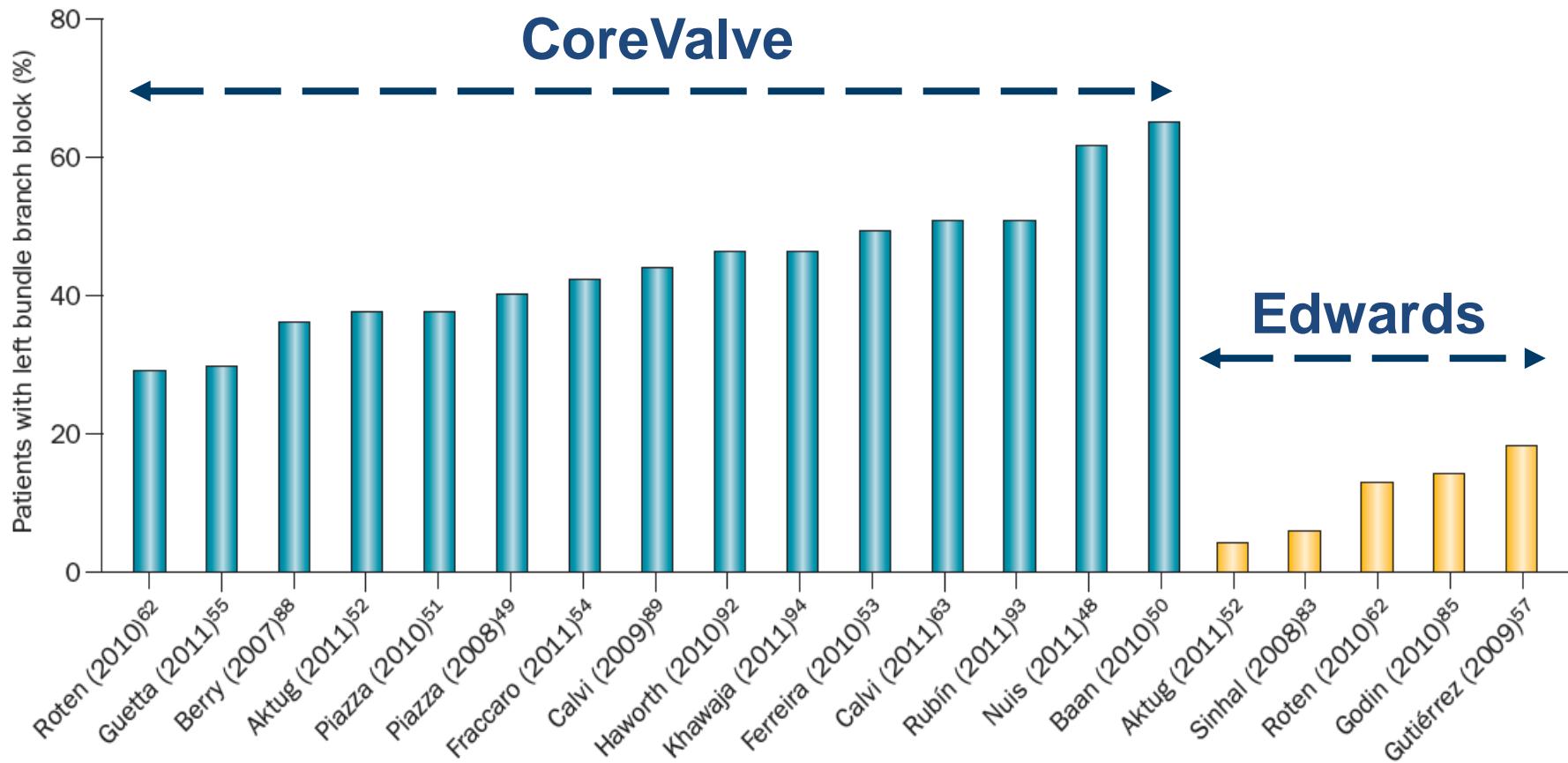


TAVI-Induced Conduction Abnormalities

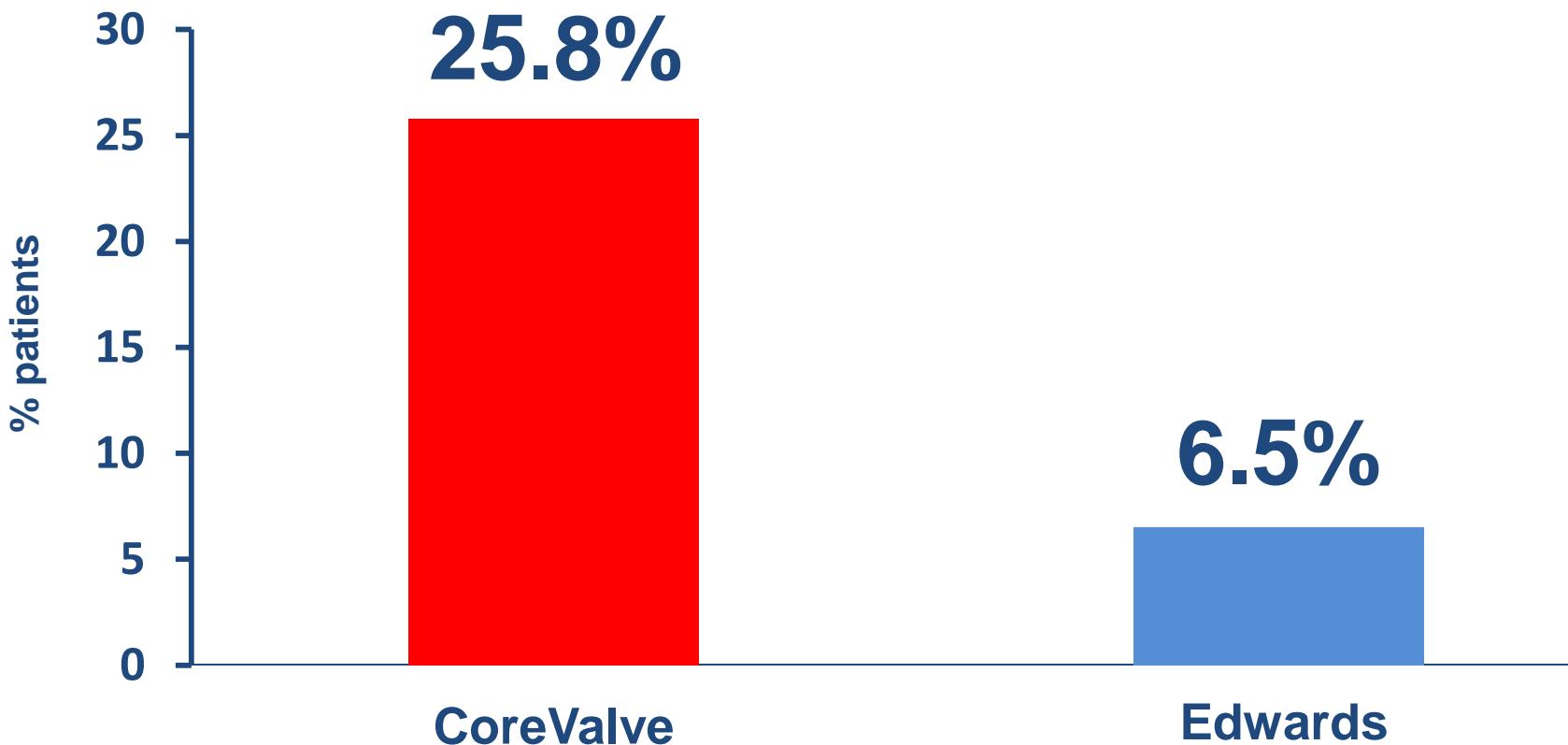
Rutger-Jan Nuis MD, MSc, PhD

Department of Cardiology
Thoraxcenter Rotterdam, Netherlands

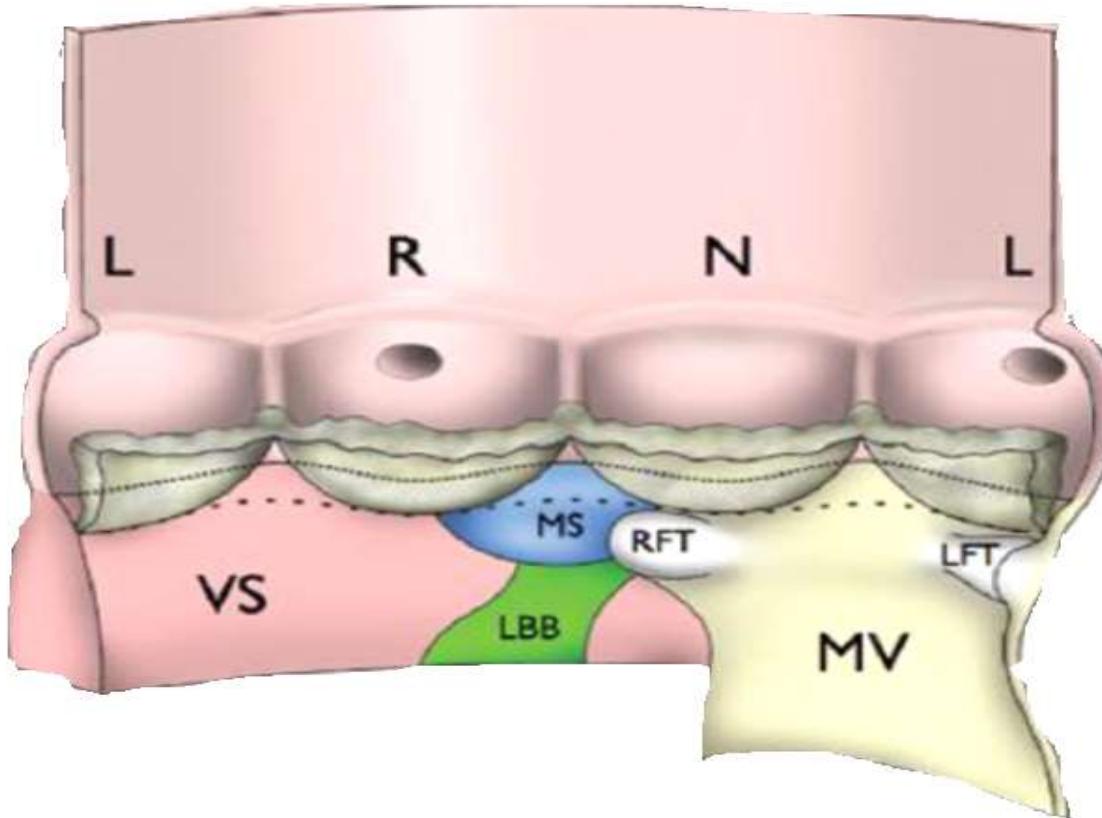
Frequency LBBB



Frequency PM (*32 studies; n=5.258*)

