

# **Korean Experiences of Mitraclip**

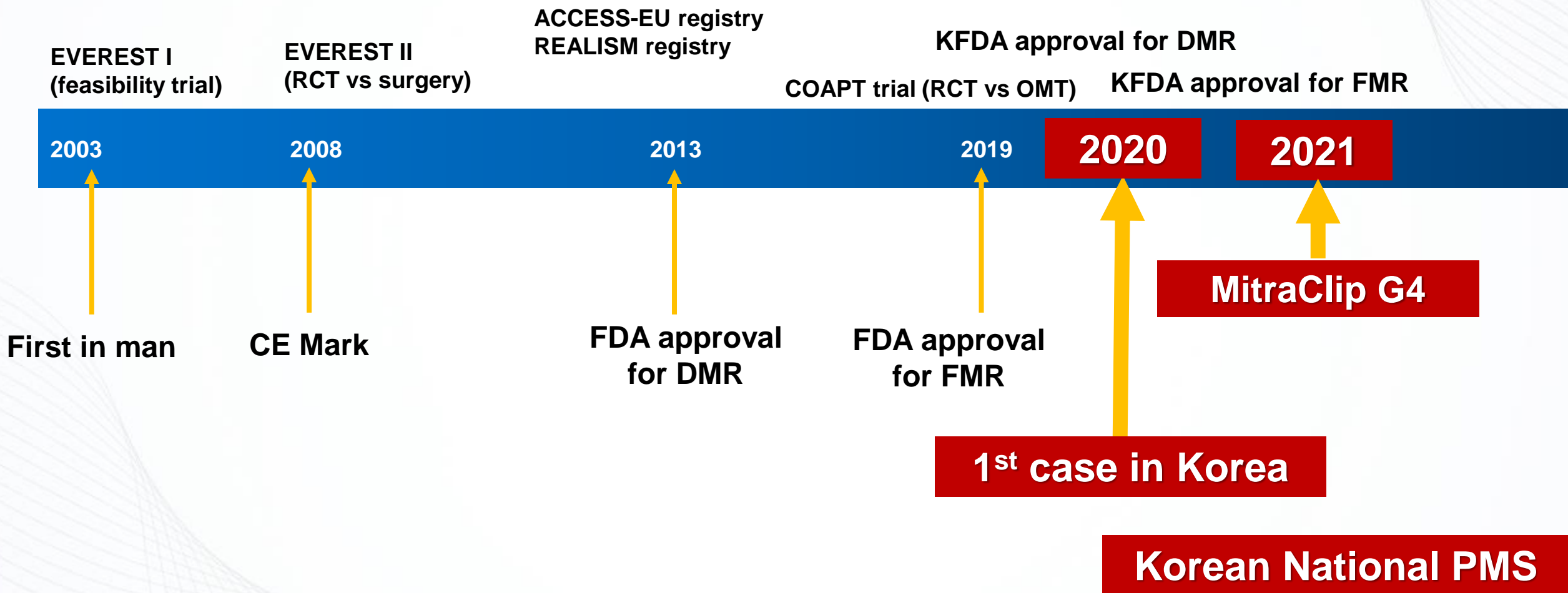
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# Disclosure

- I, Do-Yoon Kang, DO NOT have a conflict of interest related to this presentation.

