UNIVERSITÄTSMEDIZIN DRESDEN
Universitätsklinikum Carl Gustav Carus
Herzzentrum Dresden

Dresdener Erfahrungen mit der atrialen Shunt-Therapie

Atriale Shunt-Therapie – Eine neue Behandlungsoption für HFpEF Patienten
87. Jahrestagung der Deutschen Gesellschaft für Kardiologie
08.04.2021

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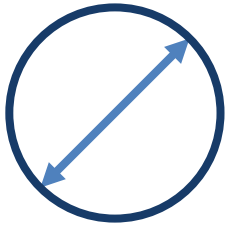
COI

Consulting, travel and presentation fees:

Abbott, Boston Scientific, NeoVasc, Abiomed, Novartis, MSD, Bayer, Corvia

Corvia Atrial Shunt (IASD)



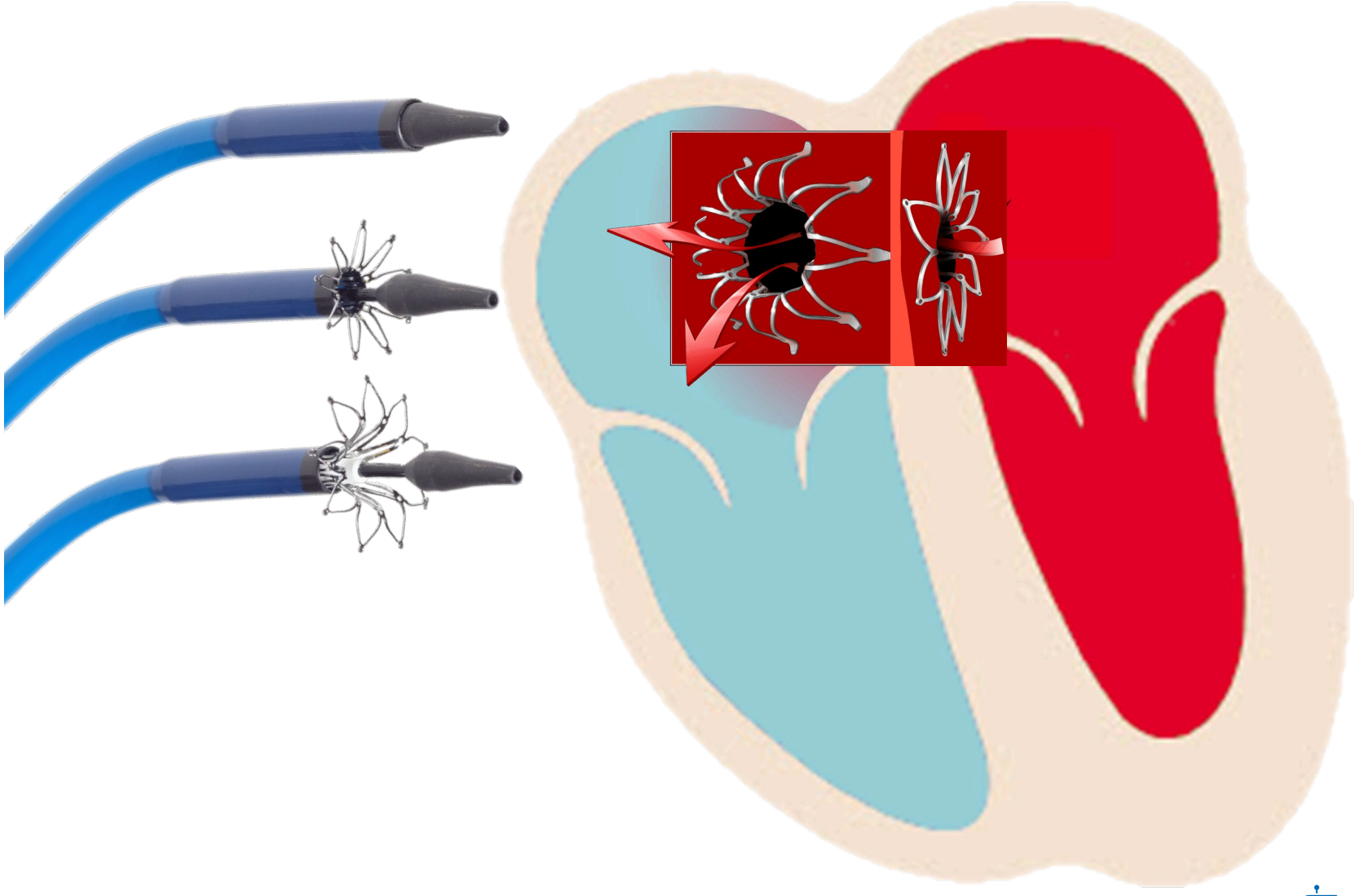
8mm shunt diameter
Clinically validated, optimized decompression