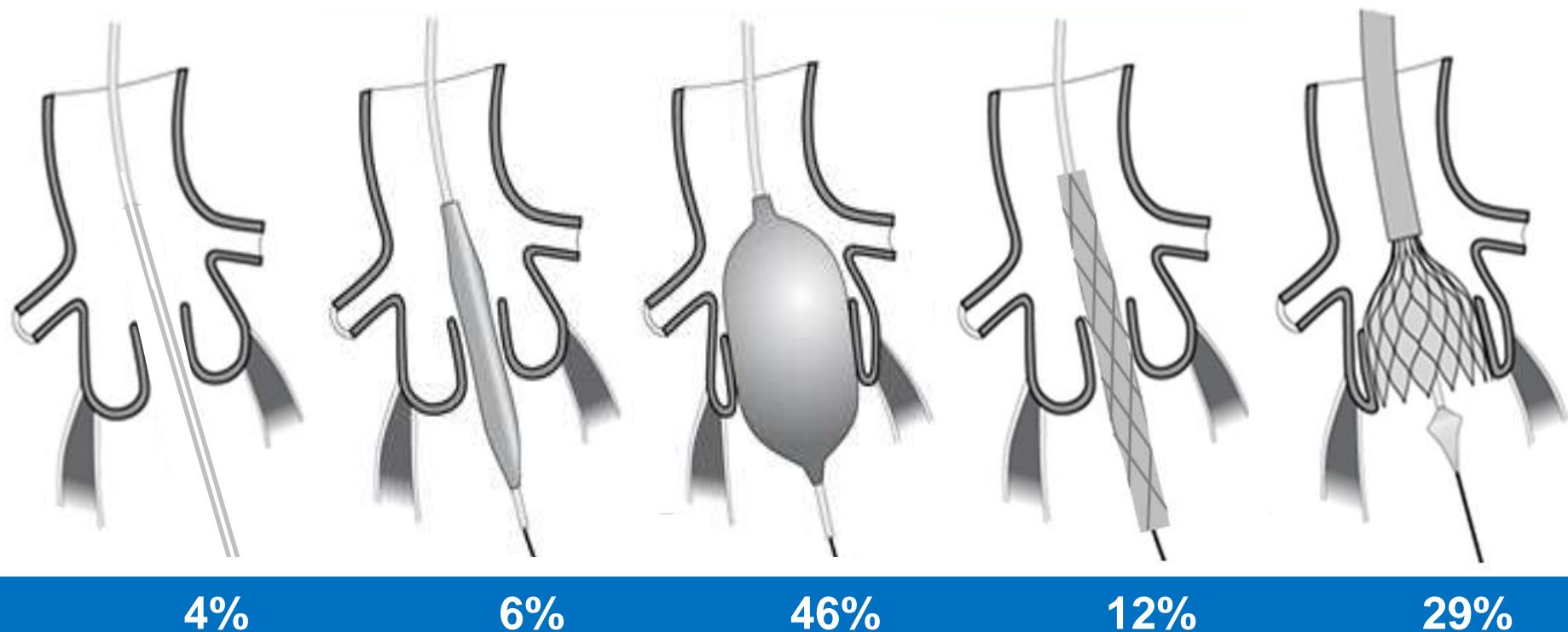


Pathophysiological concept

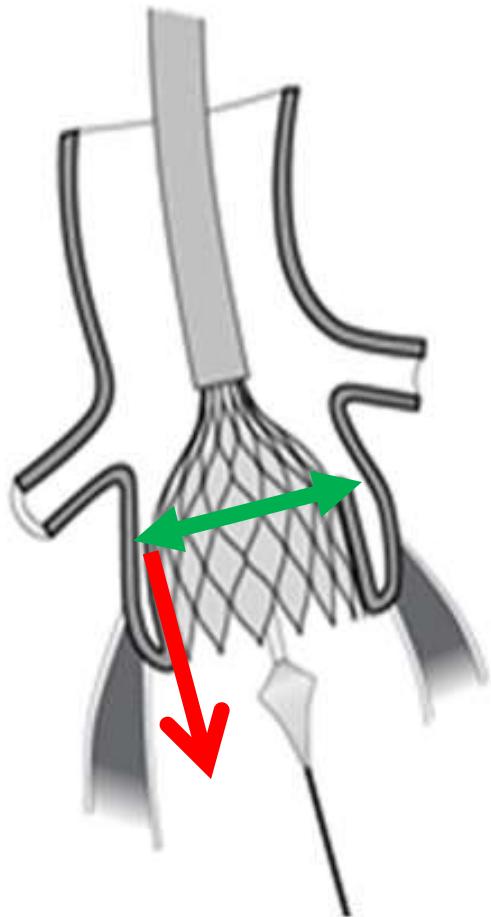


Distance non-coronary cusp to HIS = 6.3 mm

Pathophysiological concept



