ACCESS-EUROPE Phase I

A Post Market Study of the MitraClip System for the Treatment of Significant Mitral Regurgitation in Europe: Analysis of Outcomes at 1 Year

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on behalf of the ACCESS EU investigators

European Society of Cardiology Congress 2012
Munich, Germany

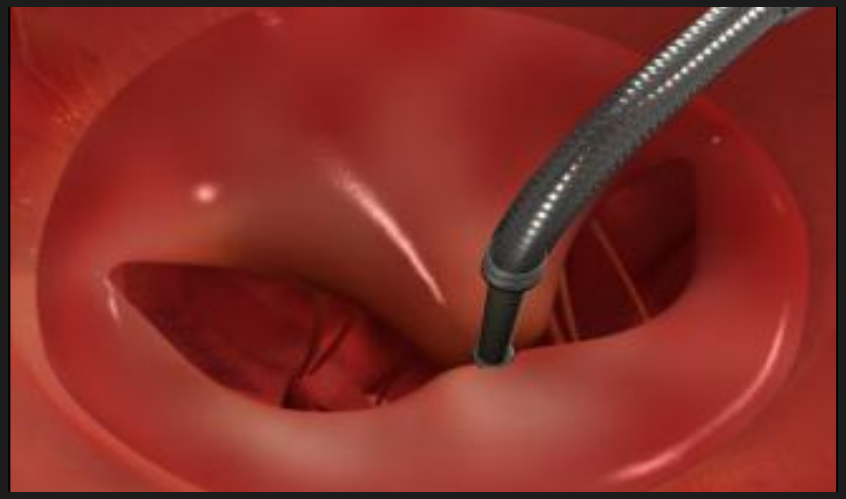
Disclosure Statement of Financial Interest

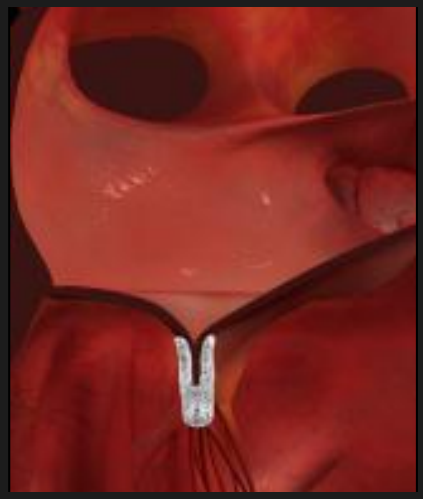
Within the past 12 months, I or my spouse/partner have had a financial interest/arrangement or affiliation with the organization(s) listed below.

Affiliation/Financial Relationship	Company
Consulting Fees/Honoraria	Abbott Vascular
	Abiomed
	AstraZeneca
	Edwards Lifesciences
	Servier
	St. Jude Medical

Transcatheter Mitral Valve Repair

MitraClip® System





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MitraClip Therapy
Worldwide Clinical Experience

- Over 6,000 patients have been treated with the MitraClip device worldwide:
  - 75% are considered high risk* for mitral valve surgery
  - 67% have functional mitral regurgitation (MR)
- 1,905 patients have been enrolled in prospective clinical trials worldwide:
  - 50% are considered high risk* for mitral valve surgery
  - 60% have functional MR

Estimates of worldwide clinical experience as of 7/20/2012.

* Determination of high surgical risk based on: logistic EuroSCORE ≥ 20%, or STS calculated mortality ≥ 12%, or pre-specified high surgical risk co-morbidities specified in EVEREST II High Risk Study protocol.

Introduction

- The ACCESS-EUROPE (ACCESS-EU) Study is a two-phase prospective, observational, multicenter, post-approval study of the MitraClip® System for the treatment of significant MR
  - ACCESS-EU Phase I enrollment started on October 2, 2008 and closed on April 13, 2011. The last follow-up occurred on June 15, 2012.
  - ACCESS-EU Phase II was initiated on September 15, 2011

