invasive aortic surgery, Upper-hemi sternotomy, Programmatic implementation



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Abstract 6

Transaxillary Aortic Valve Surgery: Early Experience with a Novel Minimally Invasive Approach in the Netherlands

Presenting author: S. van Straten

Department: Cardiothoracic Surgery

J.R. Olsthoorn (Isala, Zwolle); J.R. Olsthoorn (Isala, Zwolle); R. Storm van Leeuwen (Isala, Zwolle); S. van Straten (Isala, Zwolle); M. van Leeuwen (Isala, Zwolle); R. Hermanides (Isala, Zwolle)

Purpose:

To evaluate the feasibility, safety and patient-reported outcomes of transaxillary aortic valve surgery; a novel minimally invasive technique performed through a 5 cm incision in the right lateral thoracic wall while leaving the sternum intact.

Methods:

Patients undergoing transaxillary aortic valve surgery between May and August 2025 at Isala Hospital Zwolle were prospectively included. The transaxillary approach provides direct access to the aortic valve through a small right lateral incision without sternotomy. Baseline characteristics, perioperative data, postoperative outcomes and patient-reported outcomes (NRS pain scores and Quality of Recovery [QoR]) were collected and analyzed.

Results:

Eighteen patients underwent surgery. Mean age was 66.4 ± 6.8 years, 50% were male, and median BMI was 25.8 [IQR 24.0–29.5]. Indications included aortic stenosis (94.4%) and endocarditis (5.6%). The incision was performed in the 3rd intercostal space in 16.7% and in the 4th in 83.3%. Prostheses included sutureless biological (61.1%), stented biological (16.7%), and mechanical valves (22.2%). Median CPB and cross-clamp times were 103 minutes [IQR 81–120] and 66 minutes [IQR 52.5–73], respectively. Median blood loss was 275 ml [IQR 196–484], with transfusion required in 1 patient. Re-thoracotomy for bleeding was needed in 1 patient and postoperative atrial fibrillation occurred in 22.2%. Mean hospital stay was 5.9 ± 2.5 days. Pain scores remained low (NRS 2.0 at extubation, 2.0 on POD1, 2.5 on POD2 and 1.0 at discharge). At discharge, QoR scores indicated favorable recovery of daily activities and self-care.

Conclusion:

Transaxillary aortic valve surgery is a feasible and safe minimally invasive alternative to sternotomy. By avoiding sternal division, this novel 5 cm right flank approach demonstrates low morbidity, favorable pain profiles and rapid recovery. By the time of the NVVC meeting, data from the first 40 patients will be available for presentation.

Keywords:

Transaxillary aortic valve surgery, Minimally invasive cardiac surgery, Patient-reported outcomes



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Figure:
Incision for transaxillaire aortic valve replacement





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Abstract 7

Digital Cardiac Counseling Trial Subanalysis on Teleprehabilitation and Cardiac Symptoms Prior to Coronary Artery Bypass Grafting

Presenting author: R.F.R. van Mierlo

Department: Cardiology

R.F.R. van Mierlo (Maastricht UMC+, Maastricht); L. van Susante (Maastricht University Medical Center, Maastricht); B. Scheenstra (Maastricht University Medical Center, Maastricht); A.W.J. van 't Hof (Maastricht University Medical Center, Maastricht); P. Sardari Nia (Maastricht University Medical Center, Maastricht)

Purpose:

The purpose of this subanalysis is to explore whether or not teleprehabilitation leads to worsening cardiac symptoms in patients accepted for coronary artery bypass grafting (CABG).

Methods:

Patients accepted for CABG (including off-pump and minimally invasive) were randomised between teleprehabilitation and standard care. Prehabilitation patients had access to online modules, including nutritional support, functional exercise training, smoking cessation, inspiratory muscle training and psychological support. All patients telemonitored their cardiac symptoms in the Medify B.V. platform, comparing their cardiac symptoms to the week prior.

Results:

This subanalysis included 155 patients, 74 randomised to teleprehabilitation and 81 to control. There were no differences in baseline characteristics, or CCS class (I-IV) between teleprehabilitation (54/39/7/0%) and control (37/44/16/2%) ($p = 0.059$). The same holds true for NYHA class (I-IV) between teleprehabilitation (27/41/31/1%) and control (21/37/33/9%) ($p = 0.190$). In teleprehabilitation, 47% of patients experienced no worsening anginal symptoms versus 36% in the control group ($p = 0.167$). Additionally, 22% of the teleprehabilitation patients versus 28% of the control patients experienced no worsening dyspnea symptoms ($p = 0.334$). There was no difference in worsening angina ($p = 0.488$) or dyspnea ($p = 0.206$) symptoms reported by patients one week prior to surgery.

