

Side branch clinical relevance: toward a new bifurcation definition ?

Clinical evidence of absence of chronic clinical relevance of small side branches

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1 versus 2 stent randomized trials

1 versus 2 stents randomized trials (n= 11)

	Centers	Stent	1 / 2	True bif. %	SB	2 stents technique	Crossover 1:2 / 2:1
Pan 2004 AHJ	1	Cypher	47 / 44			Provisional	
Colombo 2004 Circ.	5	Cypher	23 / 63			Crush	51.2%
Nordic 2006 Circ.	28	Cypher	205 / 206		>2	Crush, Culotte...	4.3% / 4.9%
BBK 2008 EHJ	1	Cypher	101 / 101	68.2 / 68.3	>2.25	Provisional	18.8% / 3%
CACTUS 2009 Circ.	12	Cypher	173 / 177	100 / 100	>2.25	Crush	31% / -
BBC 1 2010 Circ.	20	Taxus	250 / 250	81 / 84	>2.25	Culotte, ..	3% / -
Lin 2010 Coron Art Dis	1	Taxus Cypher	54 / 54	100 / 100	>2.2	DK Crush, ...	16.7% / 5.6%
PERFECT 2015 JACCi	14	> 4	206 / 213	100 / 100	> 2	Mini Crush Kiss	25.9% / 1%
DKCRUSH-II 2011 JACC	7	Excel	185 / 185	100 / 100	>2.5, long L.	DK crush	28.6% / -
Nordic-Baltic IV 2013	16	Cypher Xience	221 / 229	100 / 100	>2.75	Culotte, ...	3.7% / 4%
EBC 2 2015	20	Nobori	103 / 97	100 / 100	> 2.5, long L.	Culotte	16% / 3%

Provisional versus 2 stents randomized trials (n= 5)

All comers

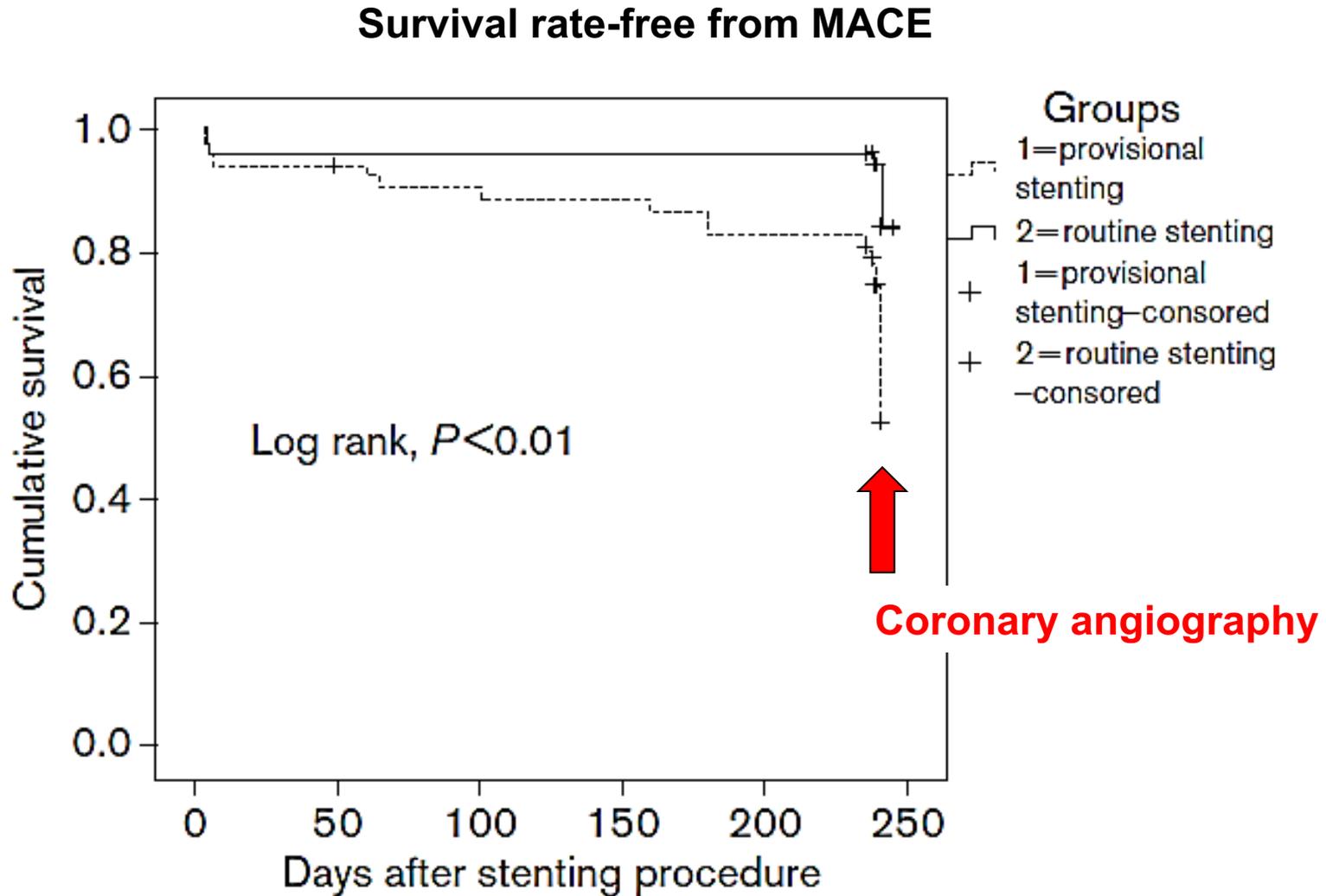
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Provisional versus 2 stents randomized trials (n= 5)