Purpose

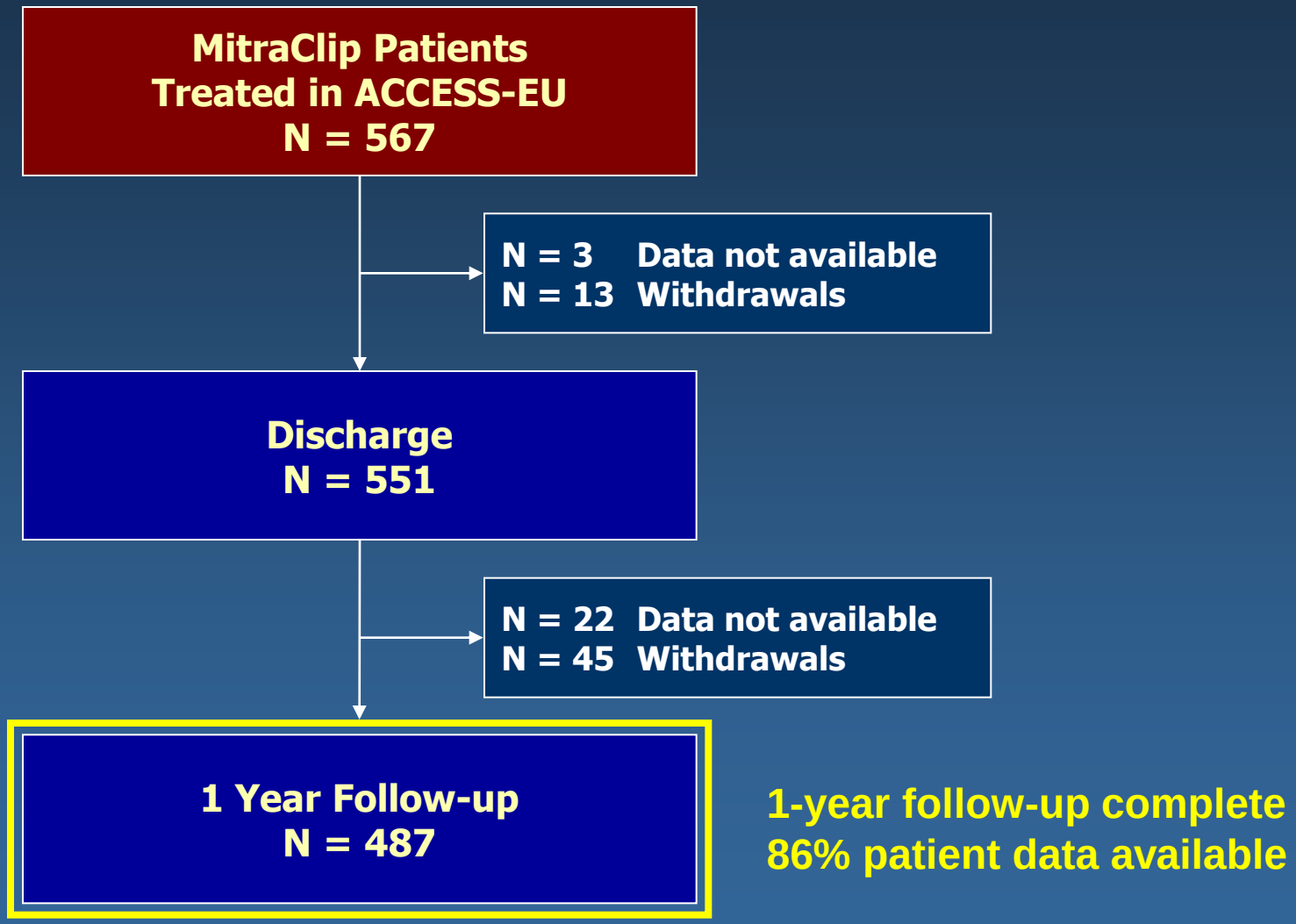
- To present 1-year outcomes in patients with significant MR treated with the MitraClip device in the ACCESS-EU Phase I Trial
- To highlight data, including:
  - Procedural and 30 day safety
  - 1-year outcomes
    - Kaplan-Meier freedom from death
    - MR, NYHA Functional Class and QOL (MLWHF)
    - 6 Minute Walk distance

Enrolling Centers: ACCESS EU Phase I

14 centers have enrolled MitraClip patients

Enrolling Center	Principal Investigator
UKE, Hamburg	Dr. Baldus, Dr. Treede
Universitätsmedizin, Göttingen	Dr. Schillinger
Asklepios Klinik St. Georg, Hamburg	Dr. Schäfer
Krankenhaus Bernau, Brandenburg	Dr. Butter
Deutsches Herzzentrum, Munich	Dr. Hausleiter
Ospedale Ferrarato, Catania	Dr. Ussia
San Raffaele, Milan	Dr. Maisano
CardioVasculares Centrum St. Katharinen, Frankfurt	Dr. Sievert
Rigshospital, Copenhagen	Dr. Soendergaard, Dr. Franzen
Segeberger Kliniken GmbH, Bad Segeberg	Dr. Richardt
Cardiocentro Ticino, Lugano	Dr. Mocceti
Medizinische Hochschule, Hannover	Dr. Klein
Universitätsklinikum, Aachen	Dr. Hoffmann
Herzzentrum, Leipzig	Dr. Thiele