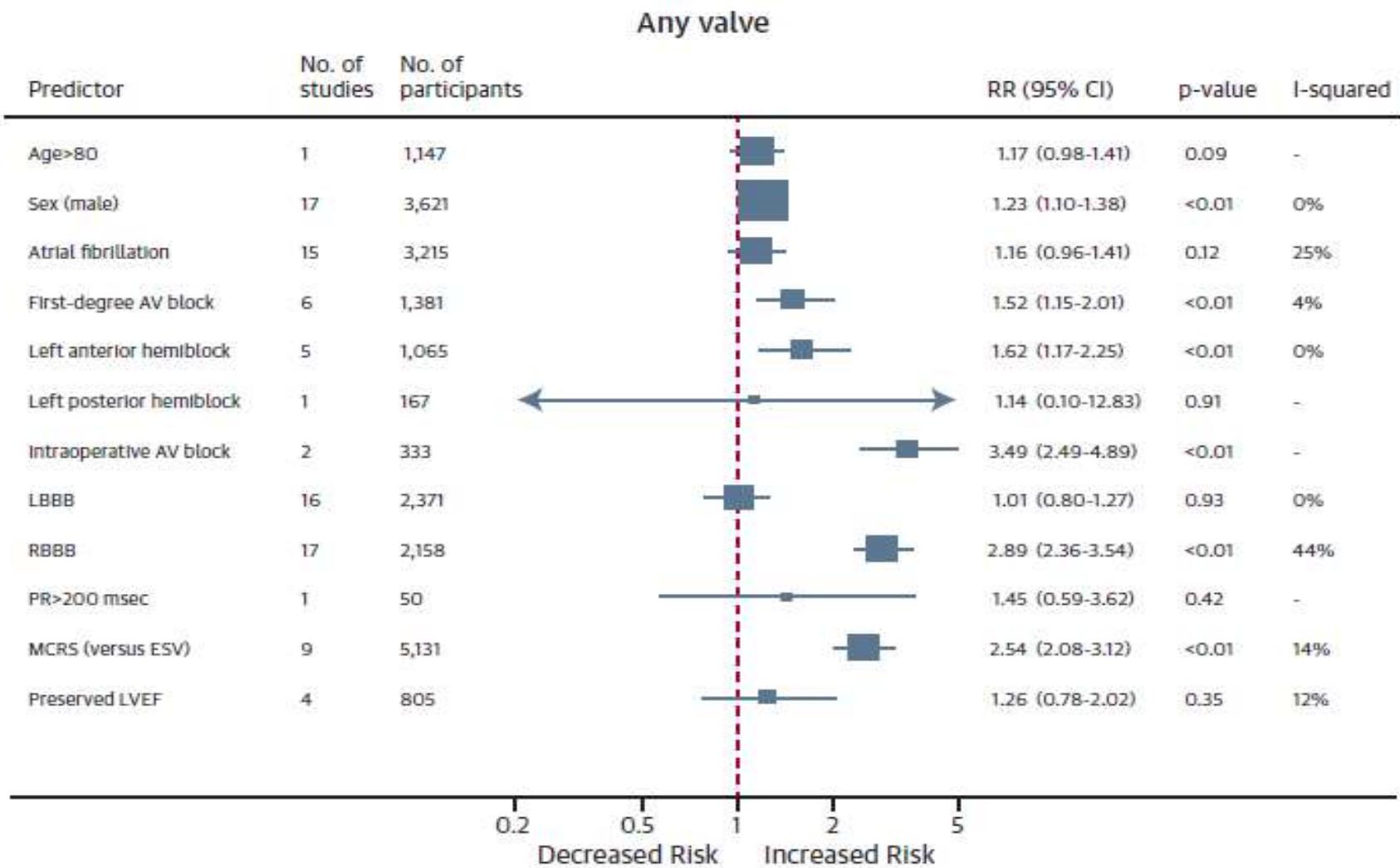
Predictors of LBBB



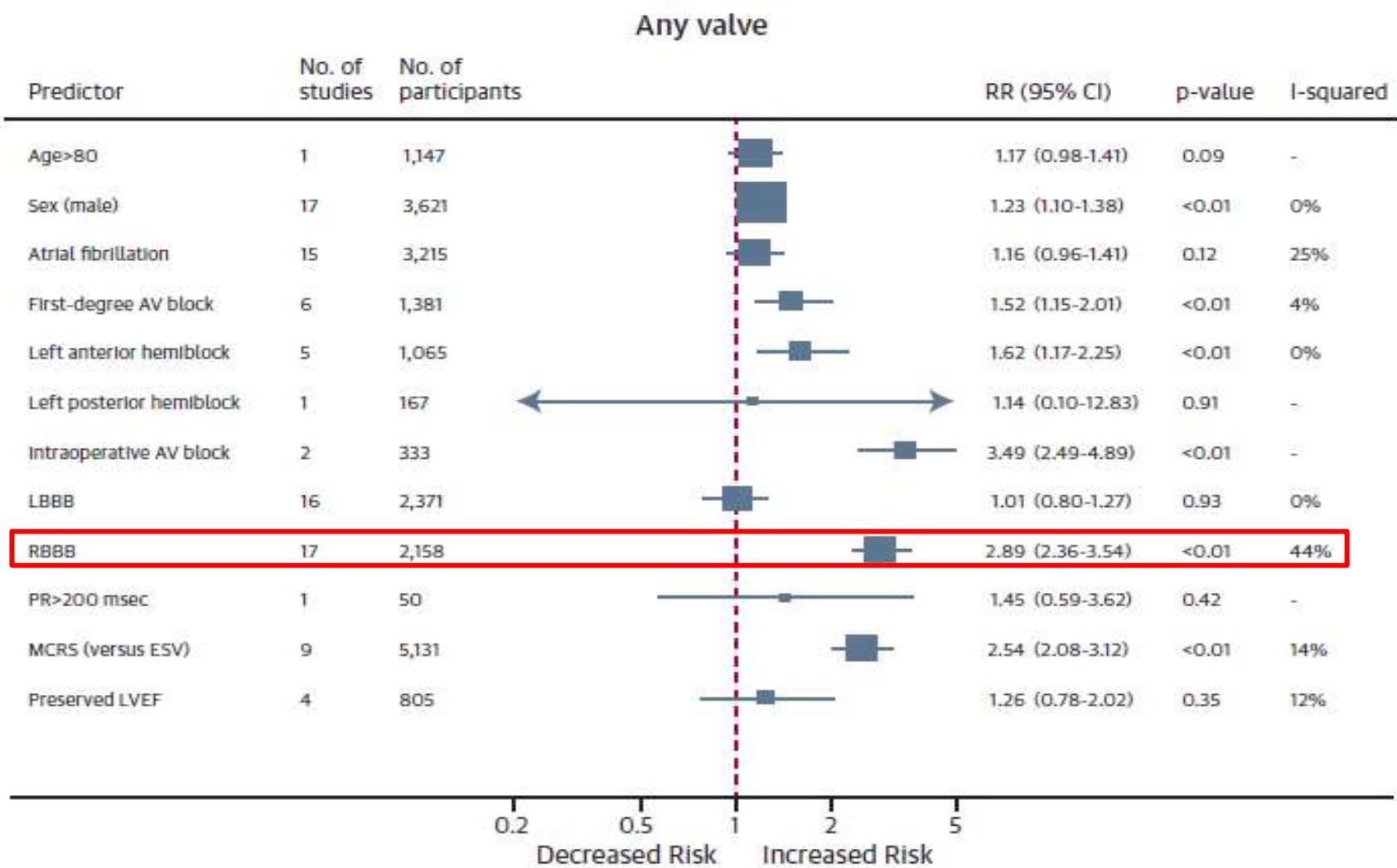
Implantation depth

Valve / balloon size

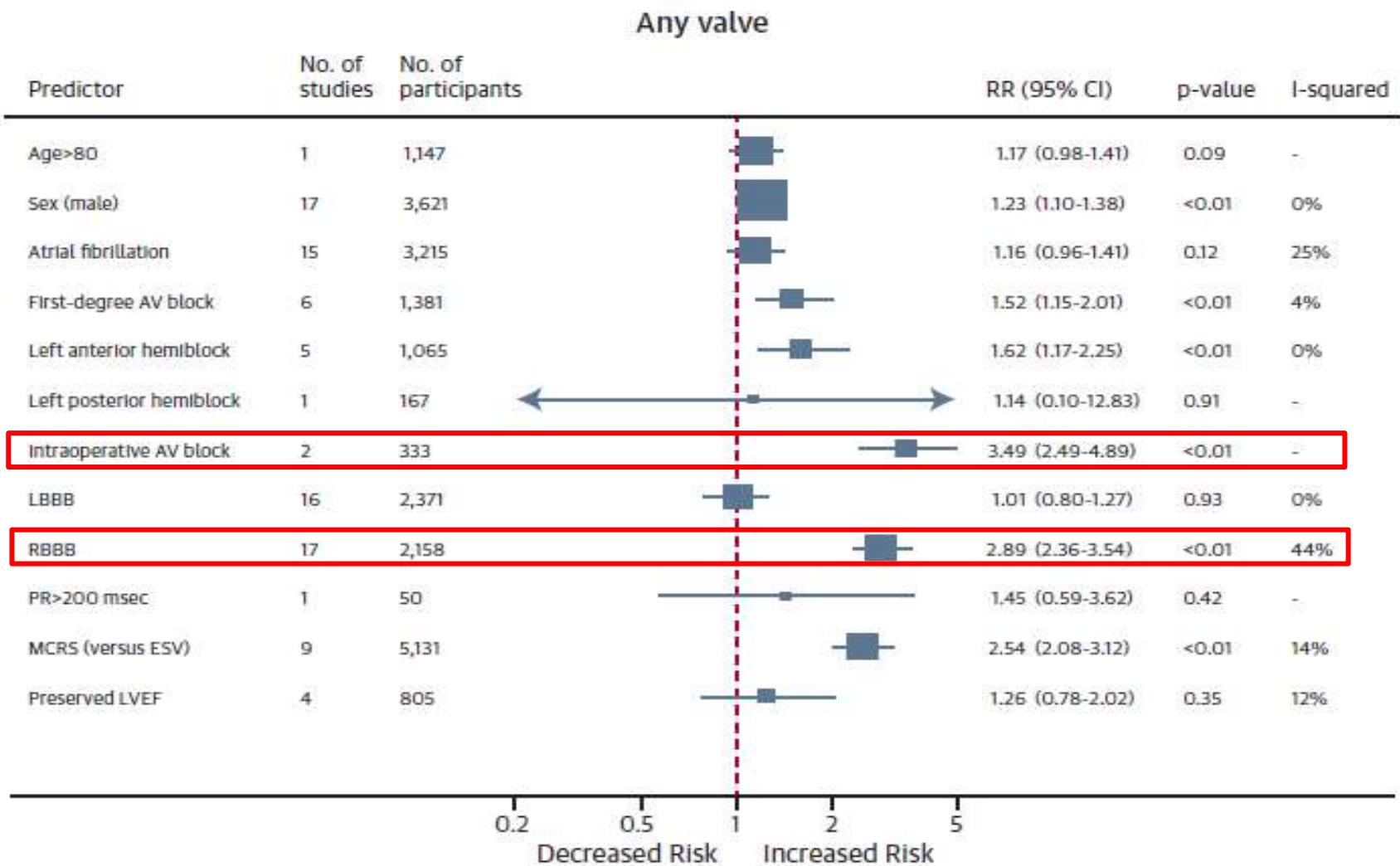
Predictors of PPM ($n = 11,210$ pts)



