



IX Congresso
Novas Fronteiras
em Medicina
Cardiovascular

22 a 24 de Fevereiro 2019

The Village Praia
D'El Rey - Óbidos

STRUCTURAL INTERVENTION IN THE MV: WHERE ARE WE AND WHERE ARE WE GOING?

E. Infante de Oliveira

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Annapurna



Transcatheter Devices for the Mitral Valve

Edge-to-edge

- MitraClip
- MitraFlex
- Pascal

Coronary sinus annuloplasty

- Cardiac Dimensions Carillon**
- Cerclage annuloplasty

MV replacement

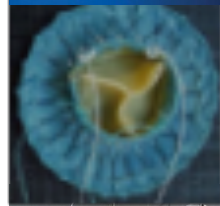
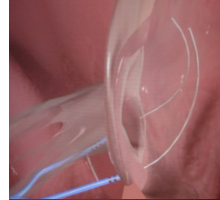
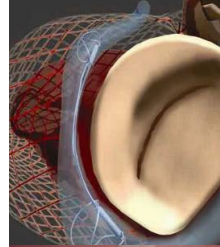
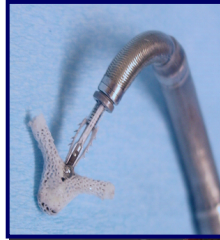
- Edwards CardiAQ*
- Edwards Fortis*
- Neovasc Tiara*
- Abbott Tendyne*
- Medtronic Intrepid*
 - HighLife*
 - MValve*
 - Cephea
- NCSI NaviGate
 - St. Jude
- Micro Interventional
- Valtech CardioValve
 - ValveXchange
 - MitrAssist
- Braile Quattur
 - Caison
- Direct Flow
- Sinomed Accufit

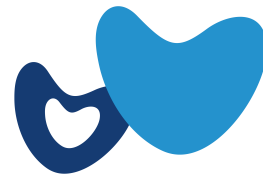
MV replacement (cont)

- MitralHeal
- HT Consultant Saturn
- Lutter valve
- Transcatheter Technologies
 - Tresillo
 - Venus
 - Verso
- Transmural Systems

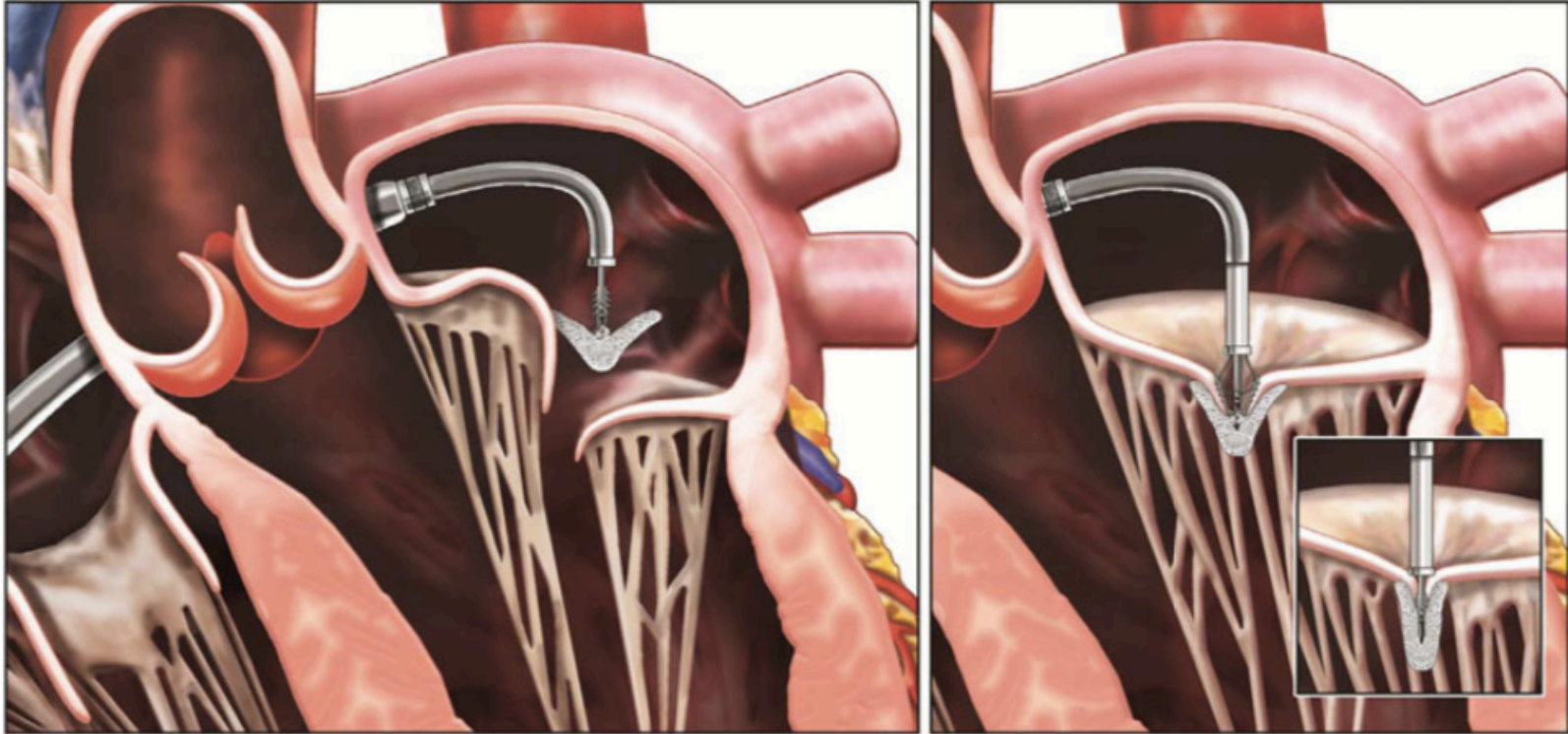
Other approaches

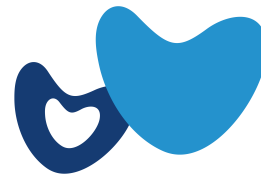
- NeoChord DS 1000**
- Harpoon neochoords*
 - Babic chords*
- Middle Peak Medical*
- St. Jude leaflet plication*
- Cardiosolutions Mitra-Spacer*
 - Valtech Vchordal
 - Mitralix