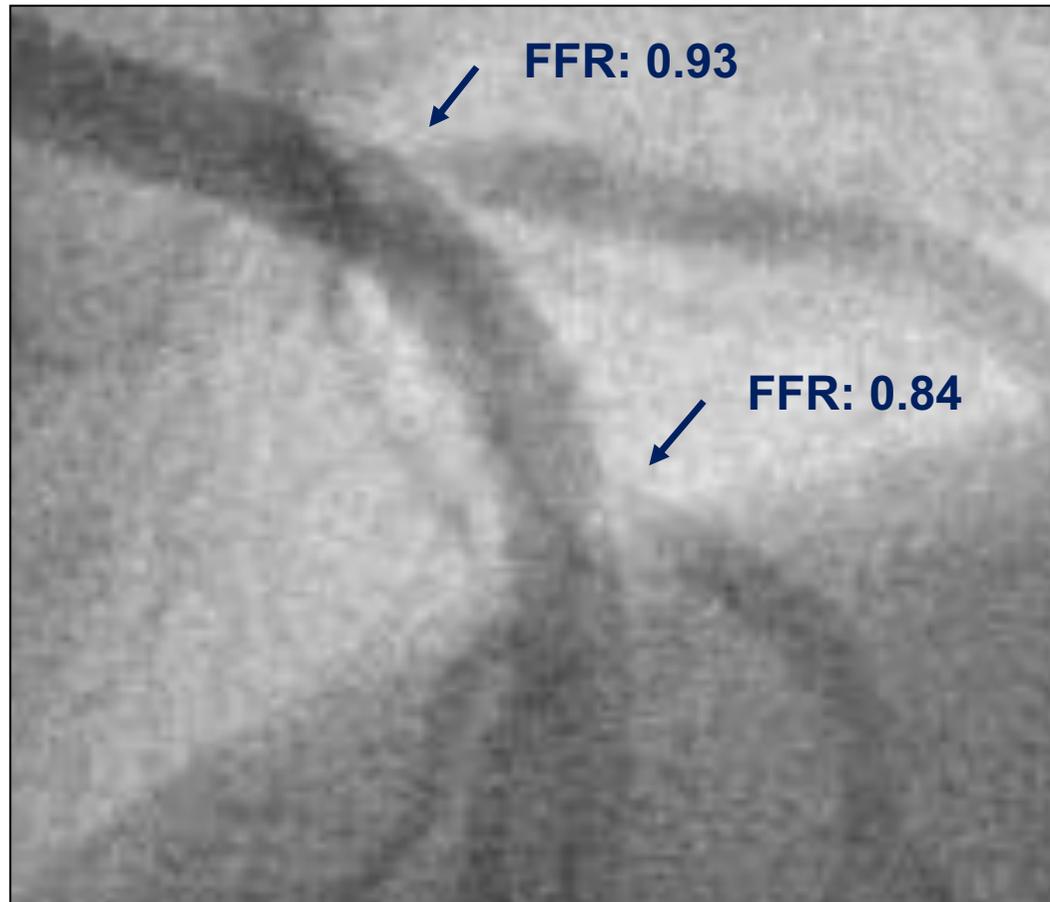
All comers

	1 ary Endpoint	Syst. angio	Endpoint %	(Cardiac) death %	MI %	TVR %	TLR %	Rest.	ST
Nordic 2006 Circ.	C. death MI ST TVR 6 m	6 m	2.9	1	0	1.9			0.5
			3.4	1	0.5	1.9		0	
CACTUS 2009 Circ.	C. death MI ST TVR 6 m	8 m	15	0.5	8.6	6.2			Def 1.1
			15.8	0	10.7	6.8		1.7	
BBC 1 2010 Circ.	Death MI TVF 9 m	No	8	2	3.6	5.5			1
			15.1	1	11.2	7.2		5	
Lin 2010 Coron Art Dis	C. death MI ST TVR 8 m	8 m	38.9	0	1.9		26.9		1.9
			11	0	1.9		6.4	0	
PERFECT 2015 JACCI	% restenosis 2 branch	8 m	SB 8.3/3.9	0.5	14.1	3.4	3.4	11	0
			MB 4.8/5.2	0.9	14.1	2.9	1.9	8.4	0.5

Choice of stenting strategy in true coronary artery bifurcation lesions



SB Ostial Lesions Are Overestimated



Small SB are an acute concern = protection (bail out stenting)

1 versus 2 stents randomized trials for large SB (n= 3)

	Centers	Stent	1 / 2	True bif. %	SB	2 stents technique	Crossover 1:2 / 2:1
DKCRUSH-II 2011 JACC	7	Excel	185 / 185	100 / 100	>2.5, long L.	DK crush	28.6% / -
Nordic-Baltic IV 2013	16	Cypher Xience	221 / 229	100 / 100	>2.75	Culotte, ...	3.7% / 4%
EBC 2 2015	20	Nobori	103 / 97	100 / 100	> 2.5, long L.	Culotte	16% / 3%

Provisional versus 2 stents randomized trials for large SB

	Centers	Stent	1 / 2	SB stenosis	SB	2 stents technique	Crossover 1:2 / 2:1
DKCRUSH-II 2011 JACC	7	Excel	185 / 185	63% / 63%	>2.5, long L.	DK crush	28.6% / -
Nordic-Baltic IV 2013	16	Cypher Xience	221 / 229	44% / 47%	>2.75	Culotte, ...	3.7% / 4%
EBC 2 2015	20	Nobori	103 / 97	? / ?	> 2.5	Culotte	16% / 3%