Reinforced barrel
Maintains shunt patency

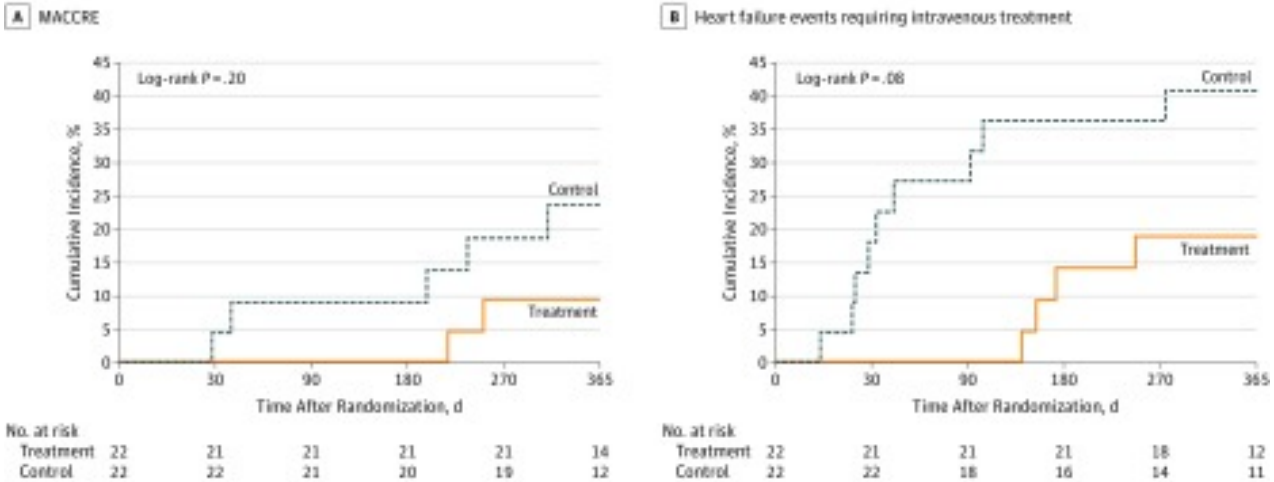
Adjustable RA legs
Accommodate varied septal wall thickness

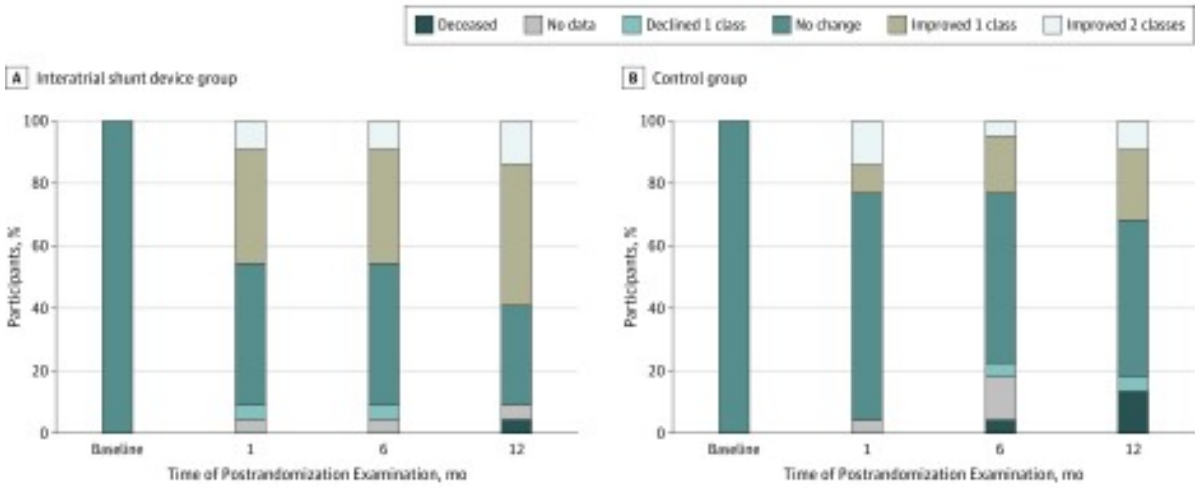
Non-thrombogenic design
Flat LA profile promotes rapid endothelialization

Corvia Atrial Shunt



Promising Data





Shah SJ et al. JAMA Cardiol 2018

Patient - Recruiting

- Heart Failure Clinic (BNP-levels)
- PAH – Clinic at the Pneumology Department
- Screening of symptomatic patients at the echo lab (preserved LVEF, diastolic dysfunction, evaluation of valve function)
- Invasive meassurement of the LVEDP during clinical day to day practice which may include RH-Cath and SO_2

Patient Recruitment - Considerations

- Dyspnea NYHA III-IV
- Stable and advanced medical therapy
- Low BNP-Levels
- Preserved/good RV function
- High PCW / LAP / E/é
- (Lower) BMI ?
- Frality? Anemia? Mobility? Age?
- Confounding Co-morbidities (Anemia?, Lung Disease?)