Mitral regurgitation – the present





Mitral regurgitation – the present

**German Volume of interventional mitral repair passed surgical procedures in 2015:
from „minority“ to „majority report“**



UNIVERSITÄTS**medizin.**

MAINZ

Zentrum für Kardiologie
Kardiologie I

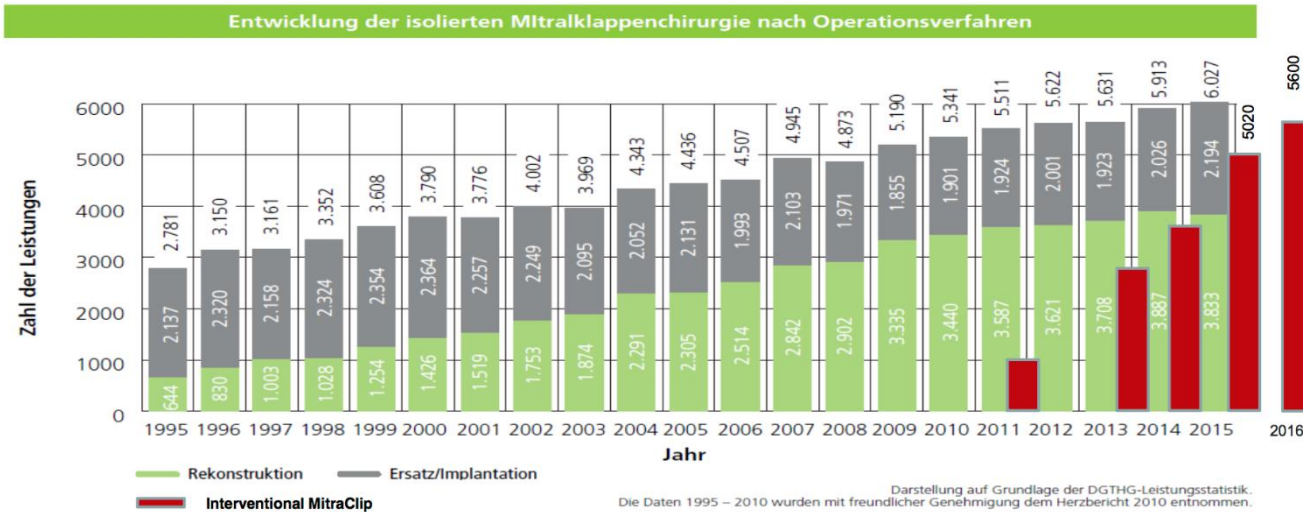


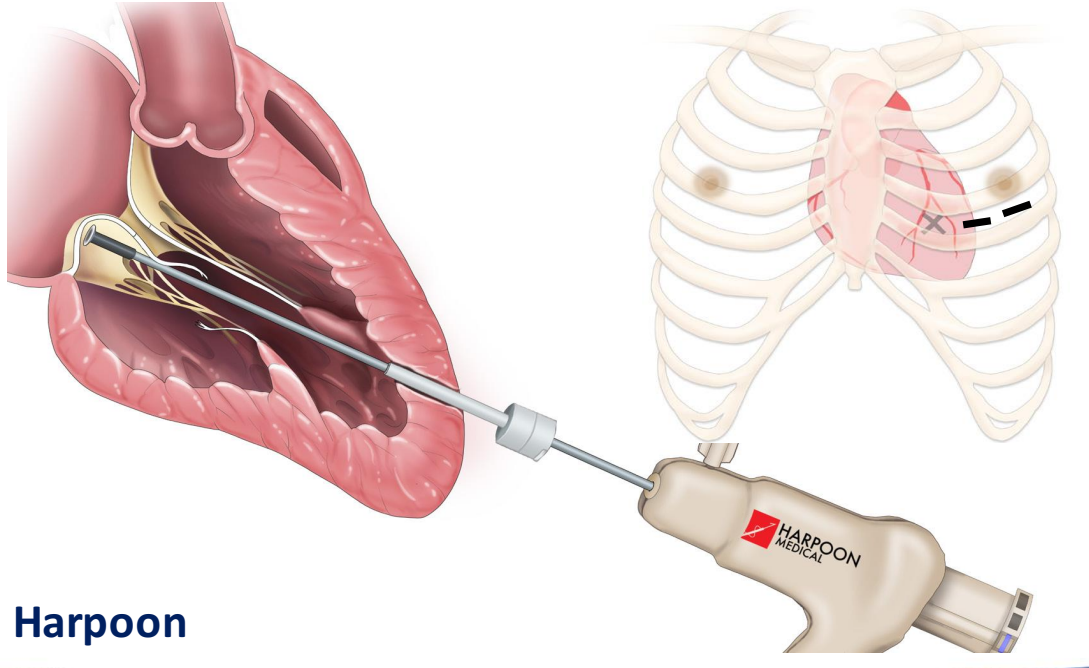
Abb. 4/13: Entwicklung der isolierten Mitralklappenchirurgie von 1995 bis 2015

Quelle: Deutscher Herzbericht 2016 (German Heart Foundation Report 2016 – publ. Jan 2017)

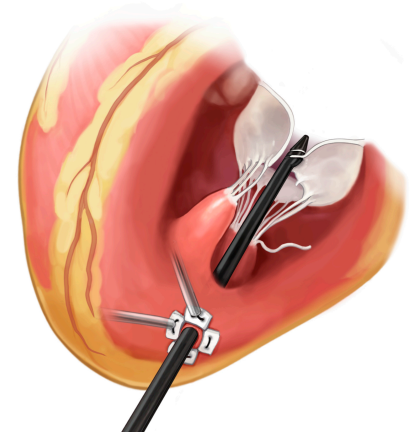


Mitral regurgitation – the future

Alternative approaches:



Harpoon

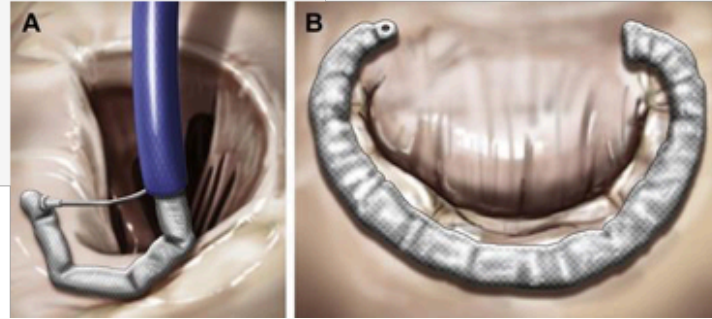
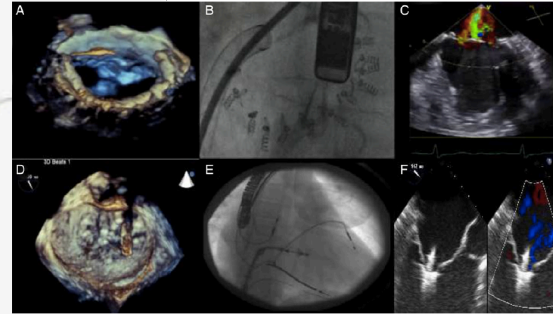




Mitral regurgitation – the future

Transcatheter Annuloplasty – the next step

Cardioband



Transcatheter Annuloplasty – the next step

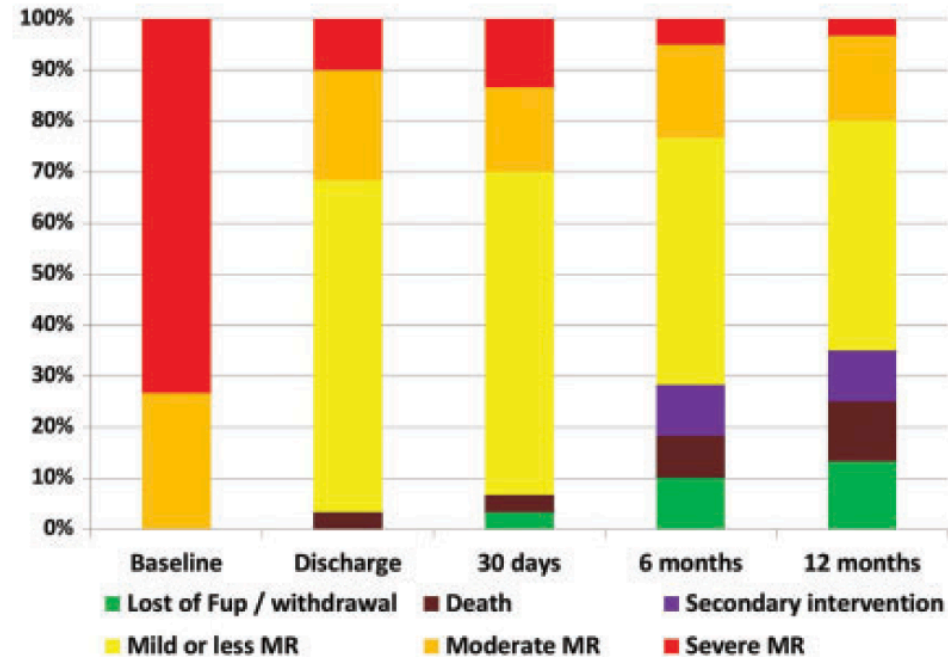
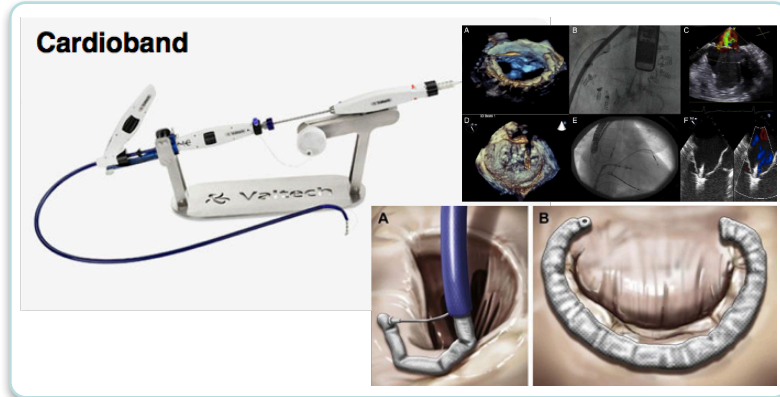
ESC
European Society
of Cardiology
European Heart Journal (2019) 40, 466–472
doi:10.1093/eurheartj/ehy424

CLINICAL RESEARCH
Valvular heart disease



Transcatheter mitral valve repair for functional mitral regurgitation using the Cardioband system: 1 year outcomes