Patient Accountability



1-year follow-up complete
86% patient data available

Baseline Demographics and Co-Morbidities

Demographics and Co-morbidities	EVEREST II RCT Device Patients N=178	EVEREST II High Surgical Risk Cohort N=211	ACCESS EU – MitraClip Patients N=567
Age (mean ± SD), years	67 ± 13	76 ± 10	74 ± 10
Logistic EuroSCORE, (%)			
Mean ± SD	NA	NA	23 ± 18
Logistic EuroSCORE ≥ 20%, (%)	NA	NA	45
STS Mortality Risk, (%)			
Mean ± SD	5 ± 4	12 ± 8	NA
STS Mortality Risk ≥ 12%, (%)	6	48	NA
Male Gender, (%)	64	61	64
Coronary Artery Disease, (%)	47	81	63
Previous Cardiovascular Surgery, (%)	23	58	37
Myocardial Infarction, (%)	22	49	32
Cerebrovascular Disease, (%)	8	21	13
Moderate to Severe Renal Failure, (%)	3	31	42
Atrial Fibrillation, (%)	33	64	68
NYHA Functional Class III or IV, (%)	50	86	85

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Baseline Demographics and Co-Morbidities

Demographics and Co-morbidities	EVEREST II RCT Device Patients N=178	EVEREST II High Surgical Risk Cohort N=211	ACCESS EU – MitraClip Patients N=567
Mitral Regurgitation Grade ≥ 3+, (%)	96	86	98
Ejection Fraction < 40%, (%)	6	28	53
Functional MR, (%)	27	71	77
Ischemic	NA	NA	42
Non-ischemic	NA	NA	58
Degenerative MR, (%)	73	29	23

ACCESS EU – ESC 2012

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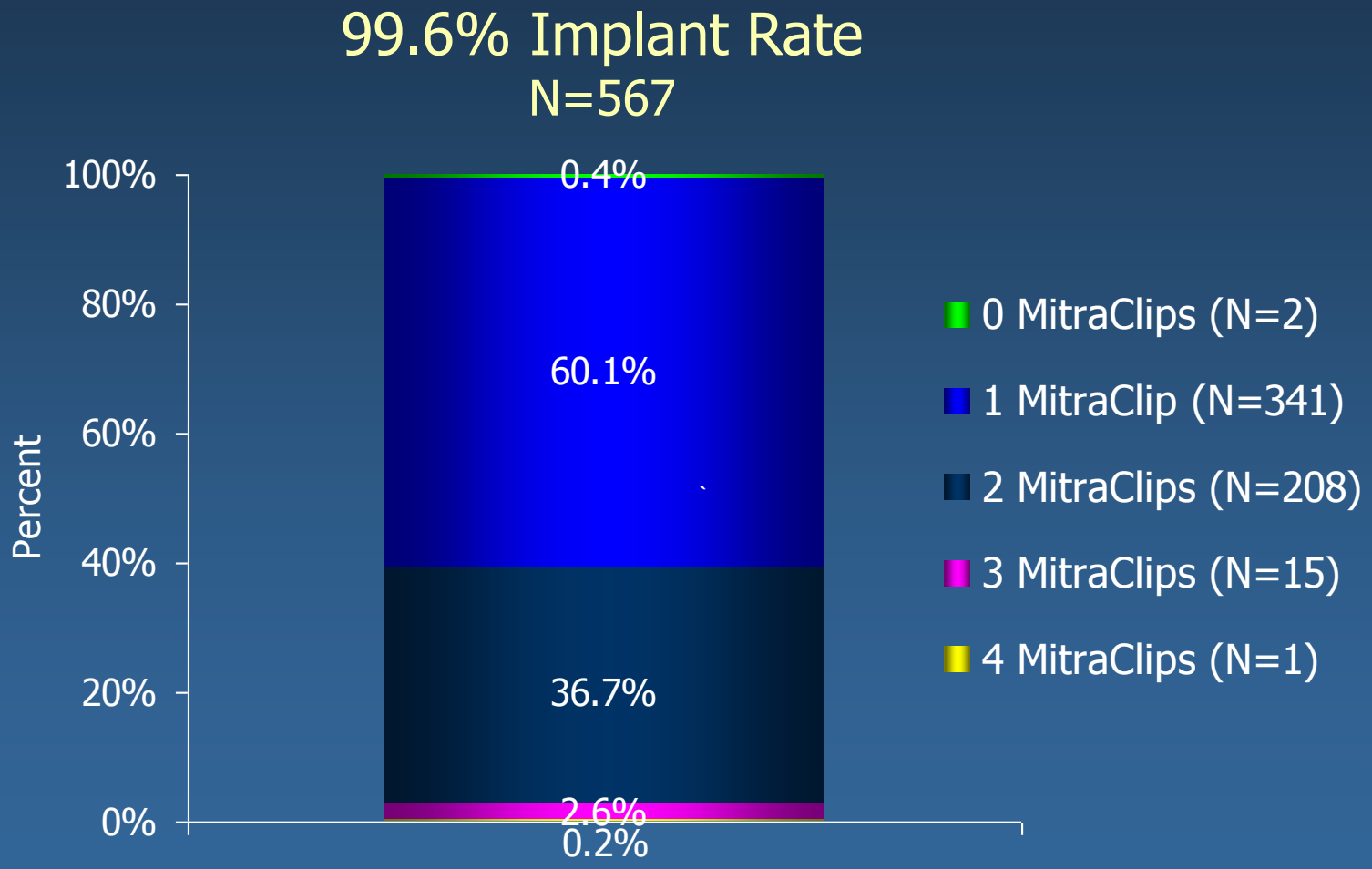
MitraClip Implant Rate and Number of Clips Implanted