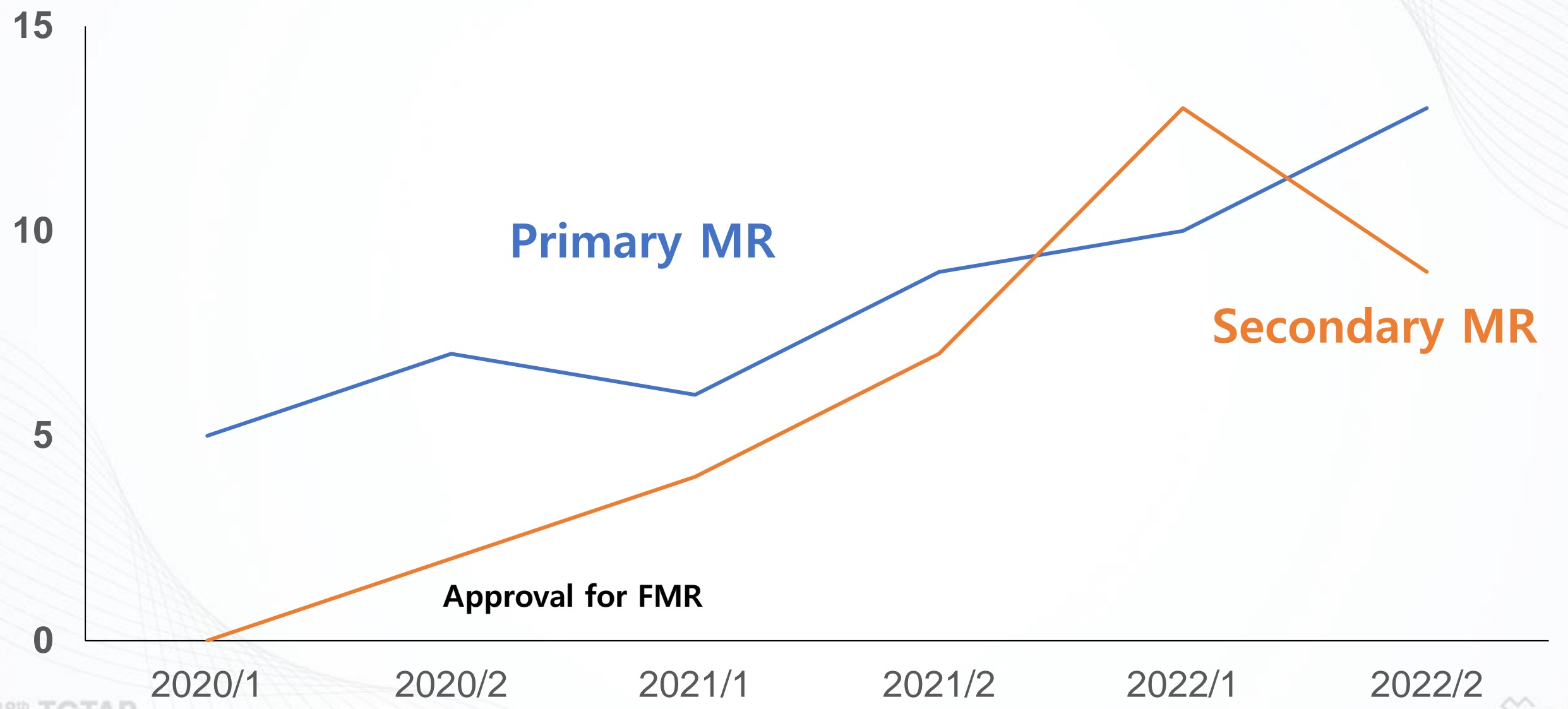
# Status of Mitraclip in Korea



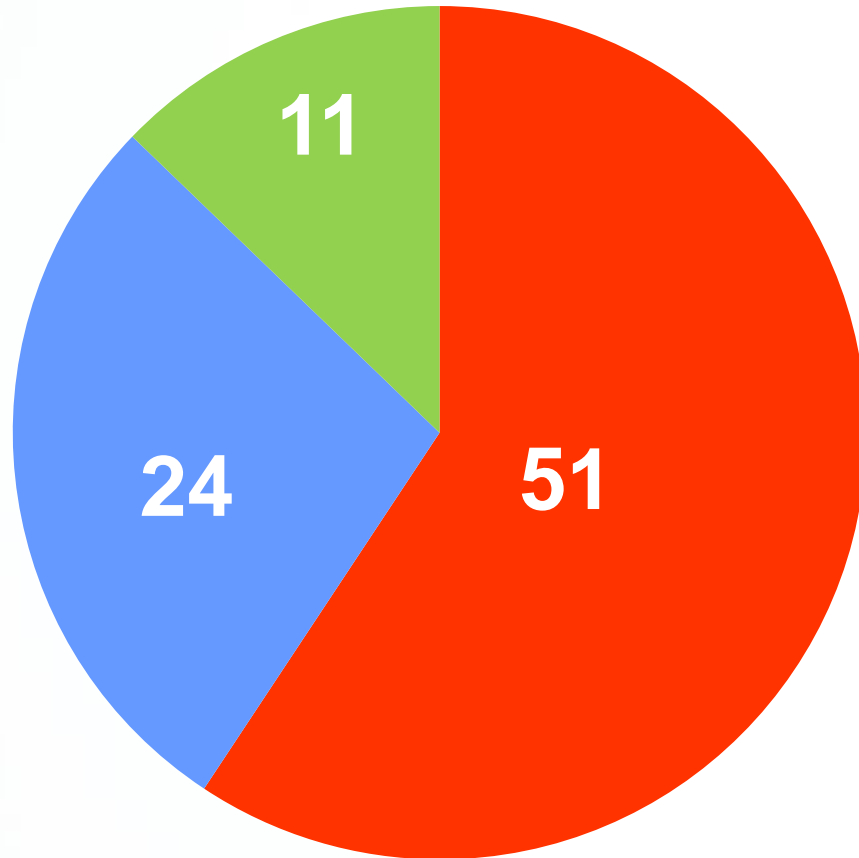
# Current Situation in Korea (9 Centers)