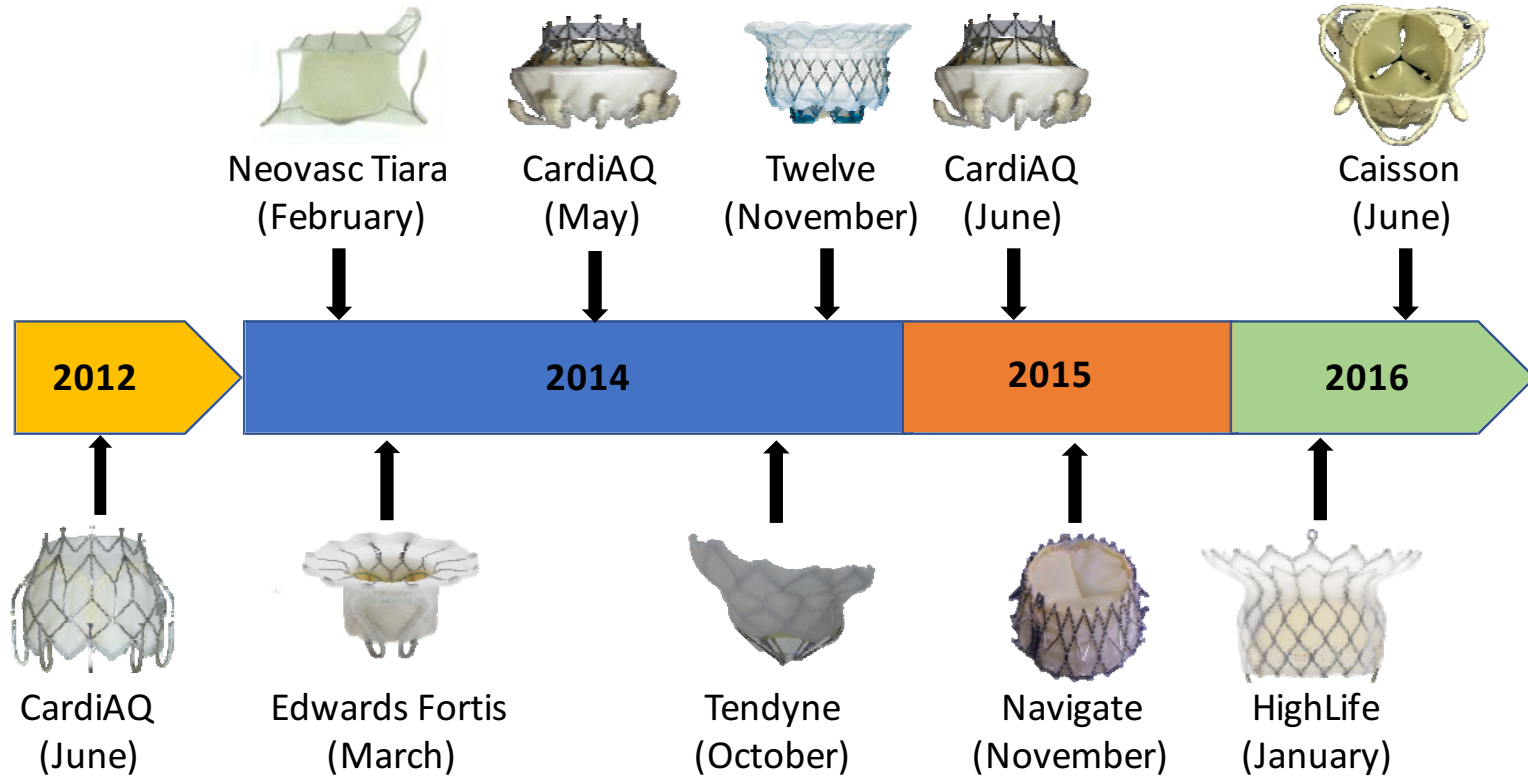
David Messika-Zeitoun^{1,2,3,4*}, Georg Nickenig⁵, Azeem Latib⁶, Karl-Heinz Kuck⁷, Stephan Baldus⁸, Robert Schueler⁵, Giovanni La Canna⁶, Eustachio Agricola⁶, Felix Kreidel⁷, Michael Huntgeburth⁸, Michel Zuber⁹, Patrick Verta¹⁰, Paul Grayburn¹¹, Alec Vahanian^{1,2,3}, and Francesco Maisano⁹



What about valve replacement?



First-in-human timeline for TCMV replacement





TMVR devices

partial list



Braile
Biomedica



Braile
Biomedica



CardiaQ
1st G



CardiaQ
Edwards



Cephea



Direct Flow
Medical



Twelve
Medtronic



M-Valve



Edwards
Fortis



HighLife



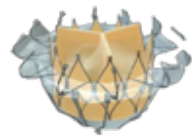
Navigate



Neovasc
Tiara



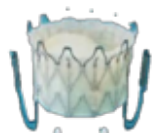
PermaValve
MID



Sinomed



Tendyne
Abbott



SATURN
TMVR



Mitraltech

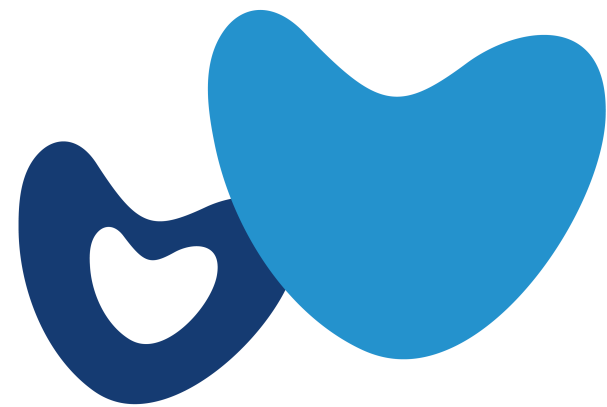


Caisson



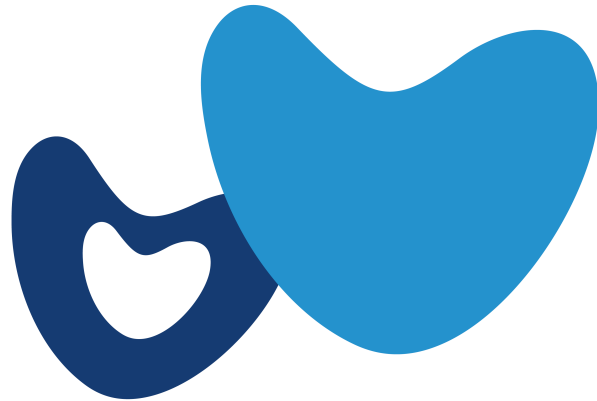
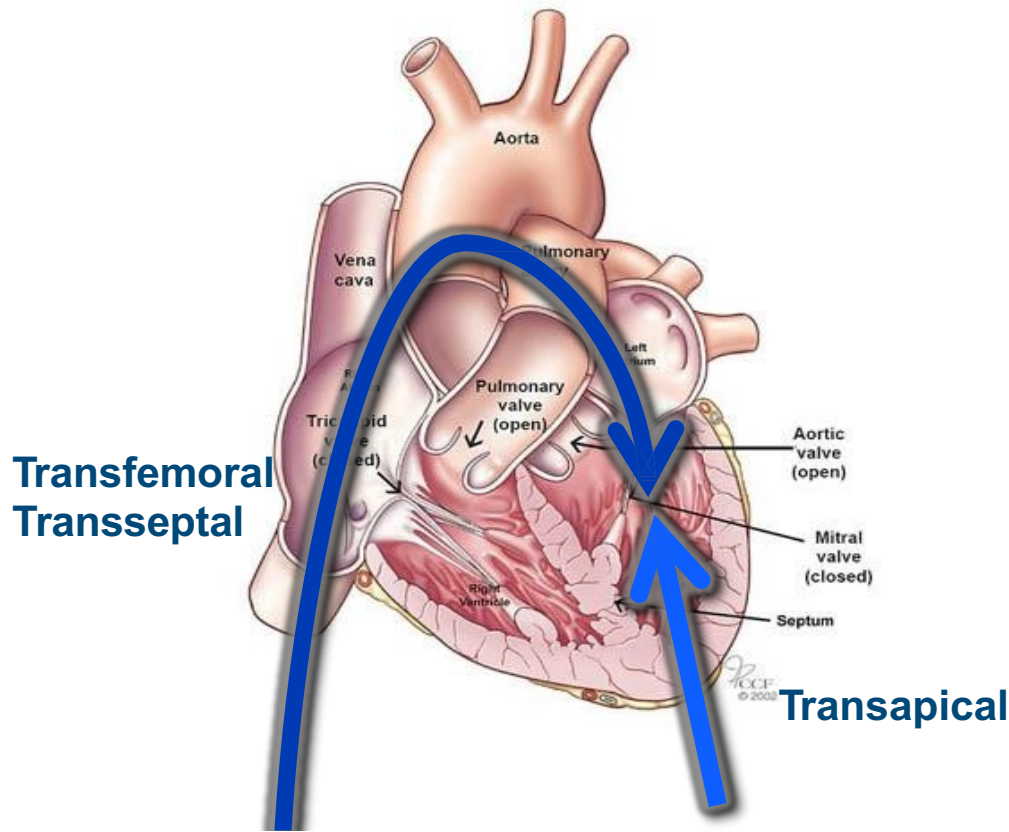
Sapien M3
Edwards