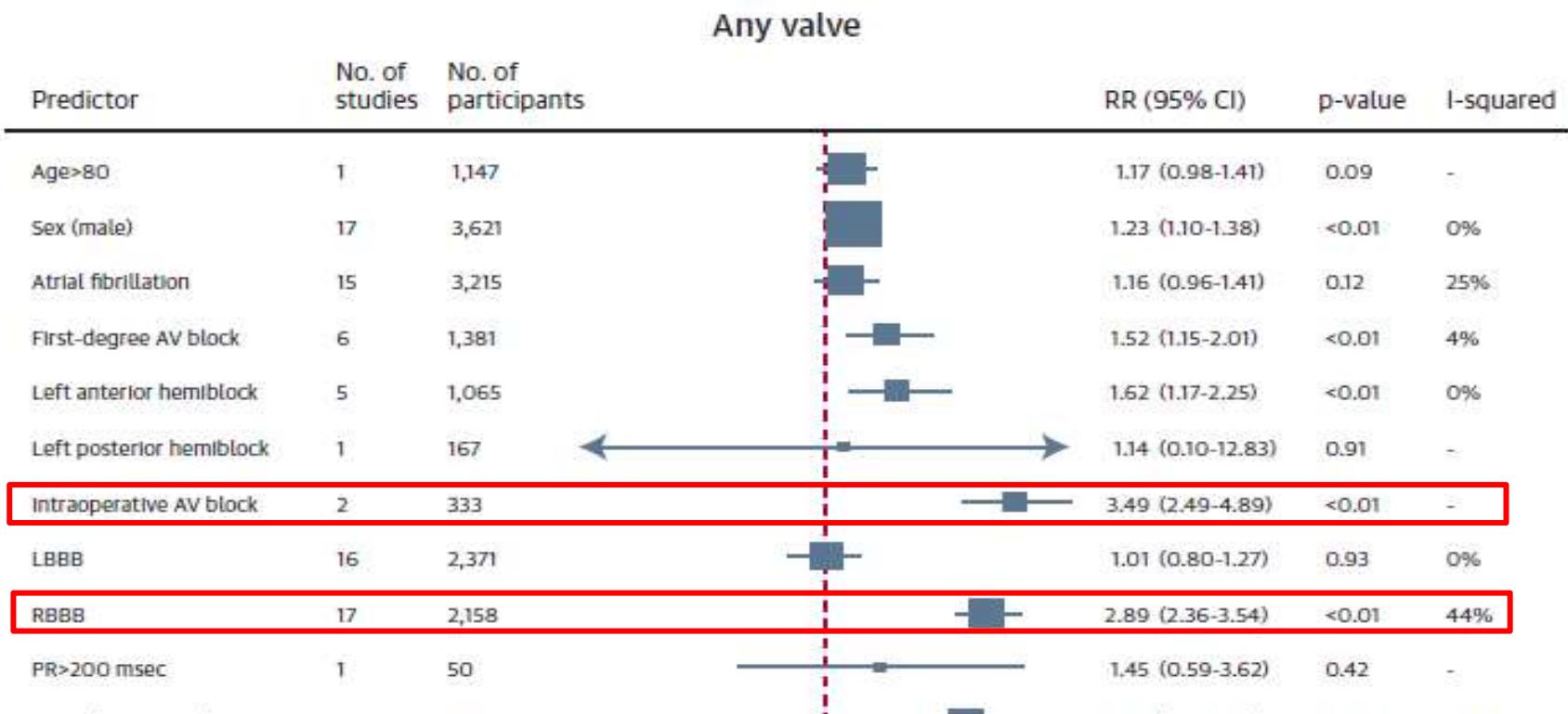
Predictors of PPM ($n = 11,210$ pts)



Predictors of PPM ($n = 11,210$ pts)

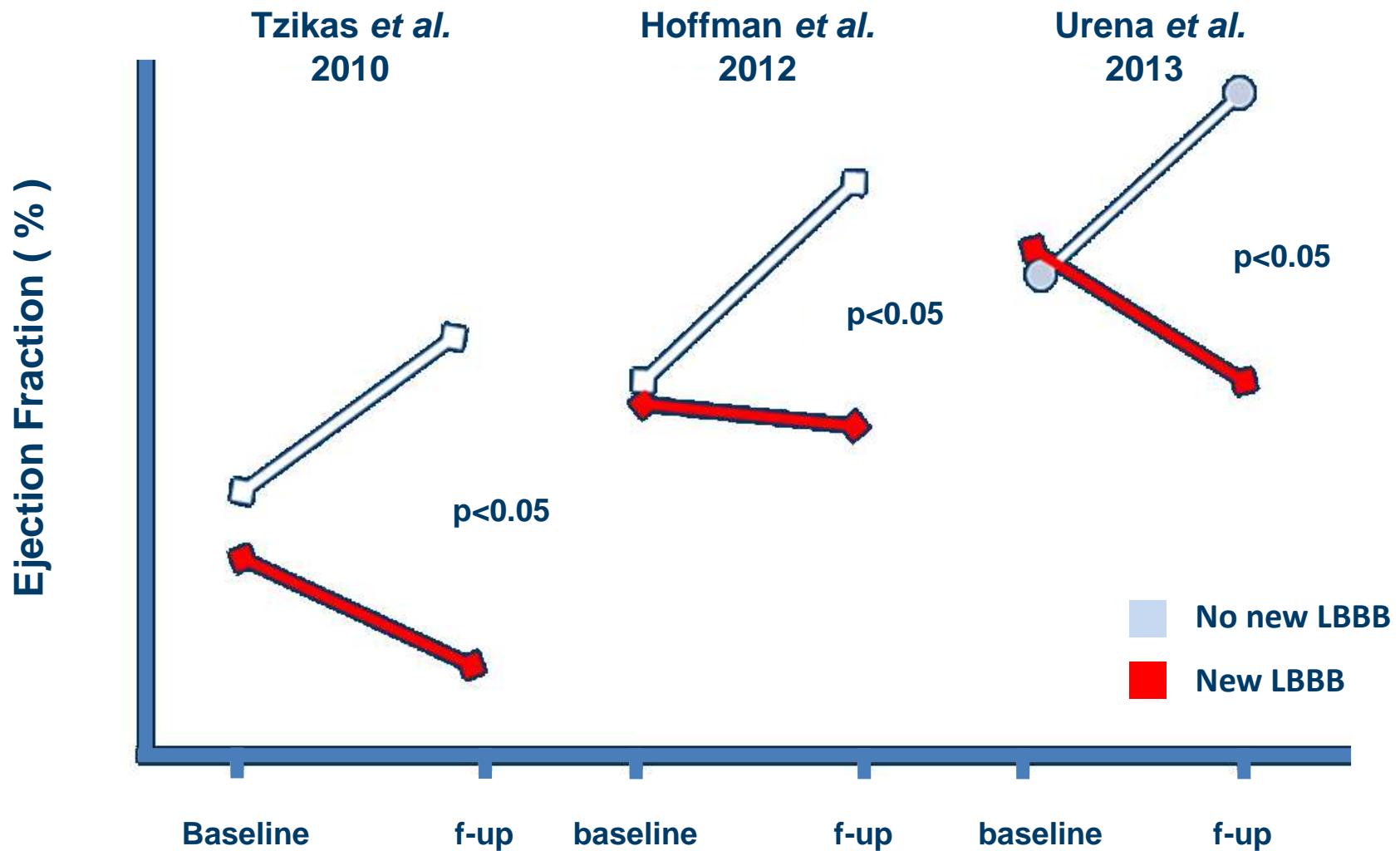


Predictors of PPM ($n = 11,210$ pts)

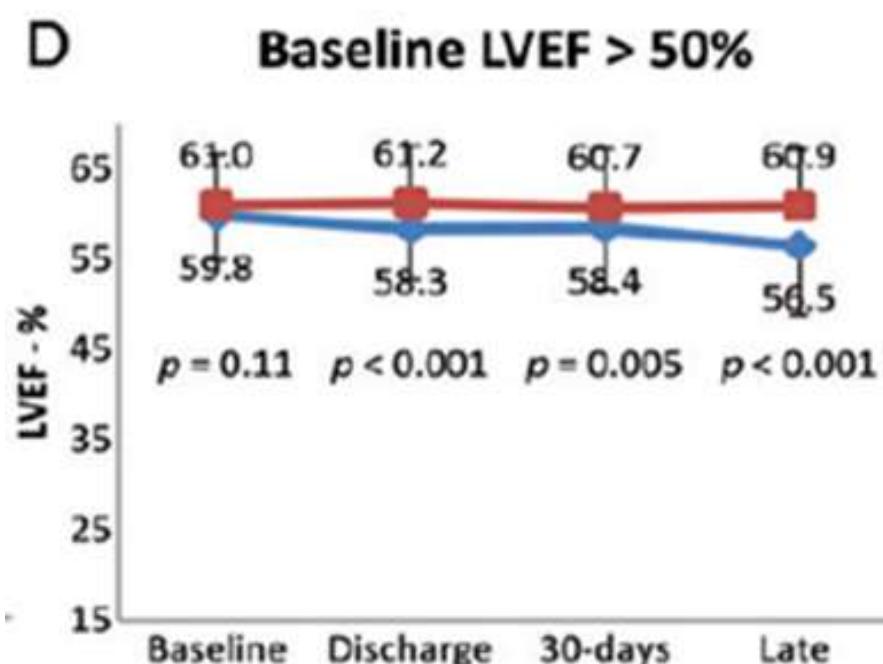
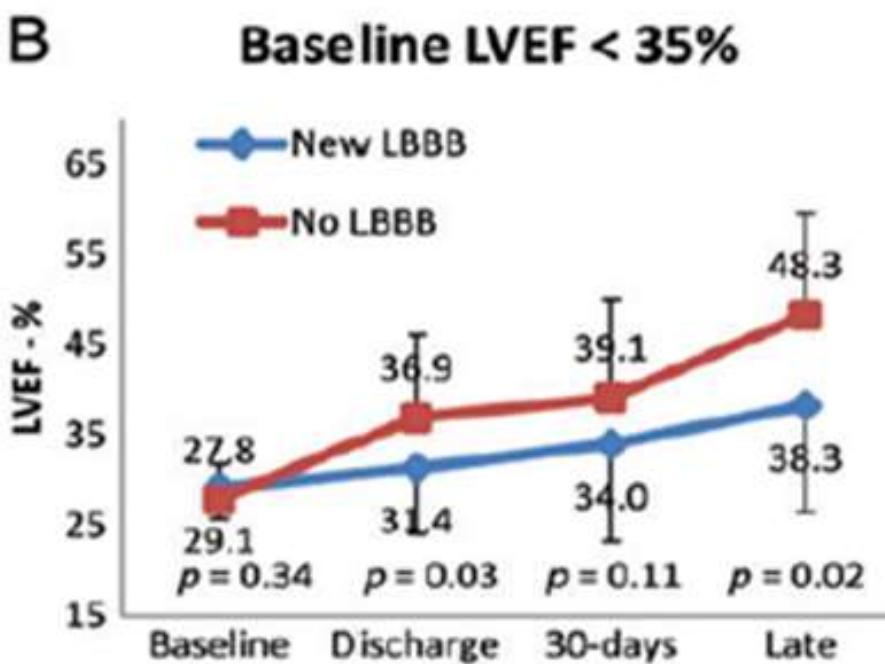