Conclusion:

Teleprehabilitation does not lead to worsening cardiac symptoms prior to CABG. We believe teleprehabilitation is safe, but warrants more powered research on symptom burden.

Ultimately, the function of teleprehabilitation, besides lowering major adverse cardiovascular events after surgery, might be to systematically re-assess clinically stable, symptom-free patients within the multidisciplinary Heart Team.

Keywords:

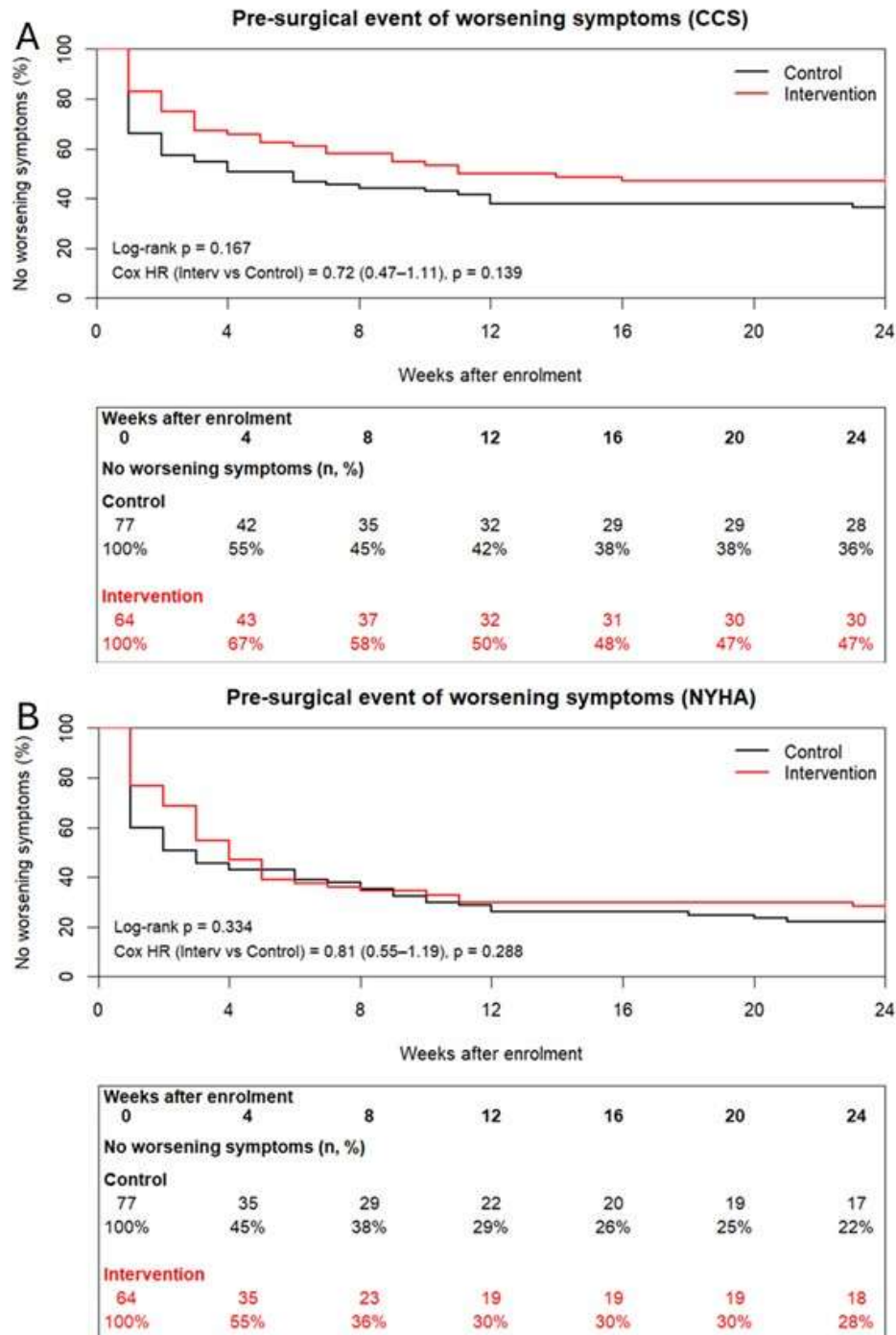
Teleprehabilitation, Cardiac symptoms, Coronary Artery Bypass Grafting



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Figure:

Figure 1: Pre-surgical events of worsening cardiac symptoms according to A) CCS class; and B) NYHA class





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Session 3: Cardiac surgery & valvular heart disease
Abstract 8