Provisional versus 2 stents randomized trials for large SB

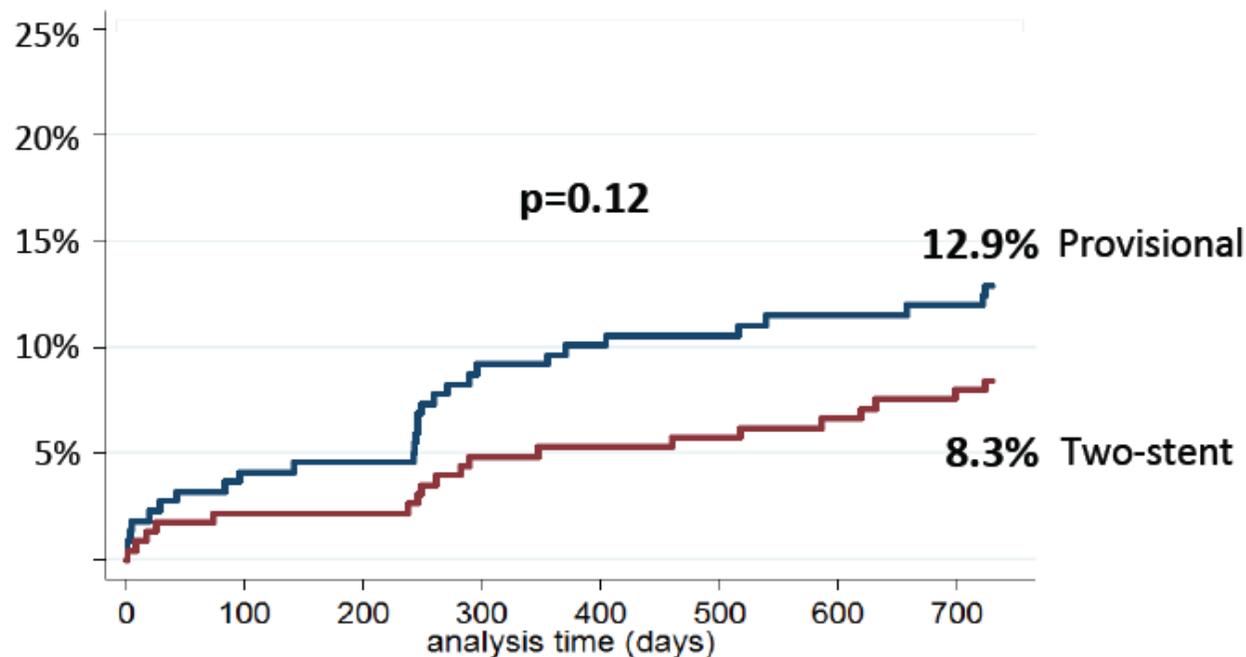
	Centers	Stent	1 / 2	True bif. %	SB QCA diameter	2 stents technique	Crossover 1:2 / 2:1
DKCRUSH-II 2011 JACC	7	Excel	185 / 185	100 / 100	2.3 / 2.4	DK crush	28.6% / -
Nordic-Baltic IV 2013	16	Cypher Xience	221 / 229	100 / 100	2.4 / 2.5	Culotte, ...	3.7% / 4%
EBC 2 2015	20	Nobori	103 / 97	100 / 100	? / ?	Culotte	16% / 3%

Provisional versus 2 stents randomized trials for large SB

	1 ary Endpoint	Syst. angio	Endpoint %	(Cardiac) death %	MI %	TVR %	TLR %	Rest.	ST
DKCRUSH-II 2011 JACC	C. death MI TVR 12 m	8 m	17.3	1.1	2.2	14.6	13		Def 0.5
			10.3	1.1	3.2	/ 6.5	4.3		2.2
Nordic-Baltic IV 2013	C. death non procedure MI TLR Def. ST 6 m	8 m	4.6	0	1.8		3.2		0.9
			1.8	0	0.9		1.3		0.4
EBC 2 2015	Death MI TVR 12 m	No	8 10	2 1	5 10	3 1			1 3



Two-year MACE



Number at risk		0	100	200	300	400	500	600	700
Two-stent tech.	228	221	221	214	212	211	209	206	
Provisional tech.	218	209	208	196	194	192	189	187	