“... Among pts with LBBB, 10% will develop high degree AV block during follow-up ... “

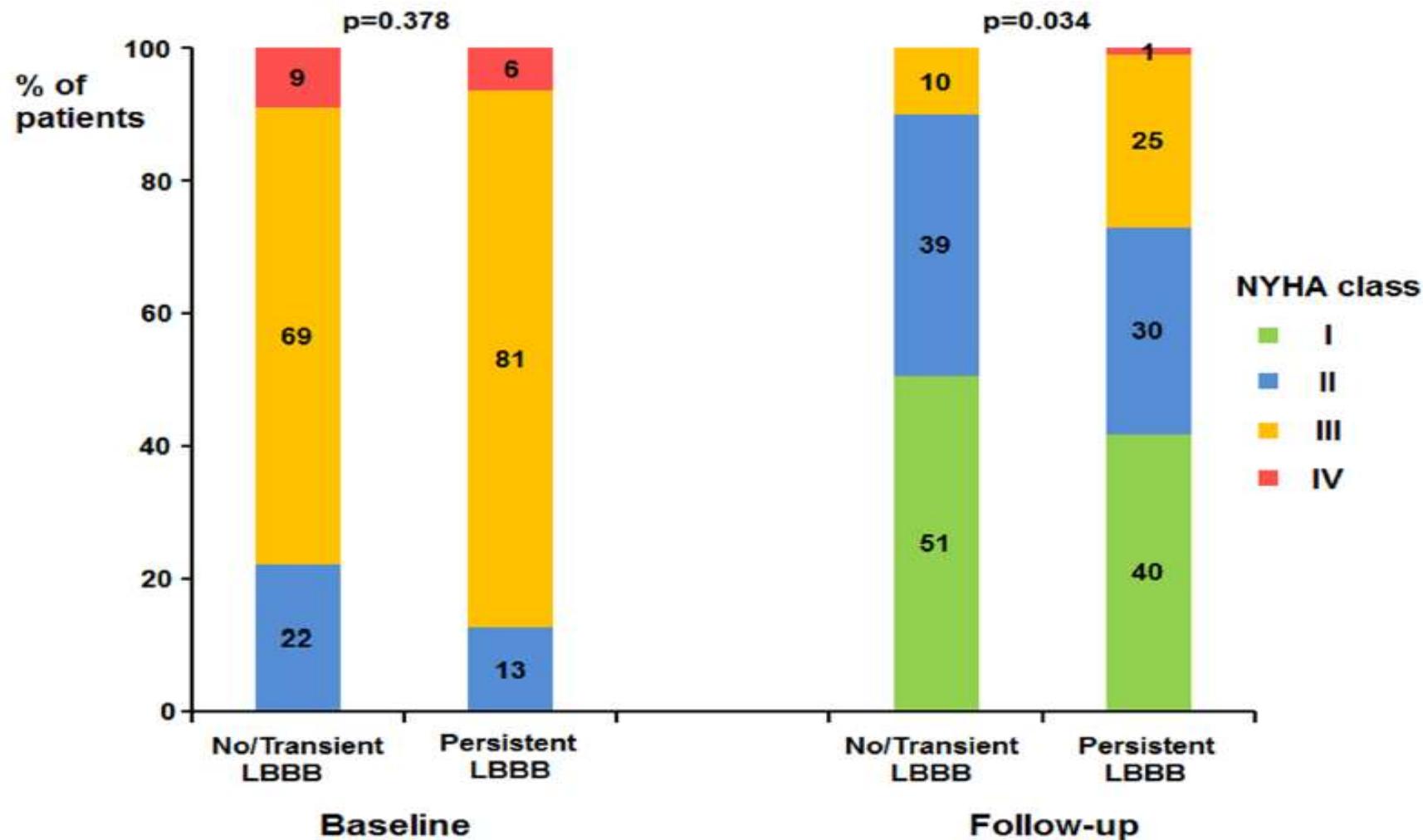
Impact LBBB on LVEF



Impact LBBB on LVEF

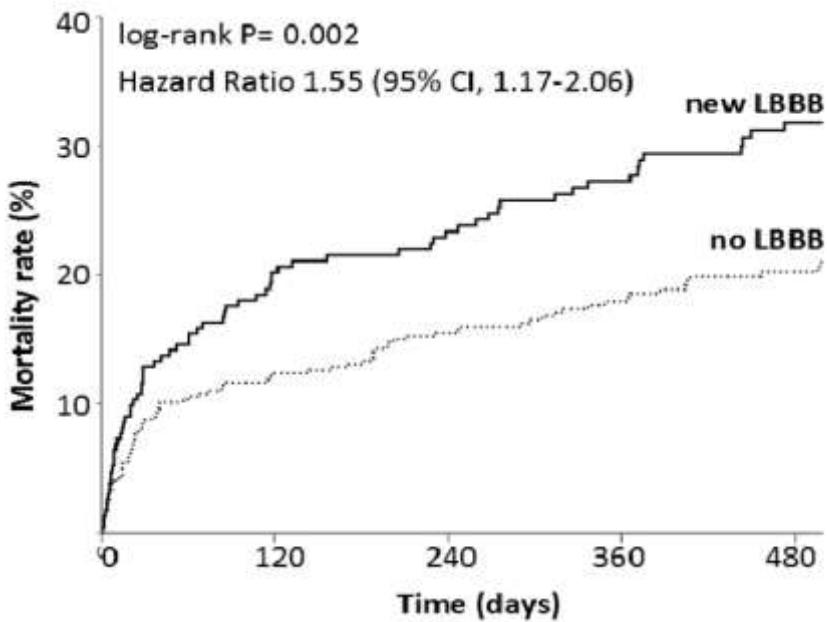


Impact LBBB on NYHA class

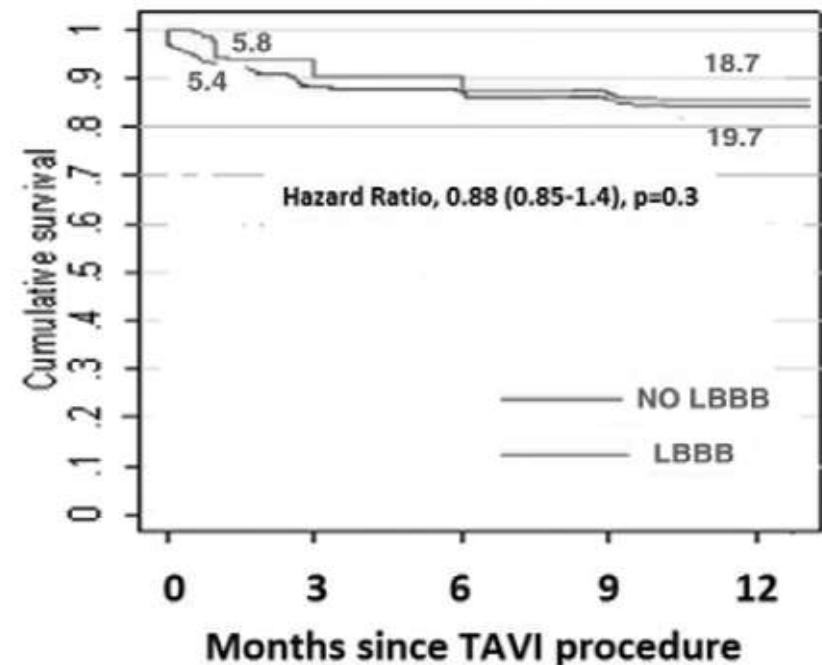


Effect on Mortality

Impact LBBB on Mortality



$n = 679$
HR 1.54 (1.12-2.10)