AND Many
Others...



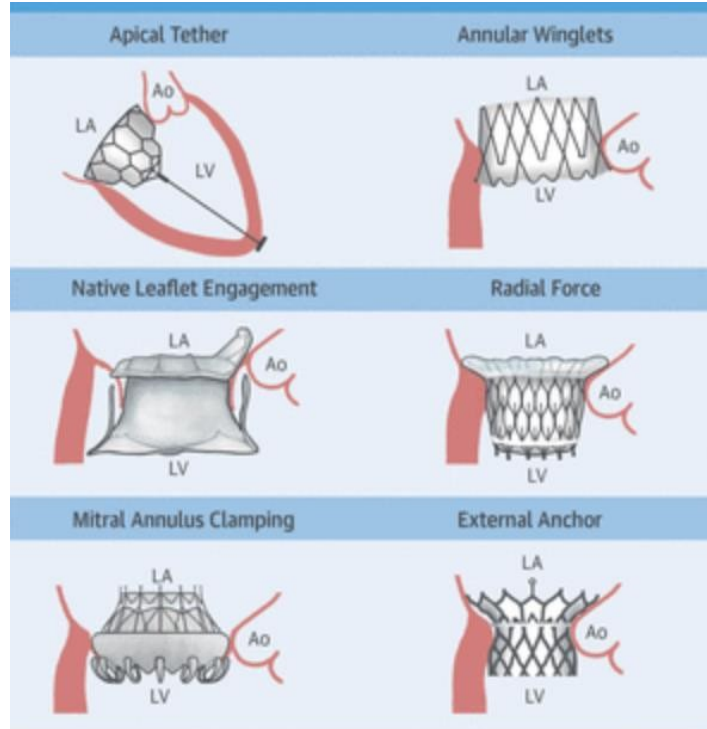


The Challenge: Accessing the Mitral Valve



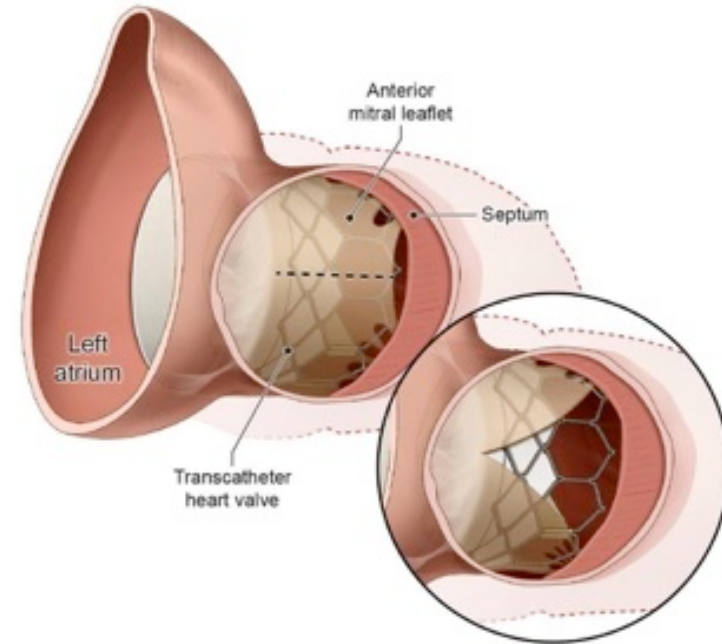
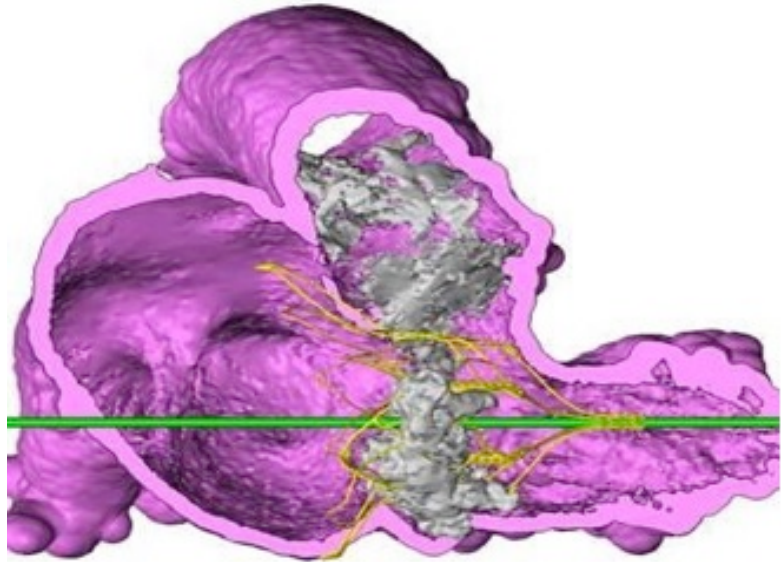