	Case No
2020	34
2021	64
2022	91
2023 March	22
<b>Total</b>	<b>211</b>
DMR	61 %
FMR	39 %

# TEER indication in Asan Medical Center



# TEER indication in Asan Medical Center (n=86)



■ Degenerative

■ Ventricular Functional

■ Atrial functional

# Clinical Characteristics

	<b>Overall (n=86)</b>	<b>Primary MR (n=51)</b>	<b>Ventricular FMR (n=24)</b>	<b>Atrial FMR (n=11)</b>
Age, years	77.8±6.5	79.3±5.7	74.0±7.3	79.0±5.1
Women	50 (58.1%)	29 (56.9%)	16 (66.7%)	5 (45.5%)
BMI	22.9±3.1	22.8±2.9	22.7±3.5	23.5±3.2
NYHA III~IV	57 (66.3%)	31 (60.8%)	18 (75.0%)	8 (72.7%)
Atrial fibrillation	45 (52.3%)	21 (41.2%)	13 (54.2%)	11 (100%)
Hypertension	49 (57.0%)	34 (66.7%)	11 (45.8%)	4 (36.4%)
Diabetes mellitus	15 (17.4%)	6 (11.8%)	9 (37.5%)	0 (0%)
Chronic kidney disease	31 (36.0%)	14 (27.5%)	11 (45.8%)	6 (36.0%)
Prior Cardiac surgery	7 (8.1%)	1 (2.0%)	4 (16.7%)	2 (18.2%)
Prior PCI	18 (20.9%)	4 (7.8%)	13 (54.2%)	1 (9.1%)

# Echocardiographic Characteristics

	Overall (n=86)	Primary MR (n=51)	Ventricular FMR (n=24)	Atrial FMR (n=11)
LV EF, %	56.8±15.1	64.8±8.5	38.9±12.2	58.9±11.4
LV ESD, mm	37.6±10.4	32.1±7.2	49.1±8.7	38.2±4.7
LV EDD, mm	56.5±7.7	53.6±7.0	61.5±7.1	58.8±5.5
LA Size, mm	52.3±10.9	49.6±8.0	51.8±5.5	66.1±19.3
MV Area, cm <sup>2</sup>	5.7±1.9	5.5±1.0	5.6±2.8	6.6±1.4
Mod-severe TR	30 (34.5%)	14 (27.5%)	7 (29.2%)	9 (81.8%)
TR Vmax, m/s	3.2±0.6	3.2±0.6	3.3±0.6	3.2±0.5



# Procedural Characteristics

	Overall (n=86)	Primary MR (n=51)	Ventricular FMR (n=24)	Atrial FMR (n=11)
Number of Clips	1.7±0.5	1.7±0.5	1.8±0.4	1.9±0.6
First Clip in G4 device				
NT	2	2	0	0
NTW	12	9	2	1
XT	12	<b>10</b>	1	1
XTW	<b>38</b>	<b>13</b>	<b>18</b>	<b>7</b>
Second Clip in G4 device				
NT	12	4	<b>7</b>	1
NTW	11	4	<b>7</b>	0
XT	8	<b>6</b>	1	1
XTW	13	<b>7</b>	1	<b>5</b>