$n = 818$
HR: *not significant*

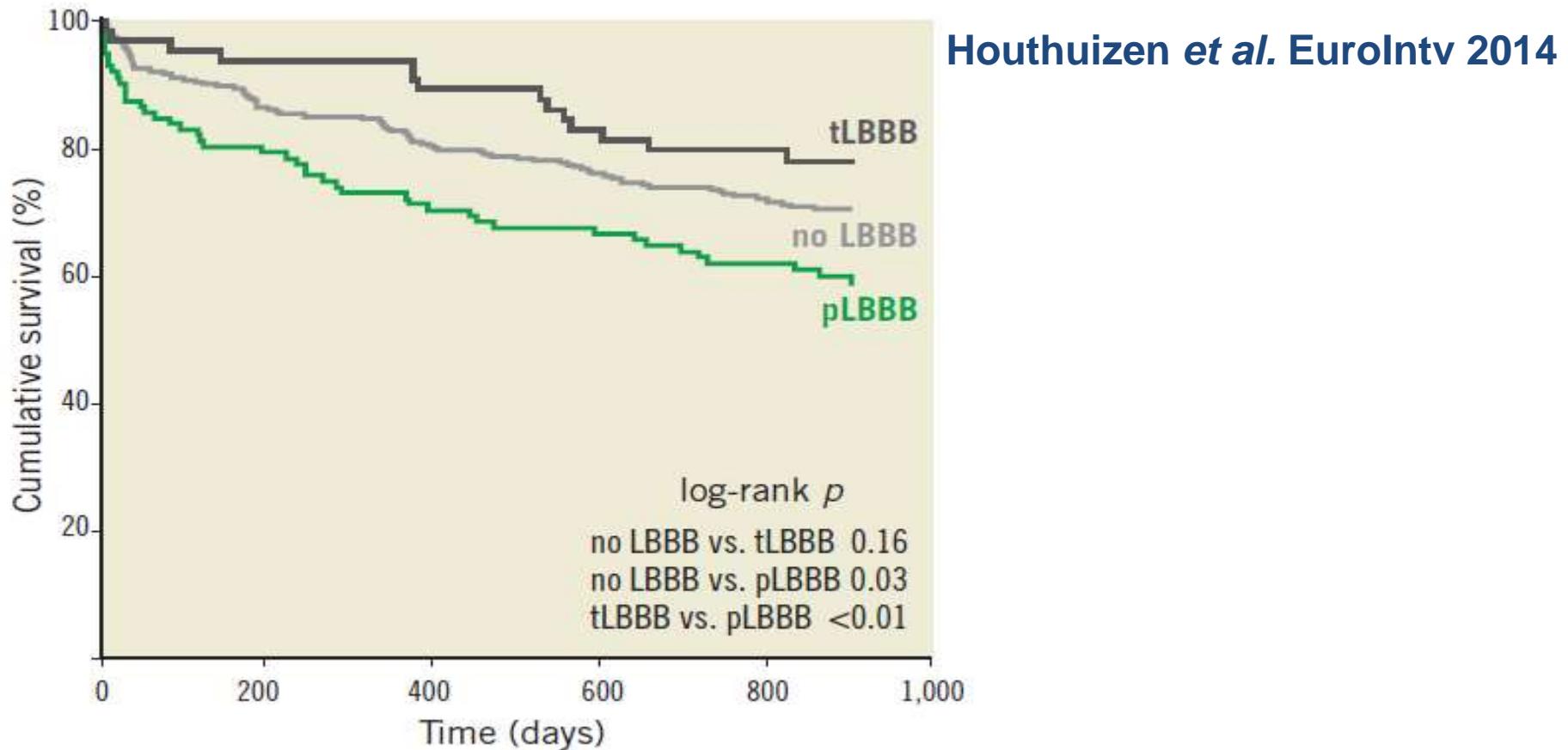
Persistence of LBBB (*6-12 months*)

Study	LBBB resolved	
Piazza <i>et al.</i> <i>EuroIntv</i> 2011	20%	
Houthuizen <i>et al.</i> <i>EuroIntv</i> 2014	26%	

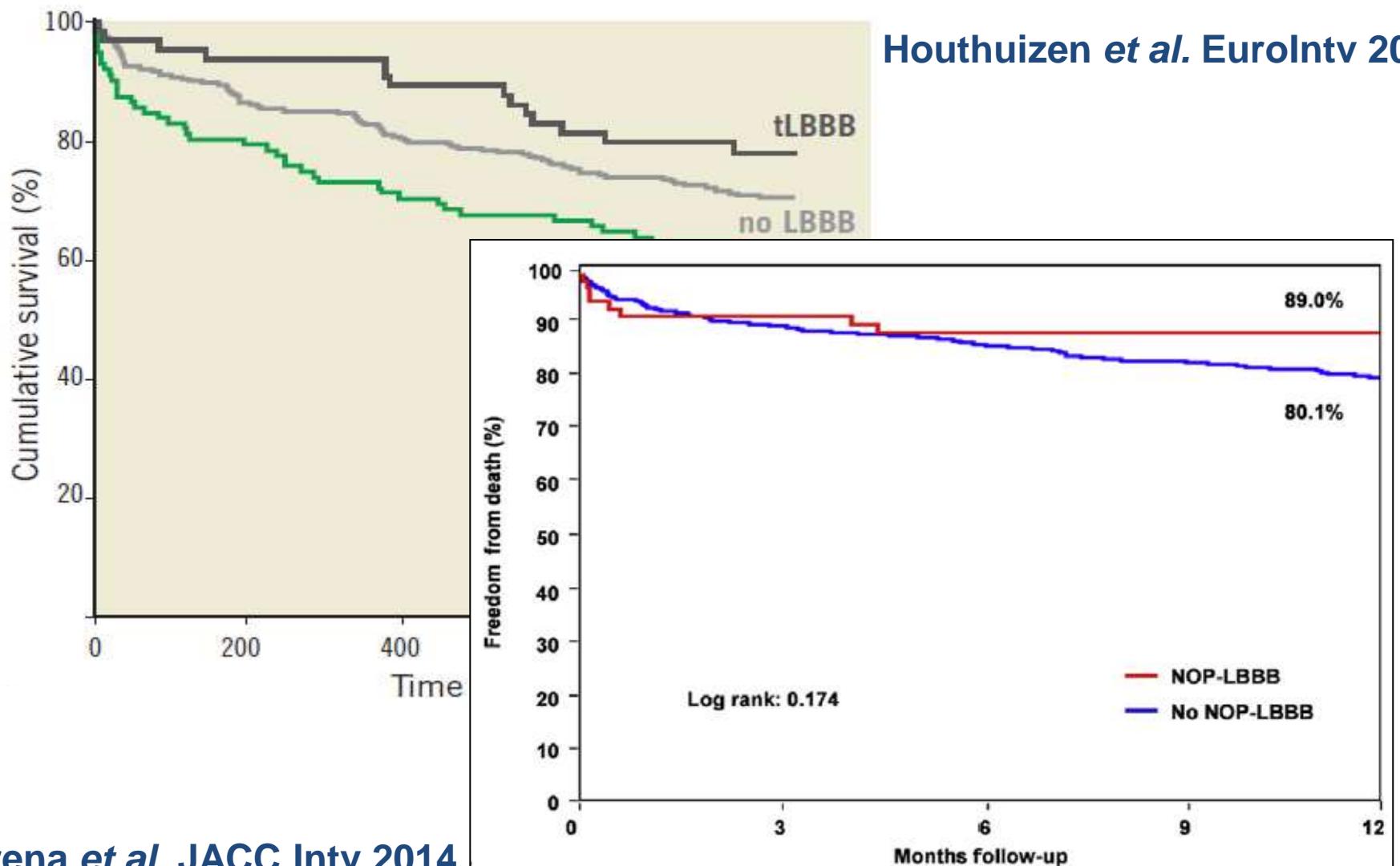
Persistence of LBBB (6-12 months)

Study	LBBB resolved	
Piazza <i>et al.</i> EuroIntv 2011	20%	 A wire mesh basket stent, which is a type of coronary artery stent designed to support the vessel wall during angioplasty procedures.
Houthuizen <i>et al.</i> EuroIntv 2014	26%	 A coronary artery stent with a porous, cage-like structure, designed to allow ingrowth of new tissue (endothelialization) over time.
Study	LBBB resolved	
Urena <i>et al.</i> JACC 2013	57%	 A coronary artery stent with a porous, cage-like structure, designed to allow ingrowth of new tissue (endothelialization) over time.
Houthuizen <i>et al.</i> EuroIntv 2014	56%	 A coronary artery stent with a porous, cage-like structure, designed to allow ingrowth of new tissue (endothelialization) over time.