Patient Recruiting – Medical History

NYHA Class			
If currently class II, does patient have a history of NYHA class III or IV ambulatory	Yes	No	
Atrial Fibrillation	Yes	No	
Dual antiplatelet therapy eligible	Yes	No	
Absence of DVT or Pulmonary Emboli within the past 6 months	Yes	No	
Absence of Stroke or TIA within the past 6 months	Yes	No	
HFH admission or ER visit with IV Diuretics or intensification of oral diuresis for HF in prior 12M OR	Yes	No	
Elevated NT-pro BNP (in prior 6M)	Yes	No	NT-pro value:
Elevated BNP (in prior 6M)	Yes	No	BNP value:
Ongoing stable GDMT for HF for > 4 weeks	Yes	No	
Documented LV EF ≥40% within past 6 months	Yes	No	Enter Value:
Absence of severe sleep apnea not treated with CPAP	Yes	No	

Patient Recruiting – RH-Cath/Cardiopulmonary Function

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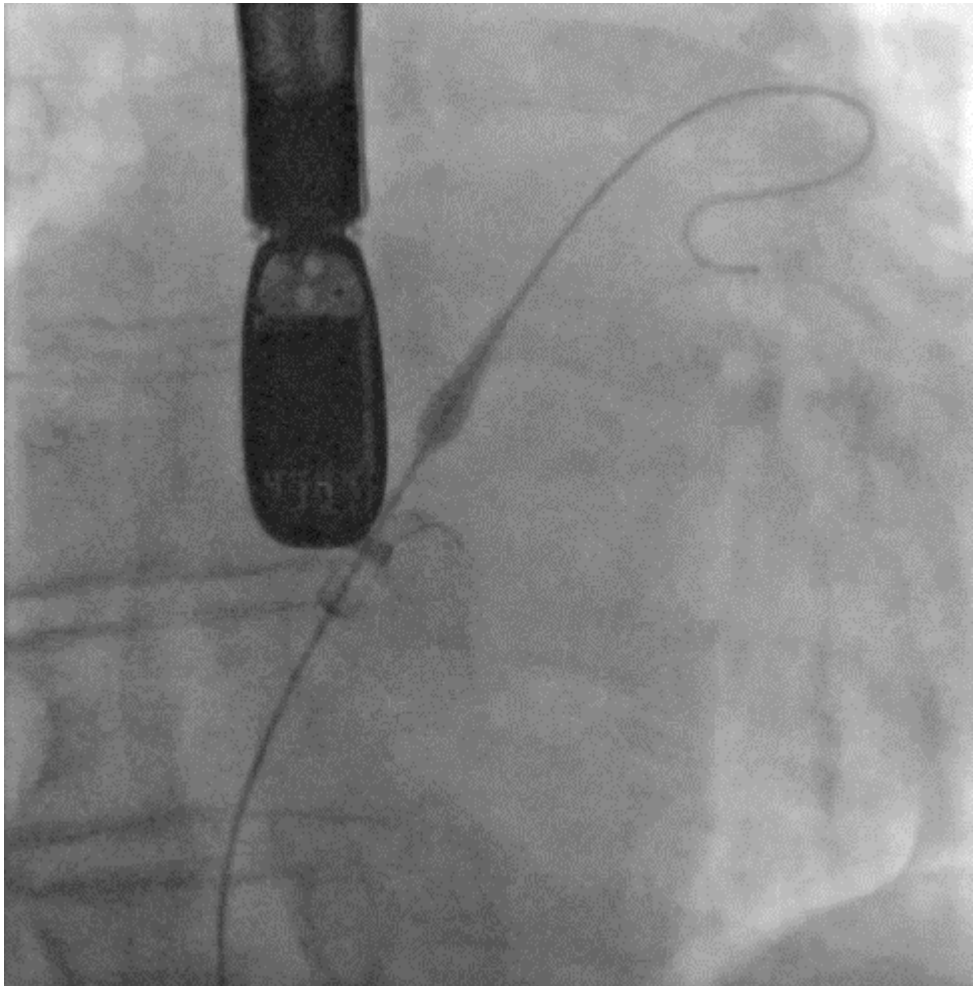
Recommended Values	Result
Mean RA Pressure ≤ 14 mmHg Enter Value:	Yes No
Resting arterial Oxygen saturation (room air) ≥ 95%	Yes No
Resting Mean PCW Pressure ≥ 5mmHg over Mean RA Pressure	Yes No
PCW Pressure ≥ 15mmHg at rest Enter Value: Or PCW Pressure ≥ 25mmHg at exercise Enter Value:	Yes No
PVR ≤ 3.5 Enter Value:	Yes No
Cardiac Index ≥ 2.0 L/min/m^2	Yes No
If patient has A-Fib Ventricular response ≤ 100 bpm	Yes No
LA or LAA thrombus free	Yes No