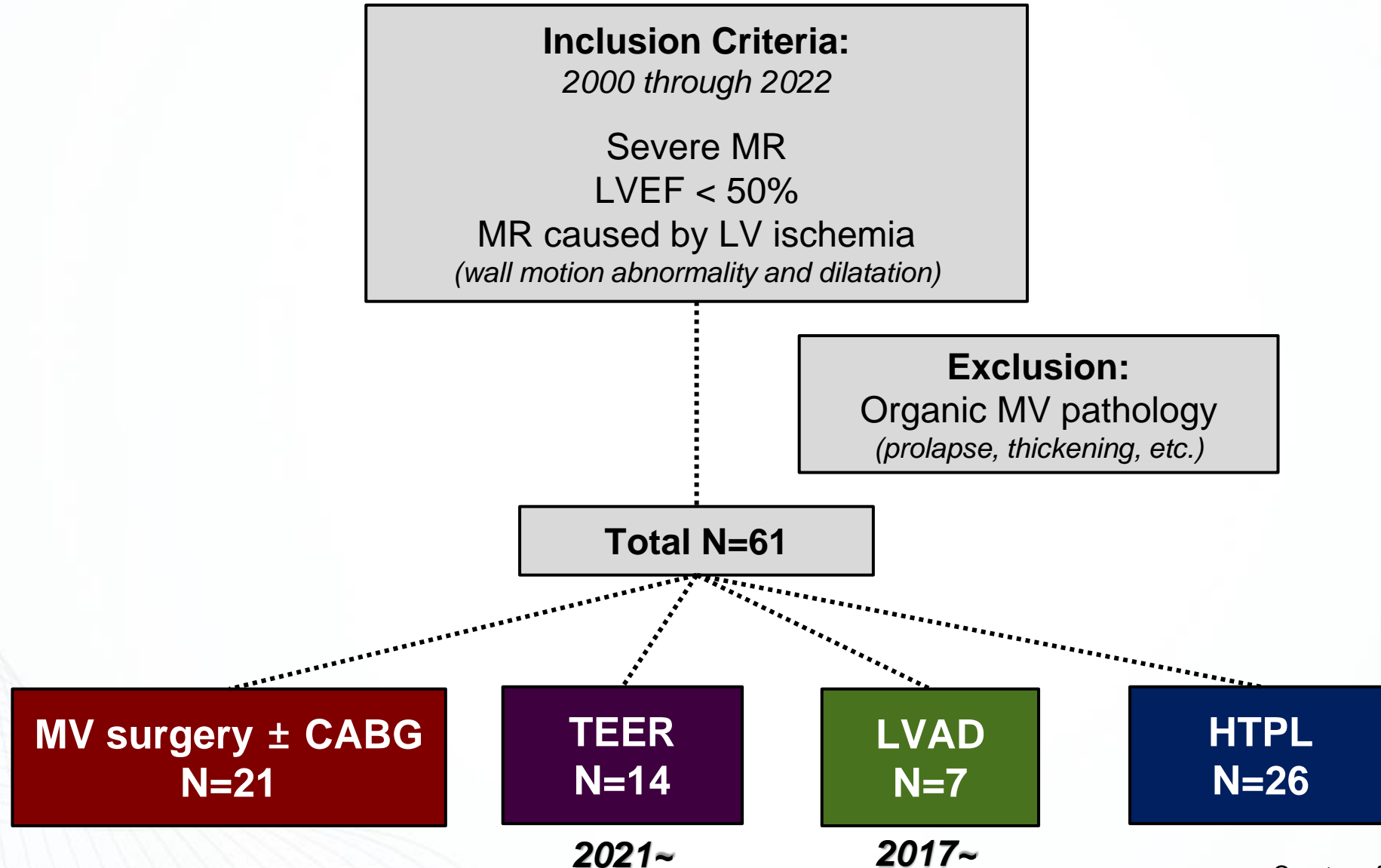
# Procedural Outcomes

	Overall (n=86)	Primary MR (n=51)	Ventricular FMR (n=24)	Atrial FMR (n=11)
MR grade 3+/4+	12 (14.5%)	7 (14.0%)	3 (13.0%)	<b>2 (20.0%)</b>
Failed TEER (Open heart surgery)		1	1	1
<b>Device-related adverse events</b>				
SLDA		1		
<b>30-Day Clinical Outcomes</b>				
Death			1 (acute MR)	
CVA		2		

# 1-Year Clinical Outcomes

	<b>Overall (n=86)</b>	<b>Primary MR (n=51)</b>	<b>Ventricular FMR (n=24)</b>	<b>Atrial FMR (n=11)</b>
All-cause death	4 (4.7%)	2 (3.9%)	2 (8.3%)	
CV Death	2 (2.3%)	1 (2.0%)	1 (4.2%)	
CVA	3 (3.5%)	2 (3.9%)		1 (9.1%)
Rehospitalization of cardiac cause	11 (12.8%)	6 (11.8%)	5 (20.8%)	
Open heart surgery	2 (2.3%)	2 SLDA at day #9 MR progression at day #140		