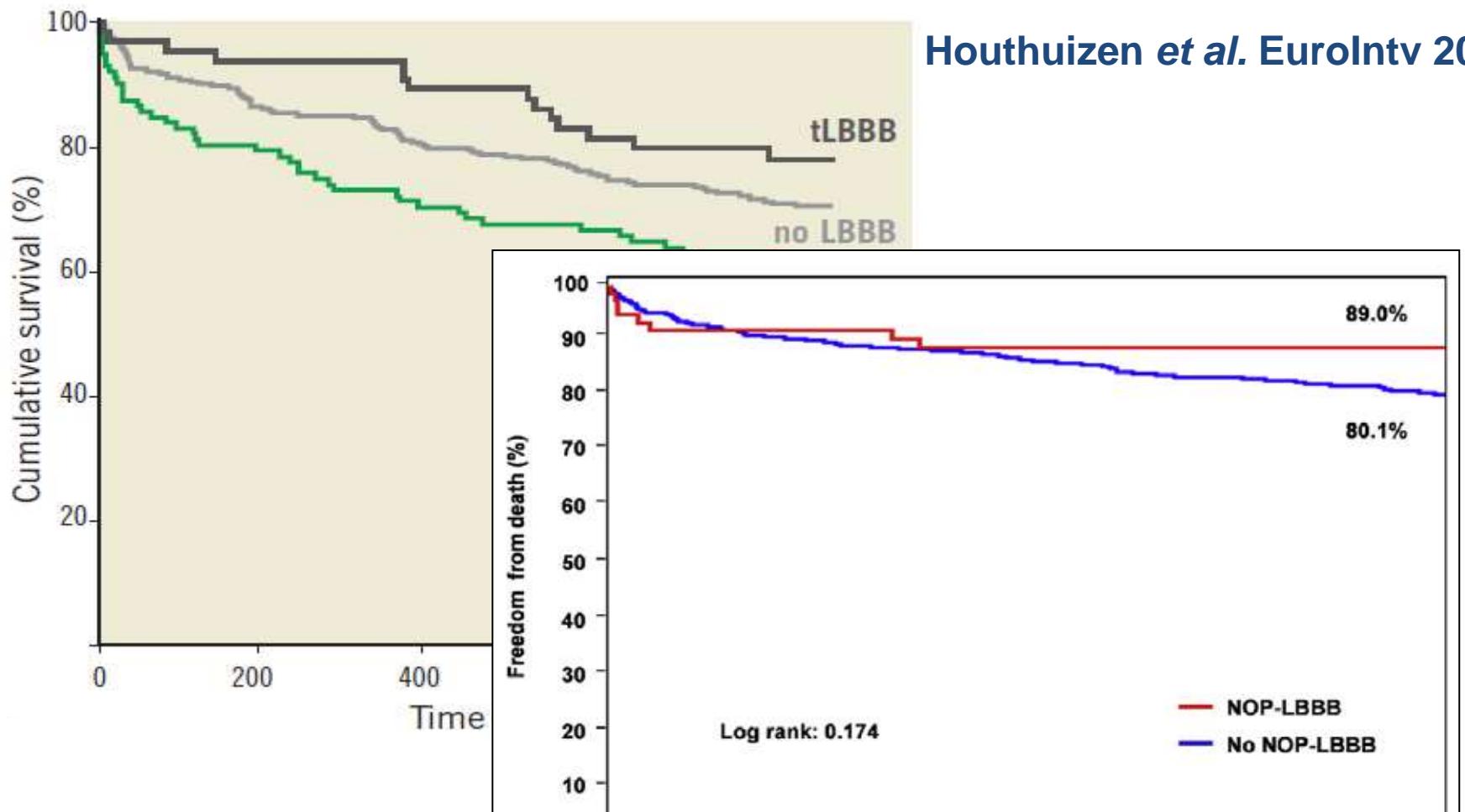
Impact Persistent LBBB on Mortality



Impact Persistent LBBB on Mortality



Impact Persistent LBBB on Mortality



In- or exclusion of patients with PM

Impact PPM on Mortality

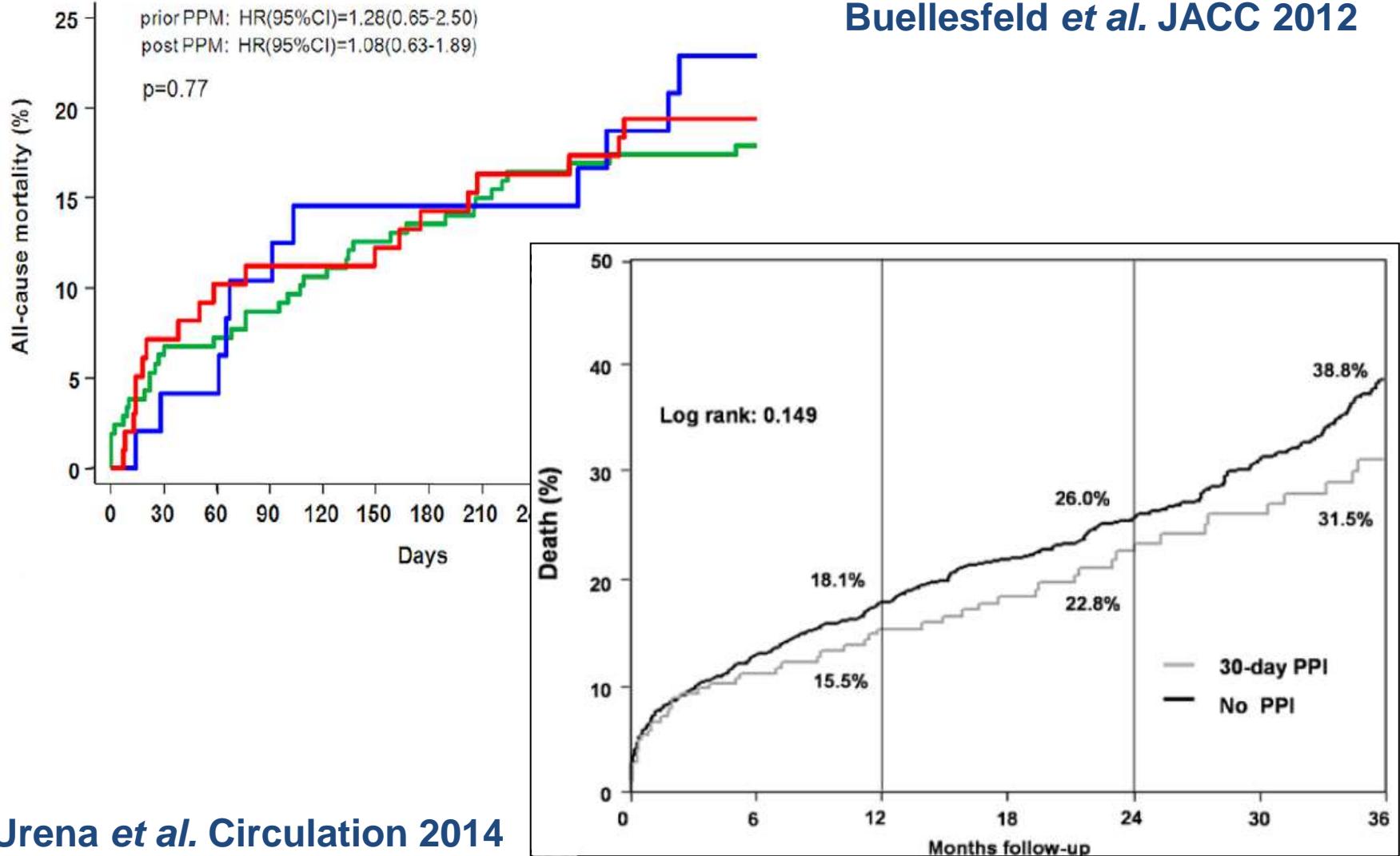
Percent right ventricular pacing predicts outcomes in the DAVID trial

Arjun D. Sharma, MD,^a Carlos Rizo-Patron, MD,^b Alfred P. Hallstrom, PhD,^c
Gearoid P. O'Neill, MD,^a Stephen Rothbart, MD,^d James B. Martins, MD,^e
Marc Roelke, MD,^f Jonathan S. Steinberg, MD,^g H. Leon Greene, MD,^c and the
DAVID Investigators