Anchoring mechanism





LVOT Obstruction is One of the Greatest Anatomical Challenges for Replacement

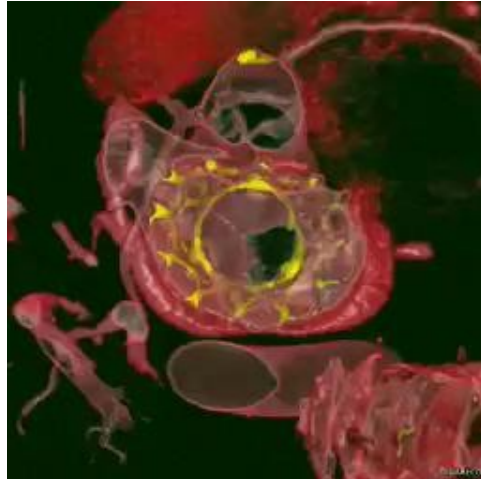




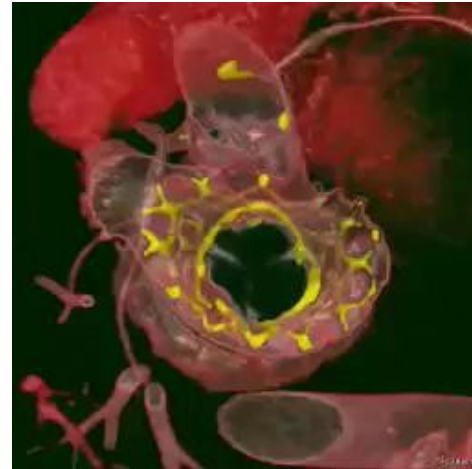
Valve thrombosis and durability

Valve thrombosis is definitely an issue with TMVR

*One month post TMVR
INR 1.1
Mean gradient 10 mmHg*



*Three months post TMVR
INR 4.0
Mean gradient 2 mmHg*

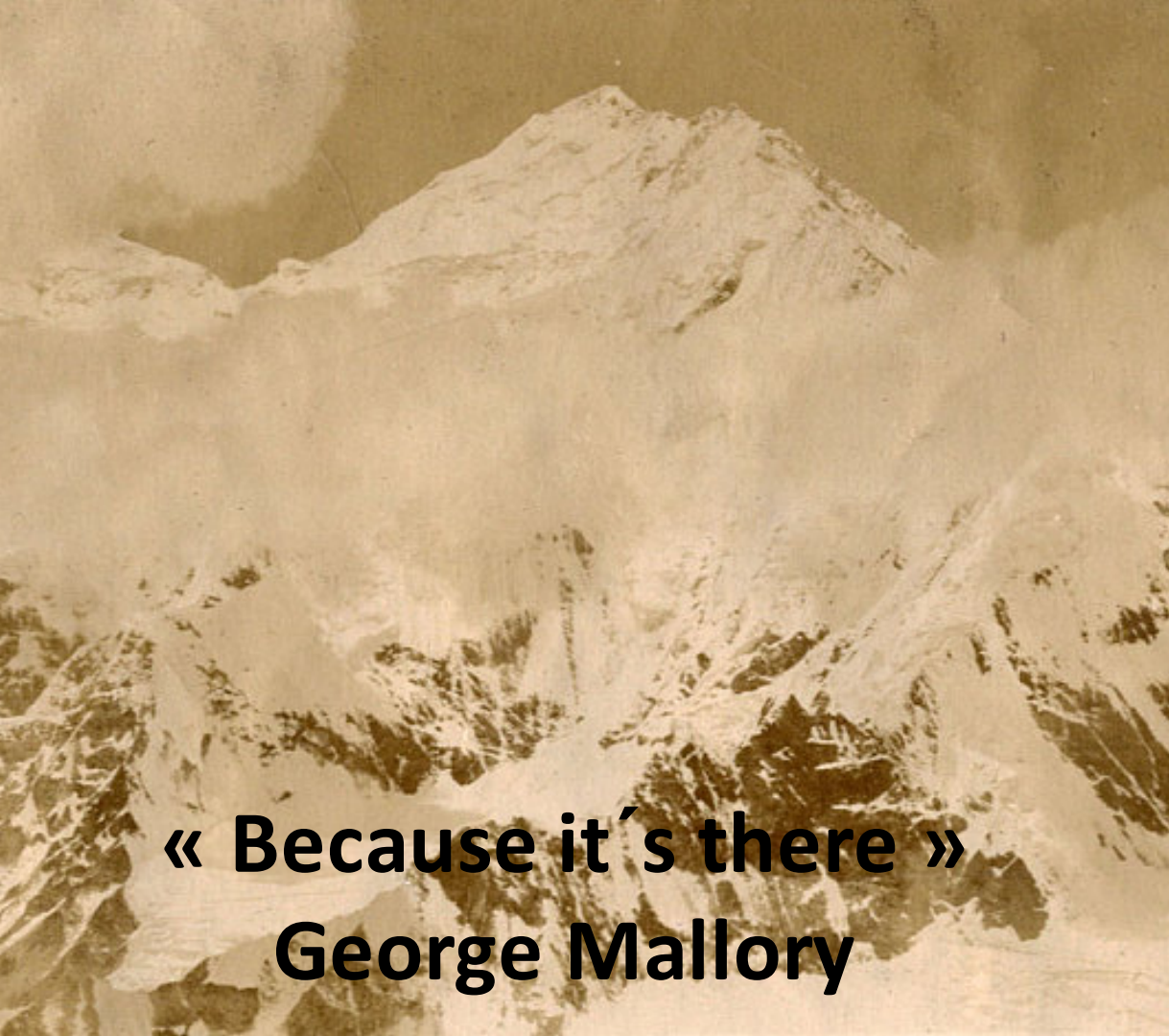


Anticoagulation is a must!





« Because it's there »
George Mallory



« Because it's there »
George Mallory

Everest
N.E. shoulder
From Chumbi valley summit of 21500
i.e. to N.E. of Everest - part of the east face is seen
4000 ft. between west
or South Peak
This was taken on one of the great days of
discovery 1921 when we decided that the
east face - N.E. ridge were alike impossible
G.H. Leigh-Mallory
To Miss Marjorie Holmes





K2



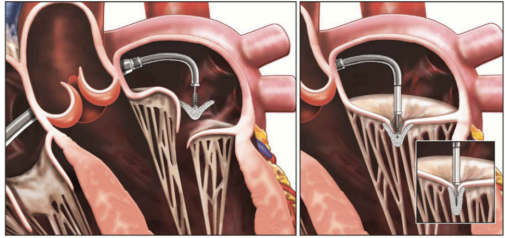
European Heart Journal
doi:10.1093/eurheartj/ehs109

ESC/EACTS GUIDELINES



Guidelines on the management of valvular heart disease (version 2012)