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Post-Procedure and Discharge Results

Post-Procedural and Discharge Results	ACCESS EU – MitraClip Patients N=567*
Post-procedural, (median)	
ICU/CCU duration, (days)	1.0
Length of hospital stay, (days)	6.0
Discharge to, (%)	
Home with or without home health care	79.6% (448/563)
Skilled nursing facility / Hospital	17.1% (96/563)
Nursing home	1.4% (8/563)
Died prior to discharge	2.0% (11/563)

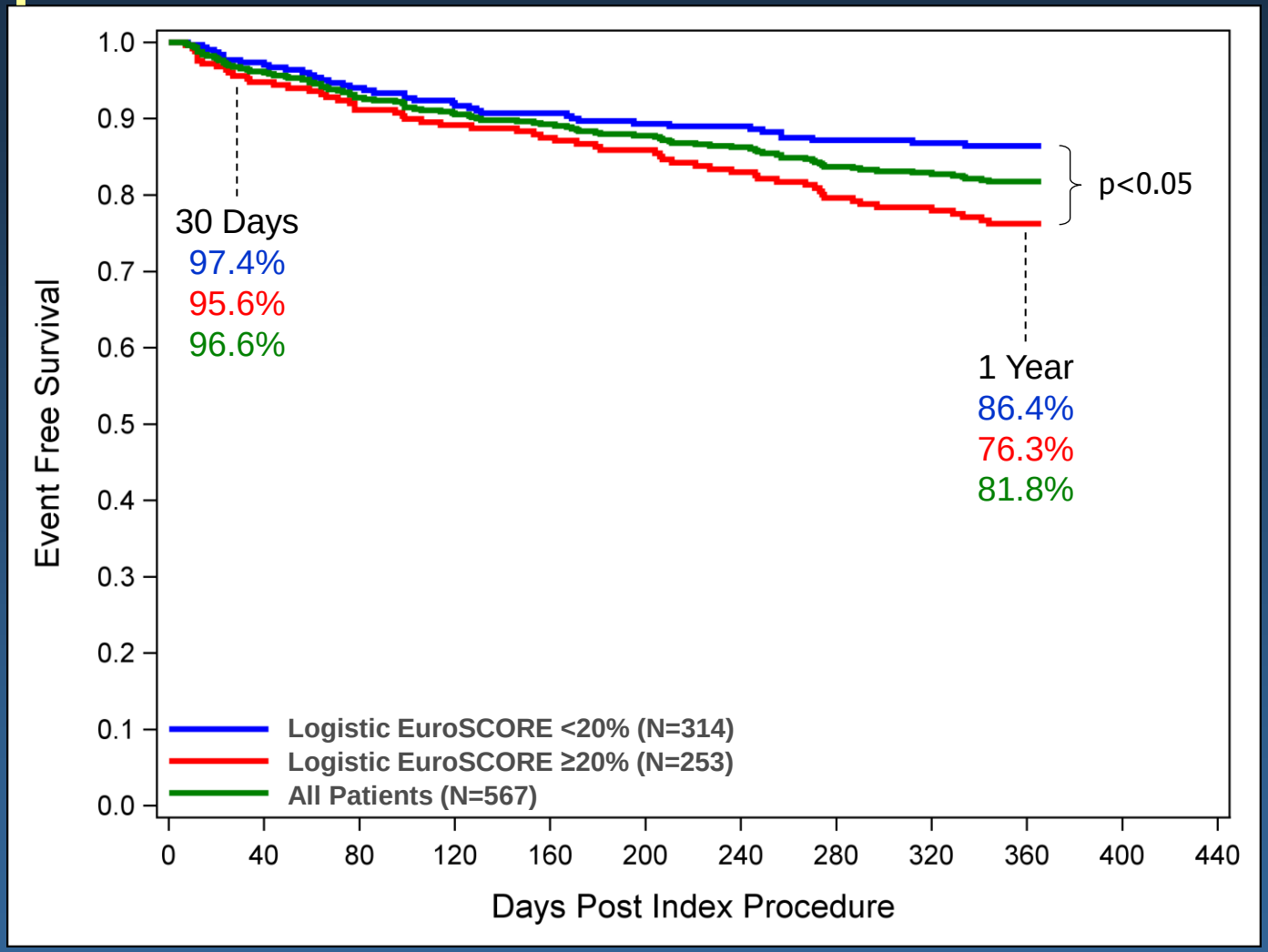
** Denominators smaller than 567 reflect missing data.*