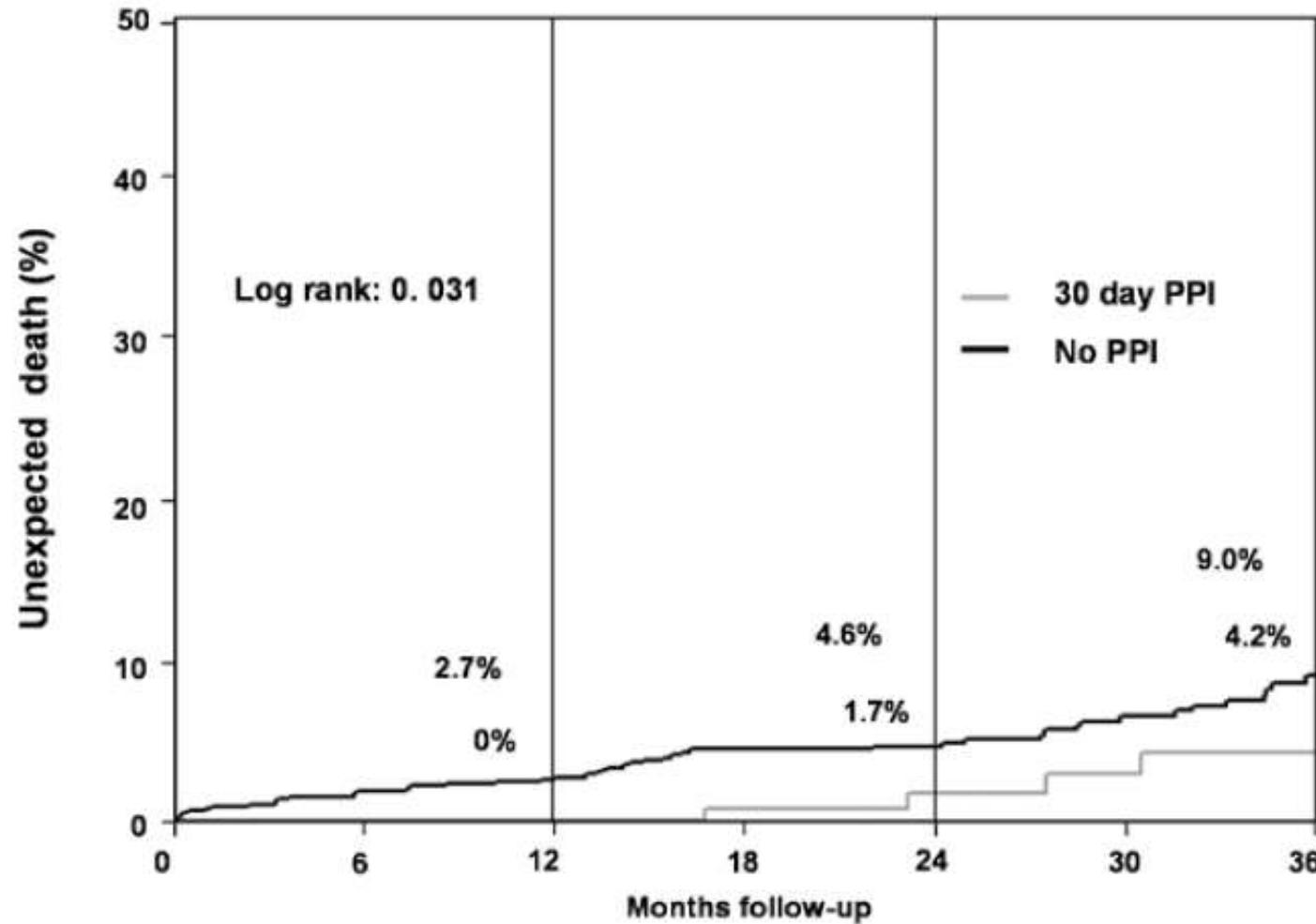
Long-term implications of cumulative right ventricular pacing among patients with an implantable cardioverter-defibrillator

Alon Barsheshet, MD,* Arthur J. Moss, MD,* Scott McNitt, MS,* Christian Jons, MD,*
Michael Glikson, MD,[†] Helmut U. Klein, MD,* David T. Huang, MD,*
Jonathan S. Steinberg, MD, FHRS,[‡] Mary W. Brown, MS,* Wojciech Zareba, MD, PhD,*
Ilan Goldenberg, MD*; on behalf of the MADIT-II Executive Committee

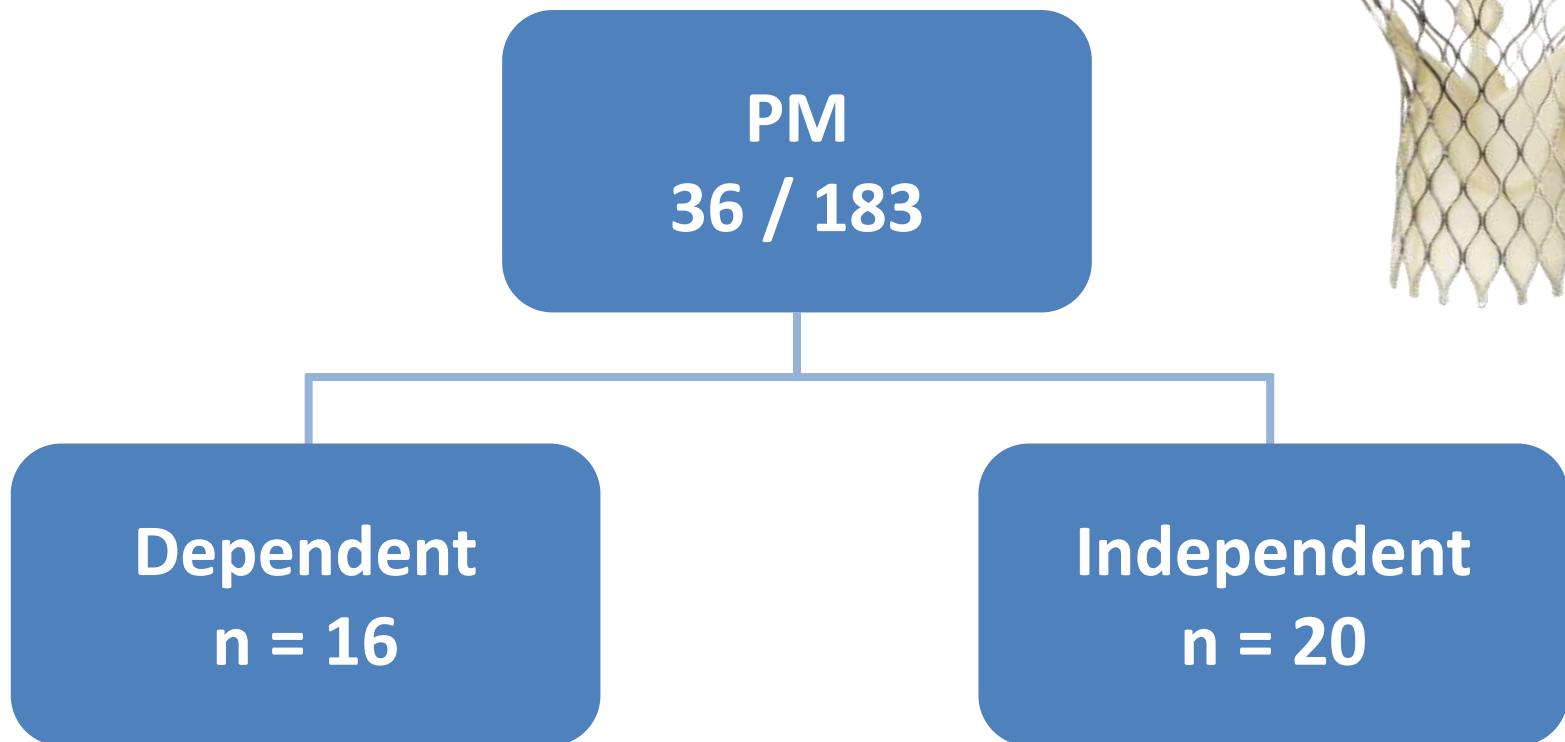
Impact PPM on Mortality



PPM even has Protective Effects (!)



Persistence PM dependency (12 months)



Preventive Measures

ACCUTRAK DELIVERY

Depth of valve implantation, conduction disturbances and pacemaker implantation with CoreValve and CoreValve Accutrap system for Transcatheter Aortic Valve Implantation, a multi-center study[☆]



Guy D. Lenders ^{a,*¹}, Valérie Collas ^{a,1}, José Maria Hernandez ^{b,1}, Victor Legrand ^{c,1}, Haim D. Danenberg ^{d,1}, Peter den Heijer ^{e,1}, Inez E. Rodrigus ^{a,1}, Bernard P. Paelinck ^{a,1}, Christiaan J. Vrints ^{a,1}, Johan M. Bosmans ^{a,1}

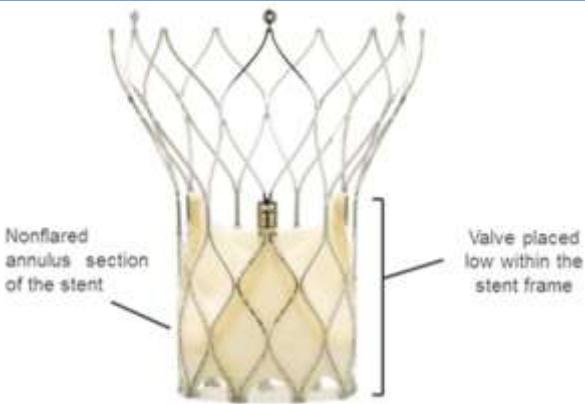
Preventive Measures

ACCUTRAK DELIVERY

Depth of valve implantation, conduction disturbances and pacemaker implantation with CoreValve and CoreValve Accutrap system for Transcatheter Aortic Valve Implantation, a multi-center study[☆]



Guy D. Lenders ^{a,*¹}, Valérie Collas ^{a,1}, José Maria Hernandez ^{b,1}, Victor Legrand ^{c,1}, Haim D. Danenberg ^{d,1}, Peter den Heijer ^{e,1}, Inez E. Rodrigus ^{a,1}, Bernard P. Paelinck ^{a,1}, Christiaan J. Vrints ^{a,1}, Johan M. Bosmans ^{a,1}



Repositional Valves

Summary

LBBB after TAVI may influence mortality

PPM after TAVI has no influence on mortality

Adverse clinical effects of PPM may become evident as indications for TAVI expand to lower risk pts with an expected longer survival time

Thank you !