The Joint Task Force on the Management of Valvular Heart Disease of the European Society of Cardiology (ESC) and the European Association for Cardio-Thoracic Surgery (EACTS)



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1.1.1 Percutaneous edge-to-edge repair

1.1.1.1 Indications for percutaneous edge-to-edge repair

1.1.1.2 Contraindications to percutaneous edge-to-edge repair

1.1.1.3 Relative contraindications to percutaneous edge-to-edge repair

1.1.1.4 Relative contraindications to percutaneous edge-to-edge repair

1.1.1.5 Relative contraindications to percutaneous edge-to-edge repair

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Indicação para MitraClip na regurgitação primária

“Percutaneous edge-to-edge procedure may be considered in patients with symptomatic severe primary MR who fulfill the echo criteria of eligibility, are judged inoperable or at high surgical risk by a ‘heart team’, and have a life expectancy greater than 1 year (recommendation class IIb, level of evidence C).” page 24

Indicação para MitraClip na regurgitação secundária

“The percutaneous mitral clip procedure may be considered in patients with symptomatic severe secondary MR despite optimal medical therapy (including CRT if indicated), who fulfill the echo criteria of eligibility, are judged inoperable or at high surgical risk by a team of cardiologists and cardiac surgeons, and who have a life expectancy greater than 1 year (recommendation class IIb, level of evidence C).” page 25

Source: <http://www.escardio.org/guidelines-surveys/esc-guidelines/Pages/valvular-heart-disease.aspx>



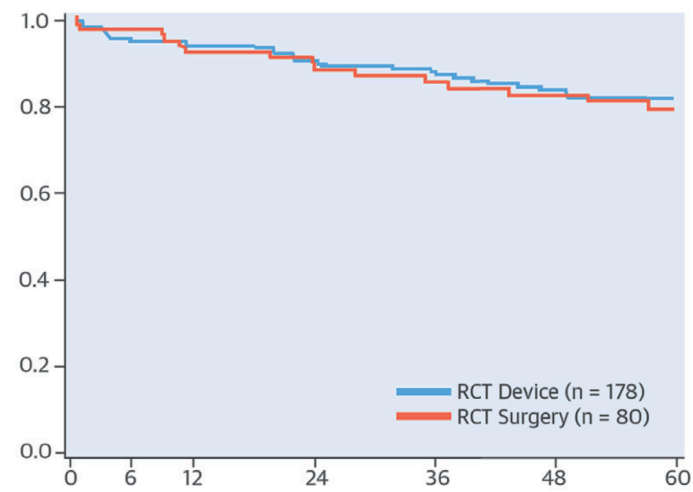


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ISSN 0735-1097/\$36.00
<http://dx.doi.org/10.1016/j.jacc.2015.10.018>

Randomized Comparison of Percutaneous Repair and Surgery for Mitral Regurgitation
5-Year Results of EVEREST II



B. Freedom From Death



Patients At Risk		Months						
Device Group	178	165	158	143	133	119	58	
Control Group	80	76	70	65	57	52	24	





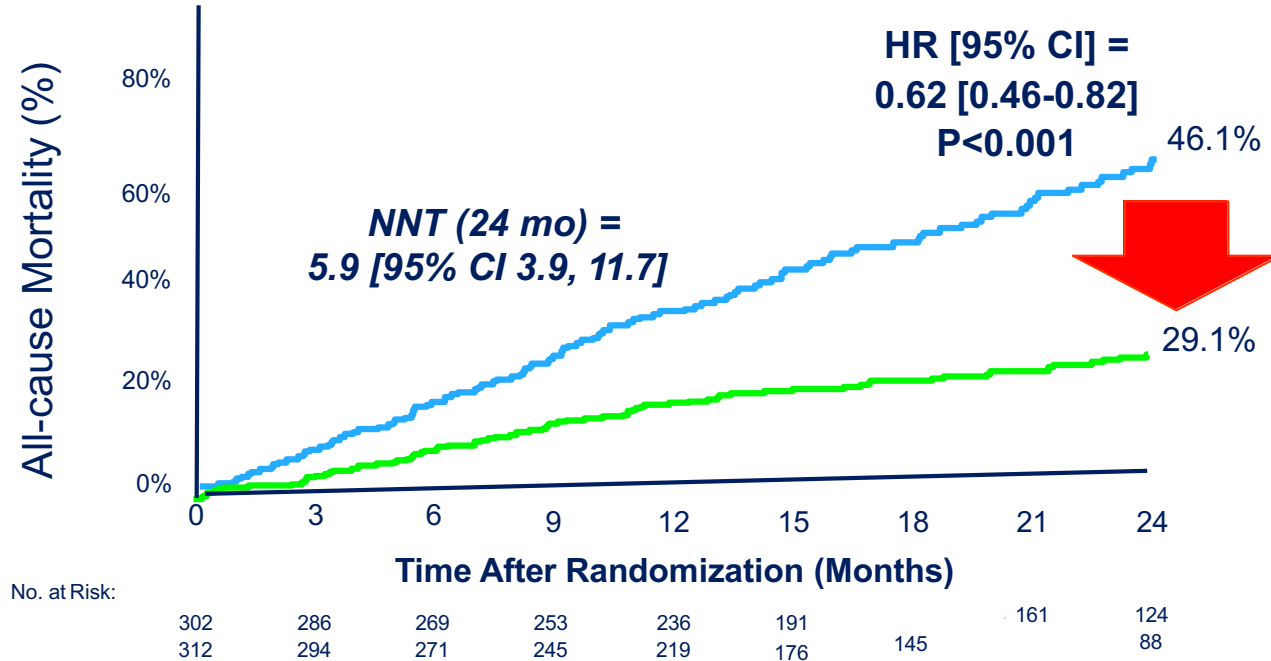
COAPT vs. MITRA-FR

- Dobro da amostra
- Dobro do seguimento
- Maior gravidade da RM
- Optimização terapêutica confirmada
- Maior taxa de implante
- Maior taxa de sucesso
- Menor taxa de complicações





Redução absoluta 17%
NNT 6 (24 meses)