Dedicated versus Non-Dedicated Transcatheter Valves for Pure Native Aortic Regurgitation: A Single-Center Experience

Presenting author: L. Uchoa de Assis
Department: Interventiecardiologie

L. Uchoa de Assis (Erasmus MC, Rotterdam); L. Uchoa de Assis (Erasmus MC, Rotterdam); A. Kostea (Erasmus MC, Rotterdam); A. Mariani (Erasmus MC, Rotterdam); G. Mondellini (Erasmus MC, Rotterdam); M.M.P. van den Dorpel (Erasmus MC, Rotterdam); I. Kardys (Erasmus MC, Rotterdam); J. Daemen (Erasmus MC, Rotterdam); R. Nuis (Erasmus MC, Rotterdam); N.M.D.A. Van Mieghem (Erasmus MC, Rotterdam)

Purpose:

Aortic regurgitation (AR) is the third most common valvular heart disease in the Western world. Management of high-surgical-risk patients is challenging. The absence of calcifications in the aortic valve presents anchoring challenges for transcatheter aortic valve implantation (TAVI) in patients with severe native AR.

The Trilogy is a dedicated transcatheter heart valve for the treatment of AR and anchors by clipping onto the native aortic valve leaflets. Real-world data comparing dedicated vs. non-dedicated THVs remains scarce.

Methods:

We evaluated 42 consecutive high- or prohibitive-surgical-risk patients with pure native AR who underwent transfemoral TAVI. Twenty-one patients received the Trilogy and 21 received non-dedicated transcatheter valves (THV). Co-primary endpoints were device success and early safety at 30 days. Secondary endpoints included valve embolisation, residual moderate/severe AR, new pacemaker implantation, mortality, and length of hospital stay.

Results:

Device success was significantly higher with dedicated THVs (100% vs. 61.9%; $p=0.002$). Early safety was comparable (71.4% vs. 61.9%; $p=0.513$). There were 4 valve embolisations (9.5%) and two cardiovascular deaths (4.8%) in the non-dedicated group. Moderate or severe paravalvular leakage (PVL) was absent in the dedicated cohort and occurred in 2 of 21 non-dedicated cases. Overall, new permanent pacemaker implantation occurred in 19%, with no significant difference between the 2 cohorts ($p=1.00$). Median hospital stay was significantly shorter in the dedicated cohort (2 vs. 5 days; $p=0.015$)

Conclusion:

TAVI with the Trilogy valve had superior device success as compared to non-dedicated valves and should become the preferred strategy in patients with severe native AR at high-operative risk.

Keywords:

Aortic Regurgitation, Transcatheter Aortic Valve Implantation



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Figure:

Clinical Outcomes at 30 Days Following TAVI for Pure Native Aortic Regurgitation. Abbreviations: AR = aortic regurgitation; IQR = interquartile range; TAVI = transcatheter aortic valve implantation; THV = transcatheter heart valve; VARC-3 = Valve Academic Research Consortium-3.

† Mann–Whitney U test due to non-normal distribution.

* Percentage of pacemaker naïve patients

Outcome	Total (n = 42)	Dedicated THV (n = 21)	Non-dedicated THV (n = 21)	p-value
All-cause mortality, n (%)	2 (4.8)	0 (0.0)	2 (9.5)	0.147
Cardiovascular mortality, n (%)	2 (4.8)	0 (0.0)	2 (9.5)	0.147
Device success, n (%)	34 (81.0)	21 (100.0)	13 (61.9)	0.002
Post-procedural AR ≥ moderate, n (%)	2 (4.8)	0 (0.0)	2 (9.5)	0.035
Valve embolization, n (%)	4 (9.5)	0 (0.0)	4 (19.0)	0.035
Conversion to open surgery, n (%)	2 (4.8)	0 (0.0)	2 (9.5)	0.147
Early safety, n (%)	28 (66.7)	15 (71.4)	13 (61.9)	0.513
Stroke, n	0	0	0	-
TIA, n (%)	1 (2.4)	1 (4.8)	0 (0.0)	0.311
Majorvascular complications, n (%)	2 (4.8)	0 (0.0)	2 (9.5)	0.147
Minorvascular complications, n (%)	3 (7.1)	2 (9.5)	1 (4.8)	0.549
Majorbleeding (VARC-3 ≥ Type 2), n (%)	6 (14.3)	3 (14.3)	3 (14.3)	0.449
New permanent pacemaker, n (%)*	6 (19.4)	3 (17.6)	3 (21.4)	1.000
Cardiac reintervention, n (%)	0 (0.0)	0 (0.0)	0 (0.0)	-
Length of hospital stay, median [IQR], days	3 [2–8]	2 [1–3]	5 [3–10]	0.015†