# Tx of Ischemic HF with Severe MR Asan Medical Center

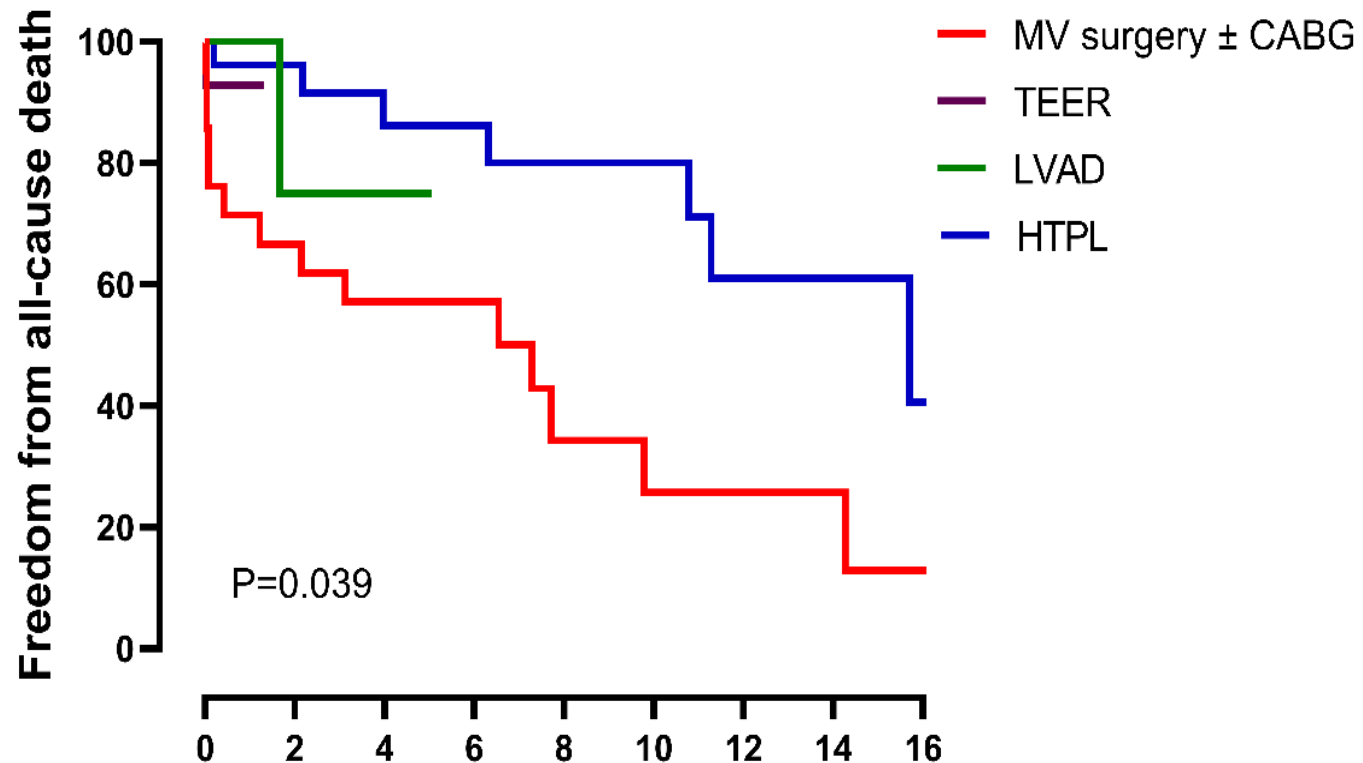


# Tx of Ischemic HF with Severe MR Asan Medical Center

Variables	MV surgery ± CABG (N = 21)	TEER (N = 14)	LVAD (N = 7)	HTPL (N = 26)	P-value
Age, yr	63.0 ± 11.0	75.0 ± 5.4	63.57 ± 4.76	58.4 ± 5.8	<0.001
Preoperative CABG	1 (4.8)	4 (28.6)	1(14.3)	4 (15.4)	0.28
Preoperative PCI	6 (28.6)	11 (78.6)	5 (71.4)	16 (61.5)	0.016
NYHA class, III or IV	15 (71.5)	8 (57.1)	4 (57.4)	24 (92.3)	0.072
<b>Preoperative Critical status</b>					
Preoperative ECMO	1 (4.8)	0 (0)	1 (14.3)	0 (0)	0.2
Preoperative Inotropic use	4 (19.1)	0 (0)	3 (42.9)	14 (53.9)	0.0023
<b>Echocardiographic data</b>					
LV ejection fraction, %	33.0 ± 7.9	39.4 ± 10.2	23.0 ± 5.7	22.9 ± 5.5	<0.001
LV end-diastolic volume, mm <sup>2</sup>	65.4 ± 6.7	61.0 ± 6.5	67.6 ± 10.6	74.1 ± 7.4	<0.001