Implicações do COAPT

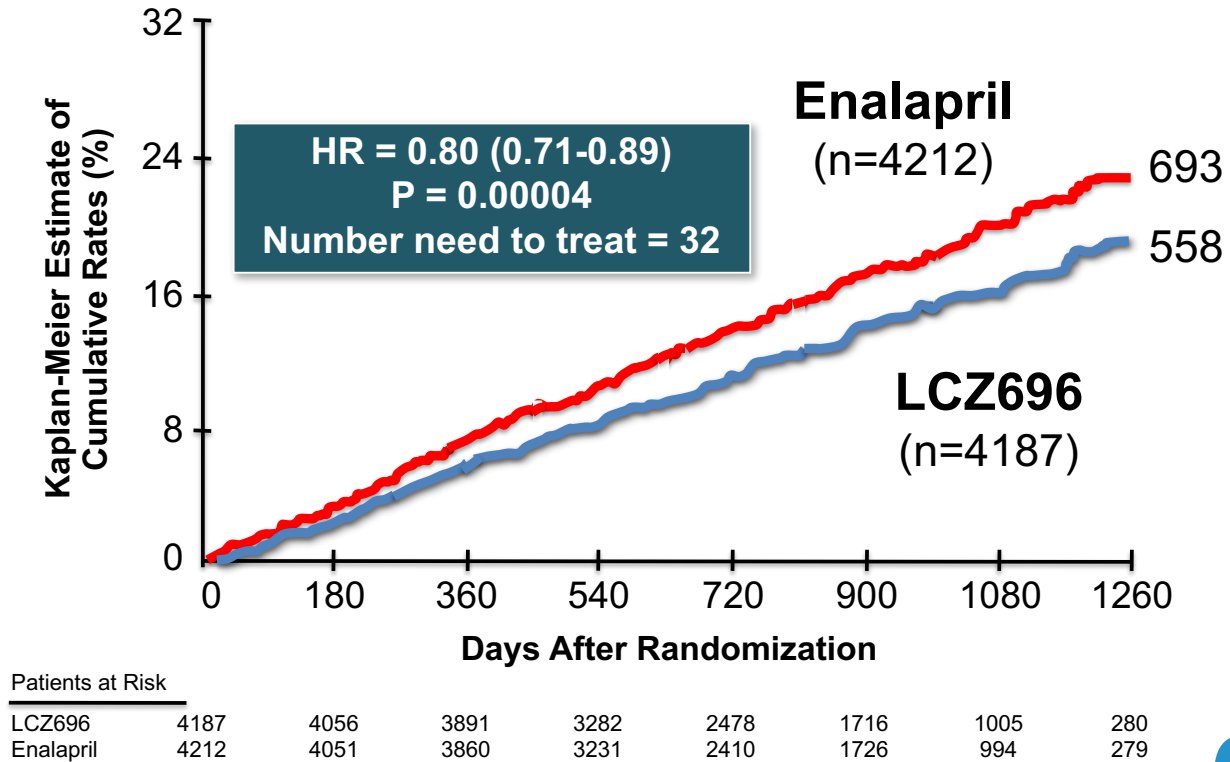
MitraClip na RM funcional grave ou moderada a grave (EROA > 30 mm²), refractária a terapia convencional otimizada, melhora o prognóstico:

- Reduz a hospitalização por IC
- Reduz a mortalidade
- Melhora a qualidade de vida
- Melhora a capacidade funcional



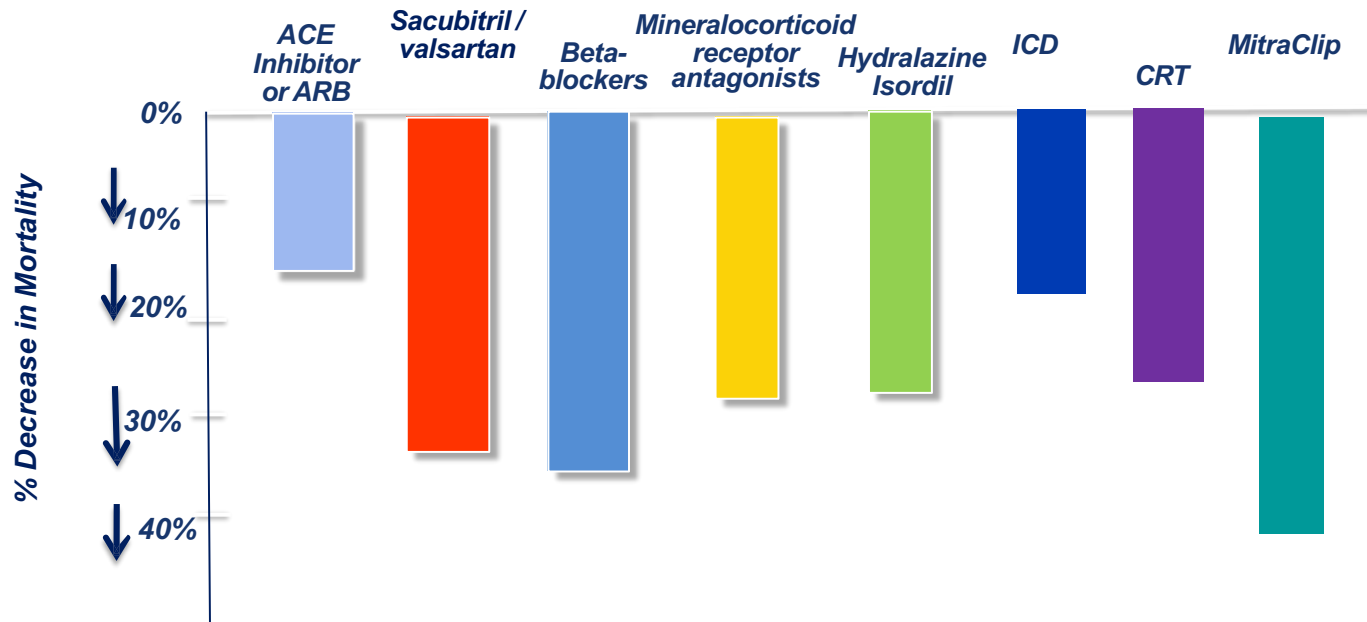


PARADIGM-HF: Cardiovascular Death





Impacto na mortalidade de diferentes modalidades terapêuticas



JoAnn Lindenfeld, TCT 2018



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22 a 24 de Fevereiro 2019

The Village Praia
D'El Rey - Óbidos

STRUCTURAL INTERVENTION IN THE MV:
WHERE ARE WE AND WHERE ARE WE GOING?

E. Infante de Oliveira