Recommended Values	Result
MR Grade < 3+	Yes No
TR Grade < 2+	Yes No
AS Grade < 2+	Yes No
Systolic Blood Pressure < 170 mmHg Enter Value:	Yes No
TASPSE ≥ 14 Enter Value:	Yes No
Does the patient have intra-cardiac leads?	Yes No
Blood Lab Results: – eGFR > 25ml/min/1.73m2 by CKD-Epi equation – Hemoglobin > 10g/dl – ALT/AST Enter Value:	Yes No Yes No Yes No

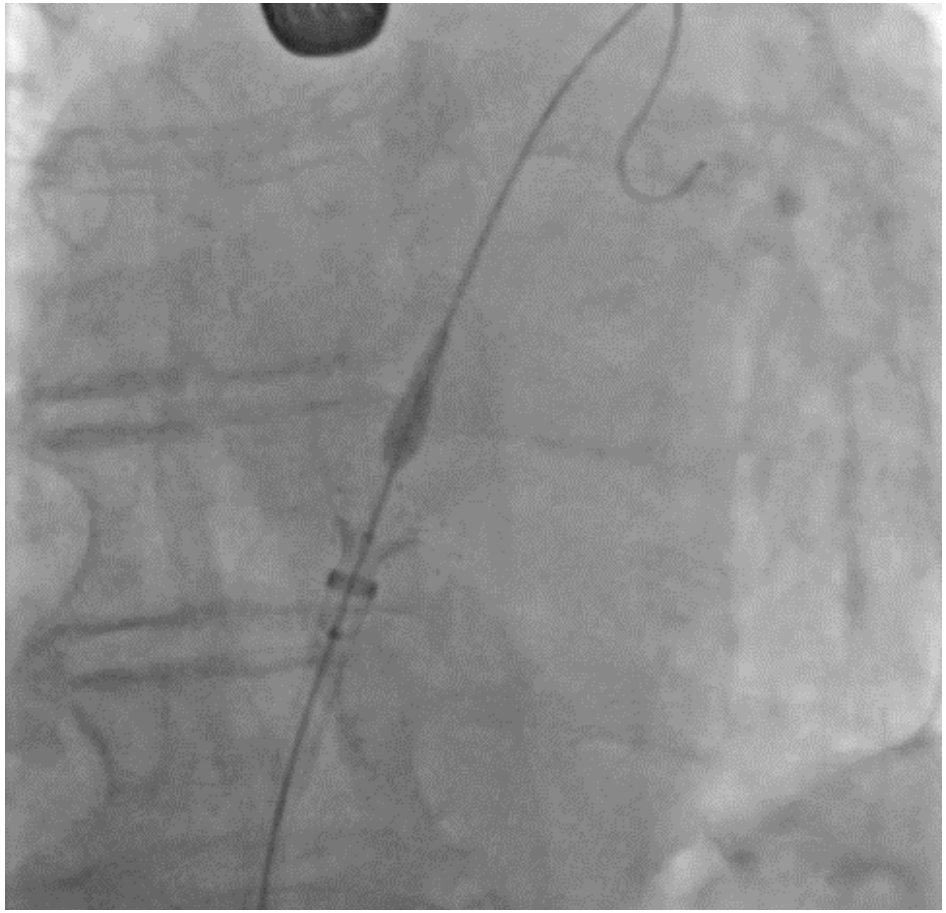
Device Implantation