Site Reported Safety Events At 30 Days

1-Year Events*	All Patients N=567	Logistic EuroSCORE ≥20% N=253	Logistic EuroSCORE <20% N=314	p-value
Death	19 (3.4%)	11 (4.3%)	8 (2.5%)	ns
Stroke	4 (0.7%)	3 (1.2%)	1 (0.3%)	ns
Myocardial Infarction	4 (0.7%)	2 (0.8%)	2 (0.6%)	ns
Renal Failure	27 (4.8%)	16 (6.3%)	11 (3.5%)	ns
Respiratory Failure	4 (0.7%)	3 (1.2%)	1 (0.3%)	ns
Need for Resuscitation	10 (1.8%)	7 (2.8%)	3 (1.0%)	ns
Cardiac Tamponade	6 (1.1%)	3 (1.2%)	3 (1.0%)	ns
Bleeding Complications	22 (3.9%)	12 (4.7%)	10 (3.2%)	ns

** As reported by the sites*

Kaplan-Meier Freedom from Death



At Risk	0 Day	30 Days	180 Days	360 Days
All Patients	567	534	475	415
Logistic EuroSCORE <20%	314	296	264	235
Logistic EuroSCORE ≥20%	253	238	211	180

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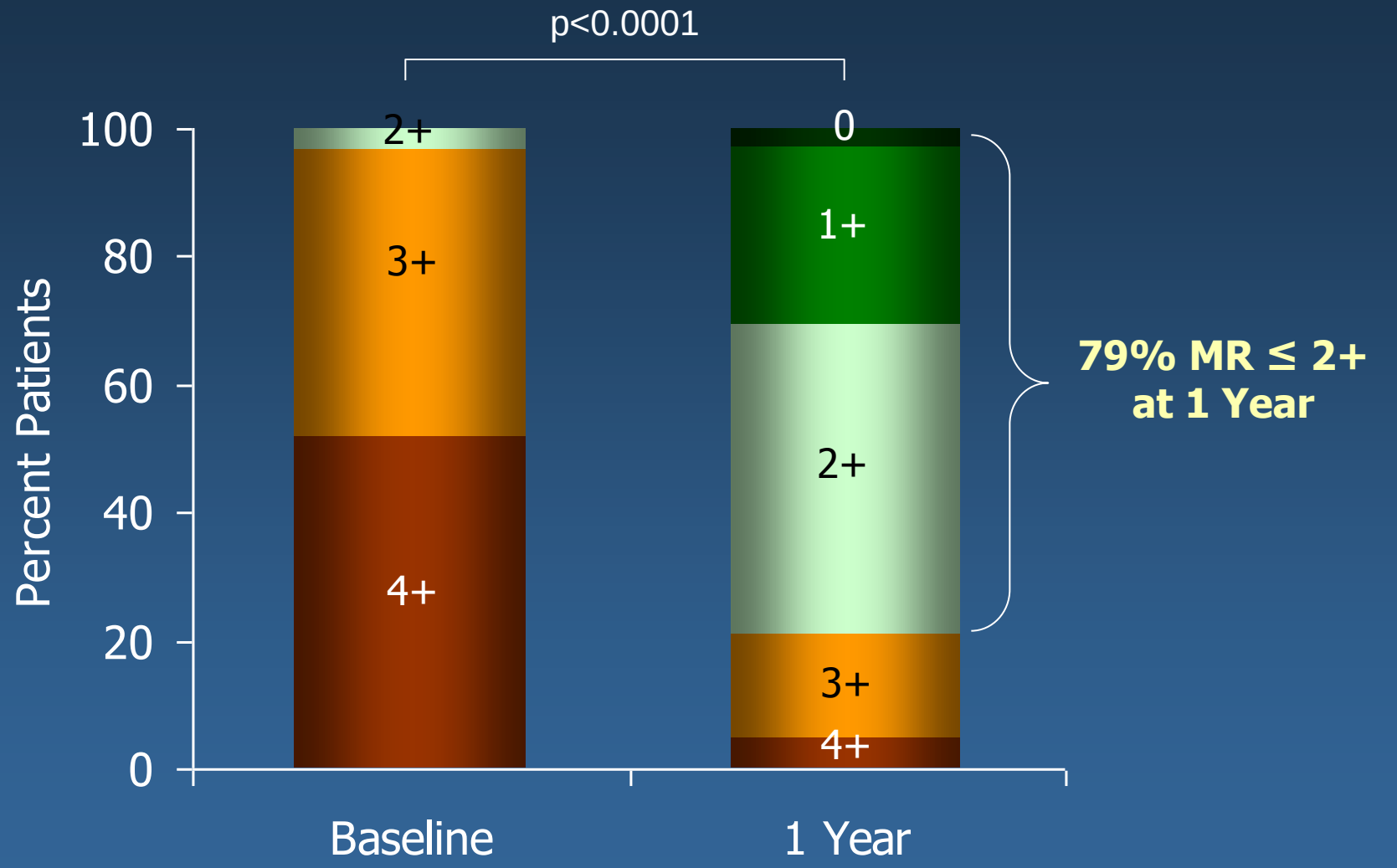
Site Reported Safety Events At 1 Year