<b>Variables</b>	<b>MV surgery ± CABG (N = 21)</b>	<b>TEER (N = 14)</b>	<b>LVAD (N = 7)</b>	<b>HTPL (N = 26)</b>	<b>P-value</b>
<b>Early mortality</b>	4 (19.1)	1 (7.1)	0 (0)	0 (0)	0.07
<b>Late outcomes</b>					
<b>Mortality</b>	14 (66.7)	1 (7.1)	1 (14.3)	8 (30.8)	0.0014
<b>CHF readmission</b>	5 (23.8)	1 (7.1)	0 (0)	2 (7.7)	0.21
<b>MI readmission</b>	0 (0)	0 (0)	0 (0)	1 (3.9)	0.65
<b>Stroke</b>	0 (0)	0 (0)	2 (28.6)	0 (0)	<0.001
<b>MACCE</b>	17 (81.0)	2 (14.3)	2 (28.6)	9 (34.6)	<0.001

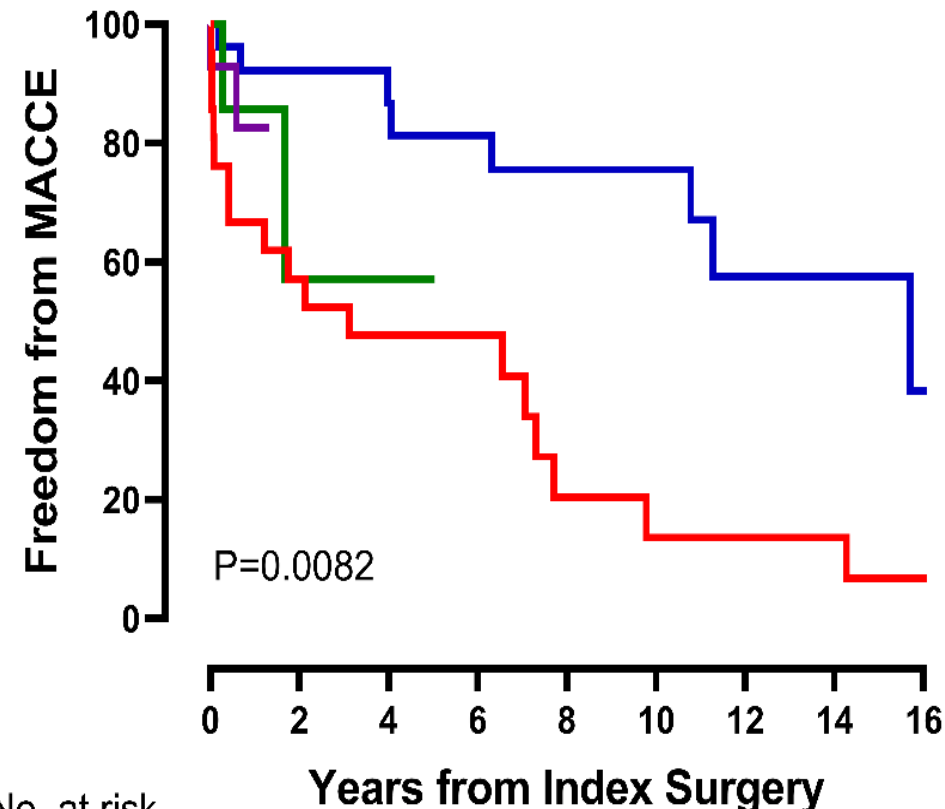
# Overall Survival



No. at risk

	0	2	4	6	8	10	12	14	16
MV surgery ± CABG	21	15	13	13	5	4	4	4	2
TEER	14	14	14	14	14	14	14	14	14
LVAD	7	4	4	4	4	4	4	4	4
HTPL	26	26	17	17	14	14	7	7	3

# Freedom from MACCE



No. at risk

	0	2	4	6	8	10	12	14	16
MV surgery ± CABG	21	13	12	5	4	3	4	2	2
TEER	14	9	9	9	9	9	9	9	9
LVAD	7	3	3	3	3	3	3	3	3
HTPL	26	24	17	14	14	14	7	7	3

Revascularization deemed beneficial?