Device Implantation

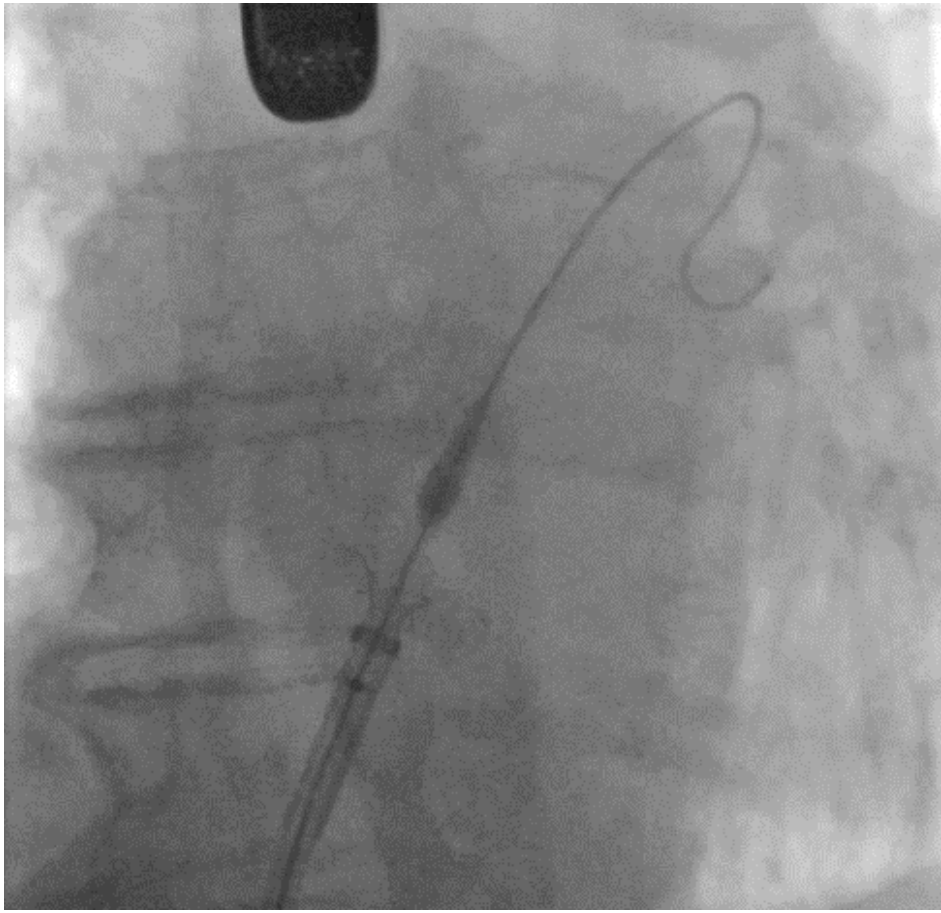


1st Partial Release

Device Implantation

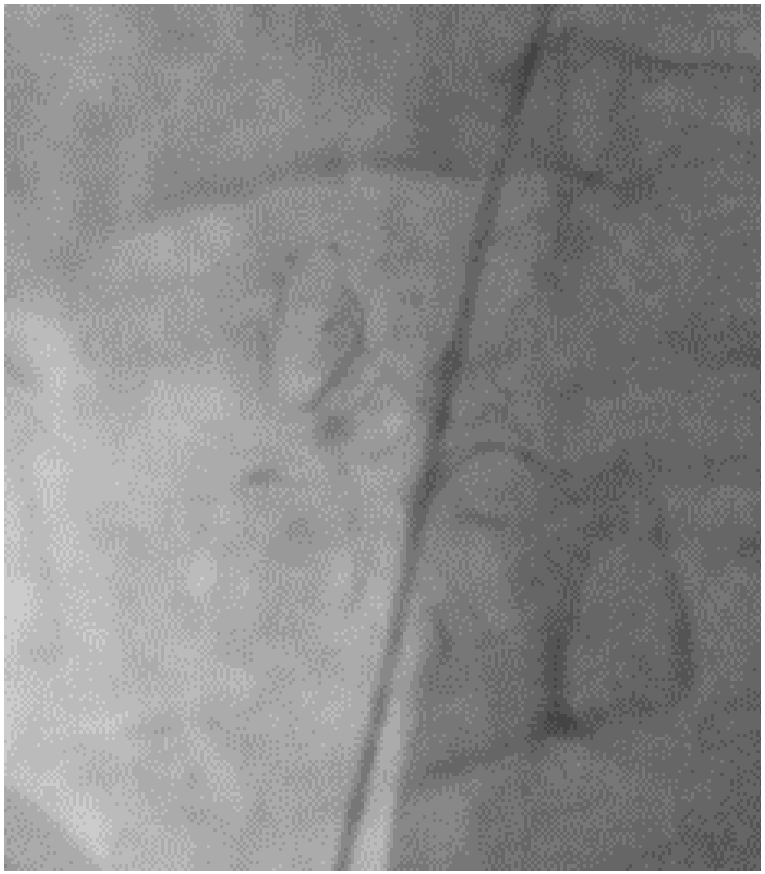


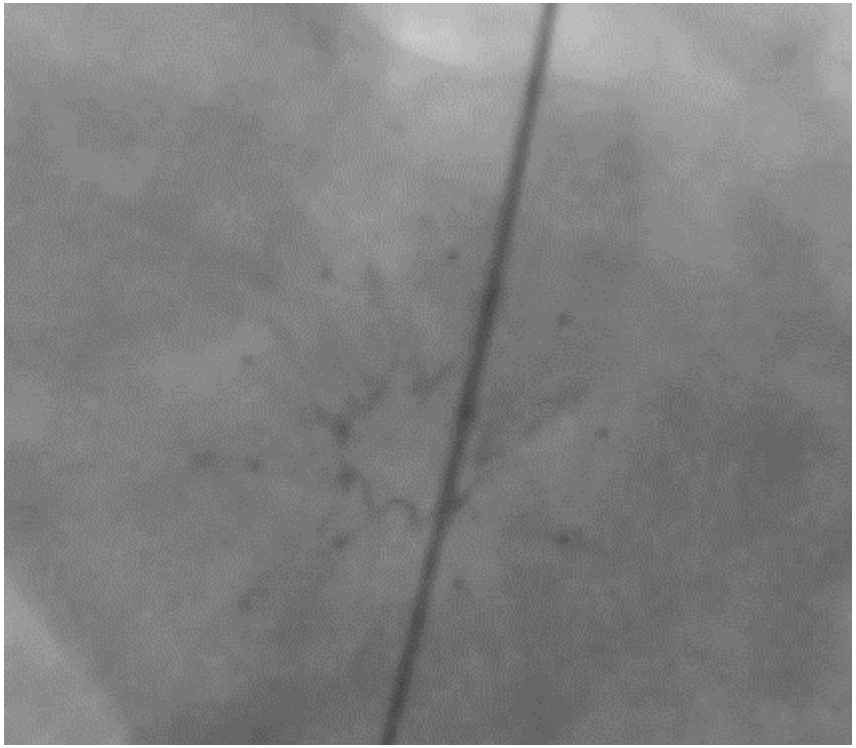
Sufficient Alignment



Release

Device Implantation





Optimal Device Configuration

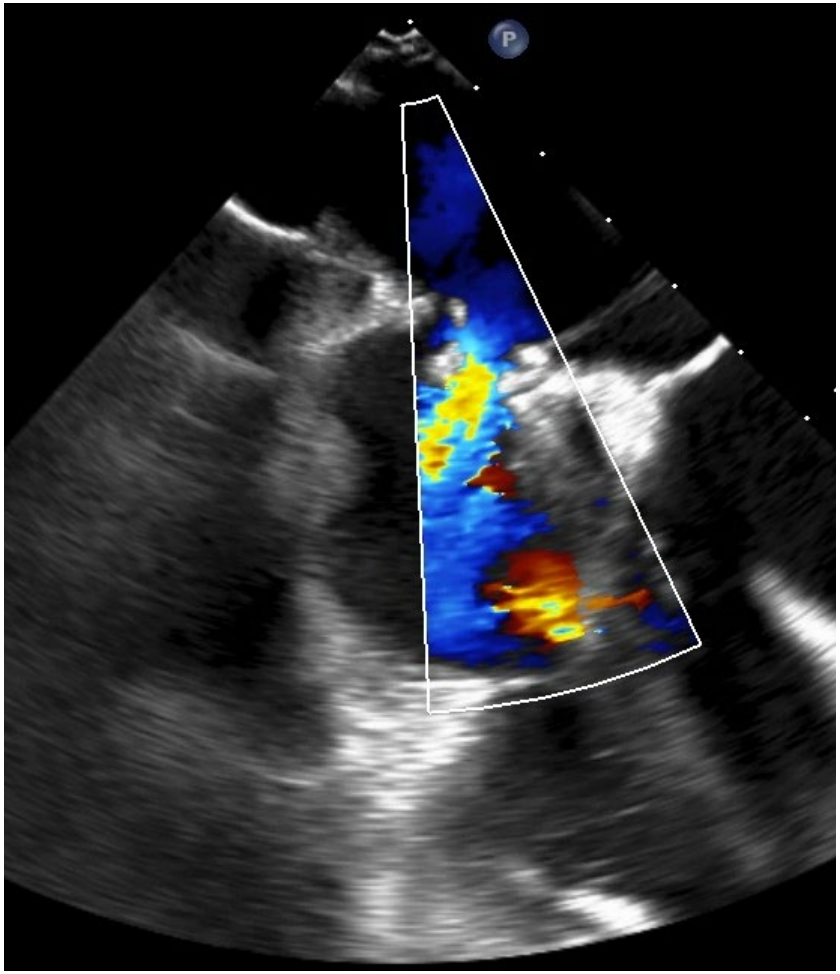
Current Patient Cohort

Baseline Characteristics	
n	6
Gender (female/male)	4/2
Age (years)	78±8
NYHA Class III/IV	4/2
BMI (kg/m²)	29±2
Cardiac Index (L/min/m$^{2)}$	2.2±0.4
LVEF (%)	56±8
PCW v-Wave/mean (mmHg)	38±8 / 23±0.6
RA mean pressure (mmHg)	13±1.6
TAPSE (mm)	19±5

Procedural Characteristics

Success	6/6
Procedure Time (min)	52.5 ±19
Radiation Time (min)	16±8
Contrast used (mL)	6±2
Ballooning Performed	5/6
Hospital Stay (days)	2±2
Intrahospital Complications	0%
REDUCE LAP-HF III Enrollment	2/6