1-Year Events*	All Patients N=567	Logistic EuroSCORE ≥20% N=253	Logistic EuroSCORE <20% N=314	p-value
Death	98 (17.3%)	58 (22.9%)	40 (12.7%)	<0.05
Stroke	6 (1.1%)	4 (1.6%)	2 (0.6%)	ns
Myocardial Infarction	8 (1.4%)	5 (2.0%)	3 (1.0%)	ns
Renal Failure	49 (8.6%)	29 (11.5%)	20 (6.4%)	<0.05
Respiratory Failure	5 (0.9%)	4 (1.6%)	1 (0.3%)	ns
Need for Resuscitation	12 (2.1%)	9 (3.6%)	3 (1.0%)	<0.05
Cardiac Tamponade	7 (1.2%)	4 (1.6%)	3 (1.0%)	ns
Bleeding Complications	27 (4.8%)	16 (6.3%)	11 (3.5%)	ns

** As reported by the sites*

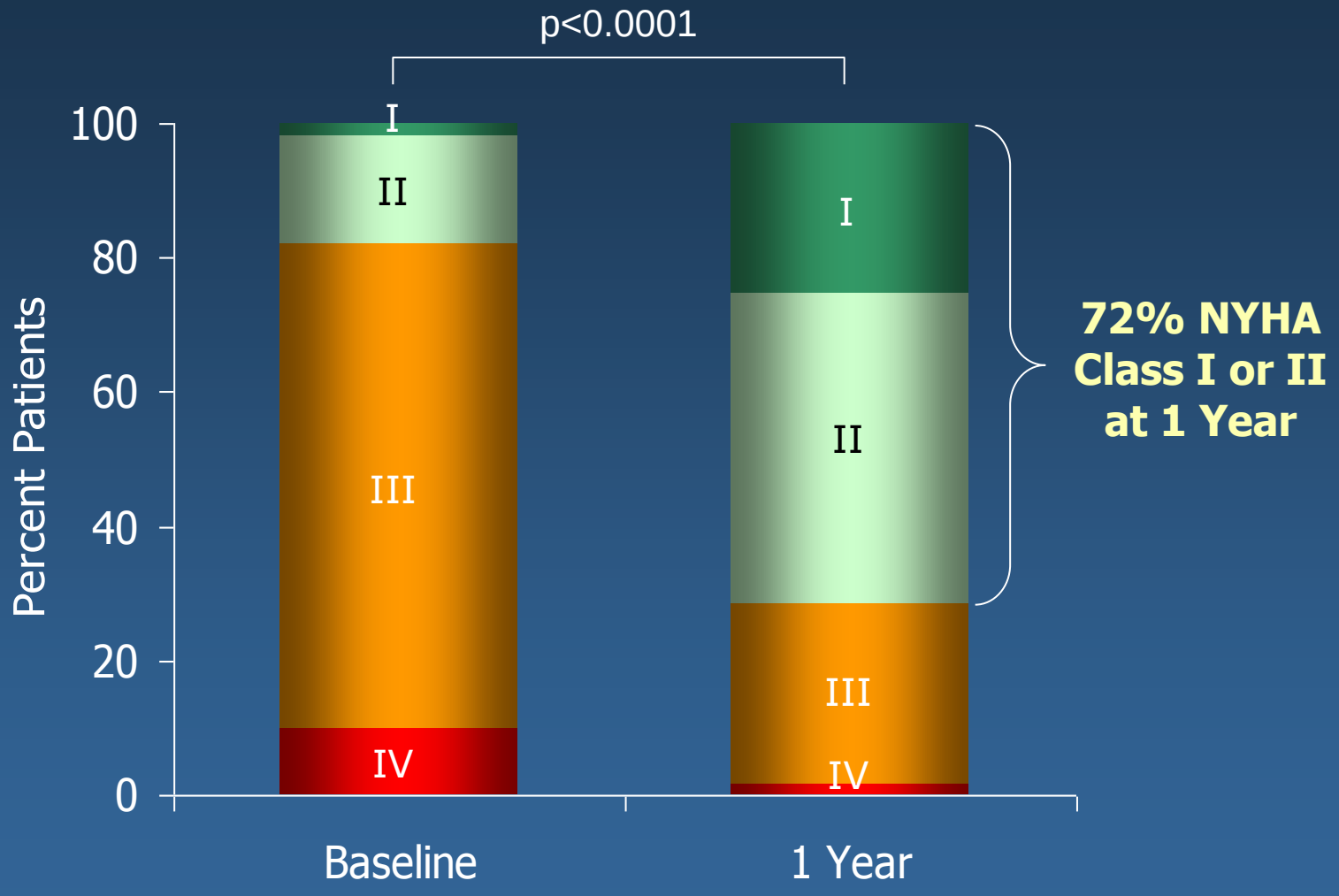
Mitral Regurgitation Grade*