Yes

No

CRT

CABG + MV surg

PCI + TEER

Depending on anatomical suitability

Disproportionate MR ?

Yes

No

TEER

LVAD

MV surgery

HTPL



# M/57 with ATTR Cardiac Amyloidosis

Sick sinus syndrome s/p PPM implantation 5YA

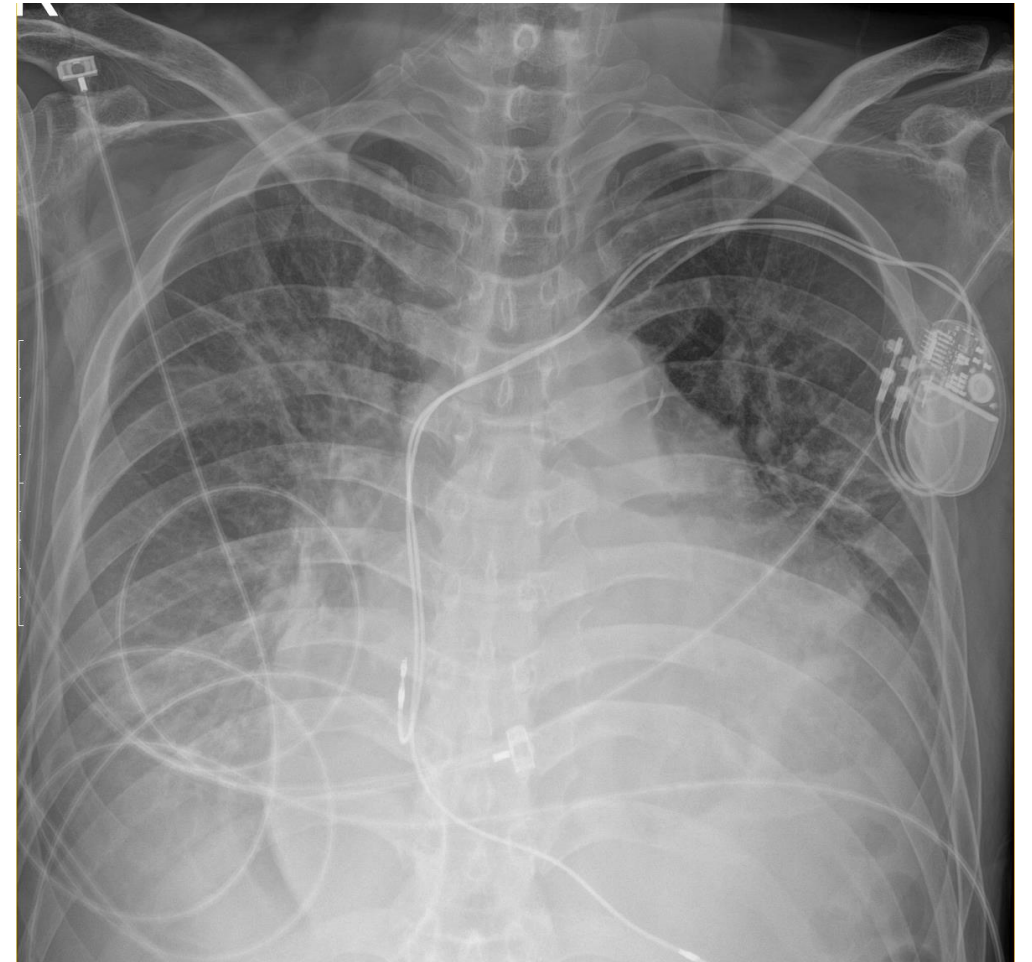
Atrial flutter s/p RFCA 3YA

On Vutisiran

Hospitalized with Refractory HF

Normal LV EF

Akinesia of posterolateral wall & Severe MR



# M/57 with ATTR-CM, Severe Functional MR