Follow-Up - TOE



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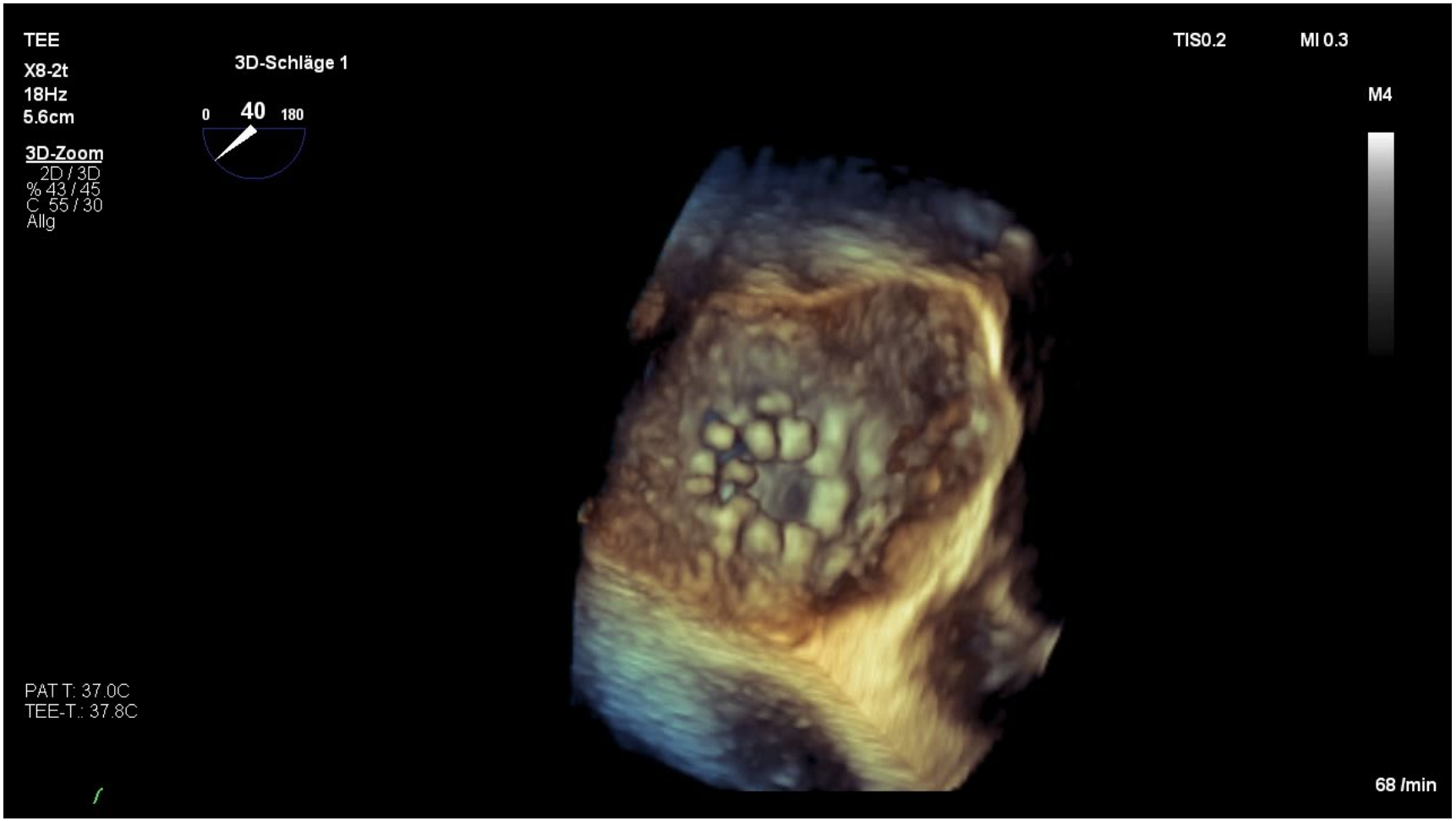
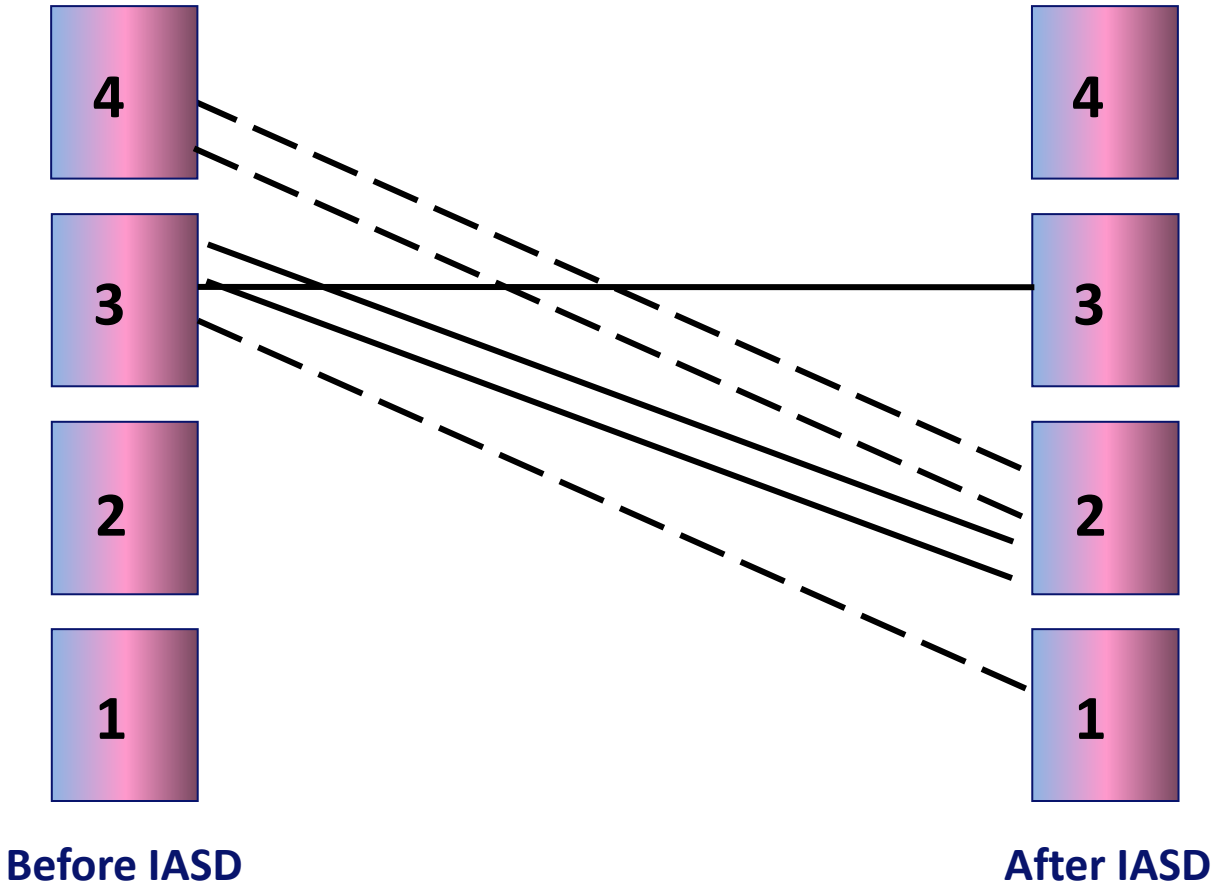


NYHA Class Development at Follow-Up



Summary

- Interventional treatment options for HFpEF are limited
- Careful patient selection and hemodynamic work-up is the key
- The Corvia IASD can be safely implanted with reasonable effort
- Good early experience at the HZD
- The Corvia IASD represents a valuable tool for the toolbox of heart failure treatment
- Additional data and trial results are needed

Thank you!

Krankheiten befallen uns nicht aus heiterem Himmel, sondern entwickeln sich aus täglichen Sünden wider die Natur. Wenn sich diese gehäuft haben, brechen sie unversehens hervor.

Hippokrates

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