N = 327 Matched Cases

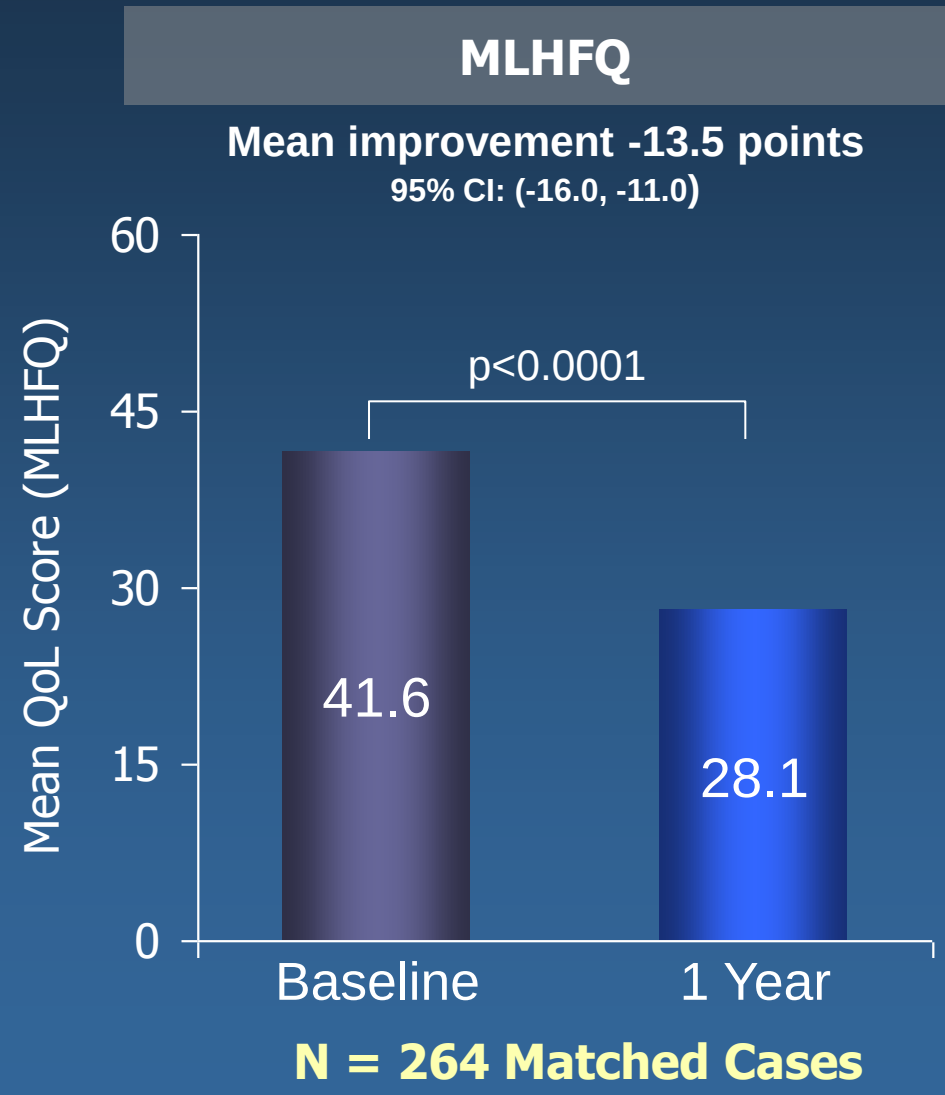
** As assessed by the sites*

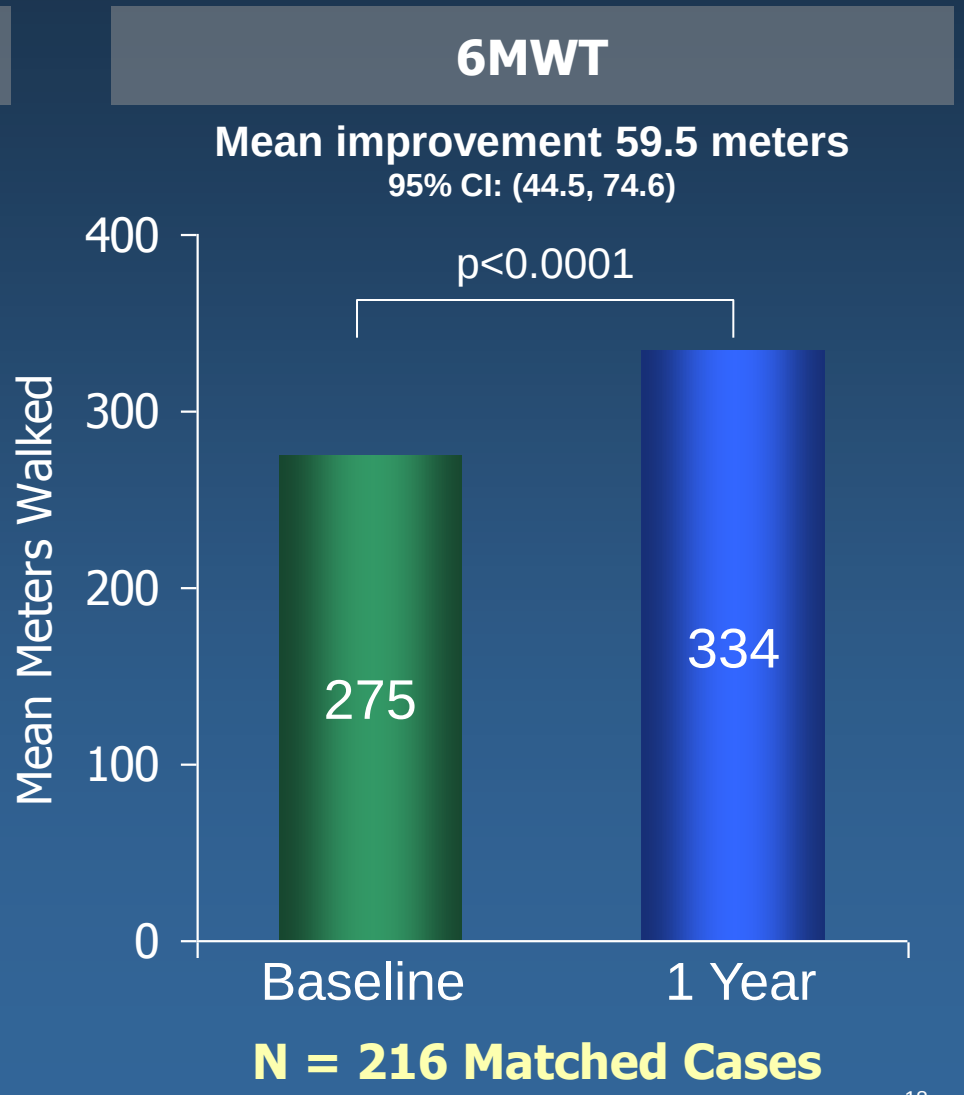
NYHA Functional Class



N = 343 Matched Cases

Quality of Life Score (MLHFQ) and 6-Minute Walk Distance





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Summary

- Patients treated in the ACCESS-EU study were elderly, symptomatic and had multiple major co-morbidities, indicating the high risk nature of this patient population.
- A high device implant success and a low rate of a procedural safety events demonstrate that the MitraClip device can be performed safely in this complex patient population.
- ACCESS-EU 1-year results show that the MitraClip device safely reduces MR and provides meaningful clinical benefits, including significant improvements in:
  - NYHA Functional Class
  - Quality-of-Life (MLHFQ)
  - Six-Minute Walk Distance

Conclusion

- The MitraClip procedure provides significant clinical benefits to patients with severe MR in a real world setting consistent with results in controlled clinical trials.
- The MitraClip therapy therefore provides a treatment option for a patient population with an important unmet clinical need.