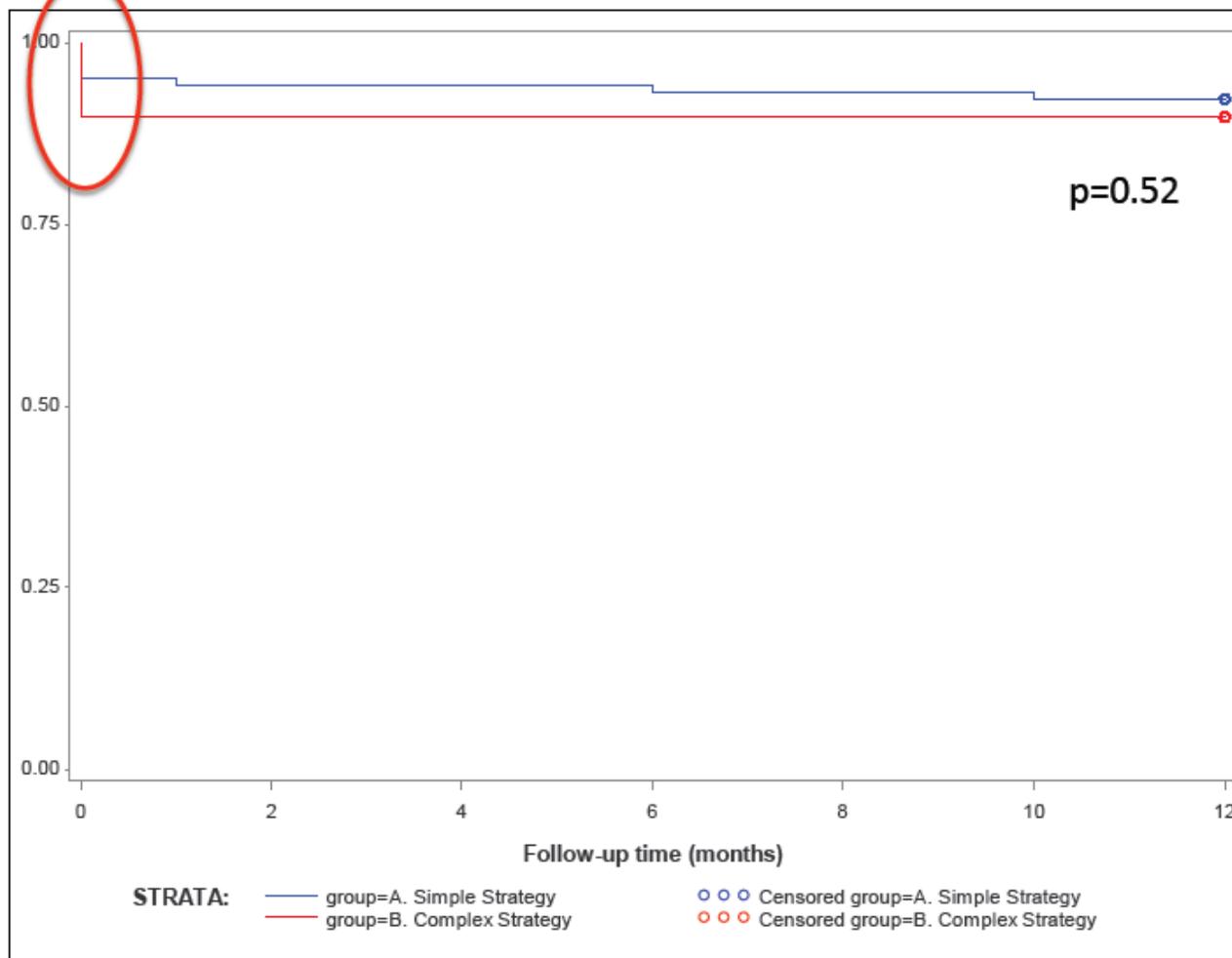
MACE: cardiac death, non-procedural myocardial infarction, target lesion revascularization and definite stent thrombosis



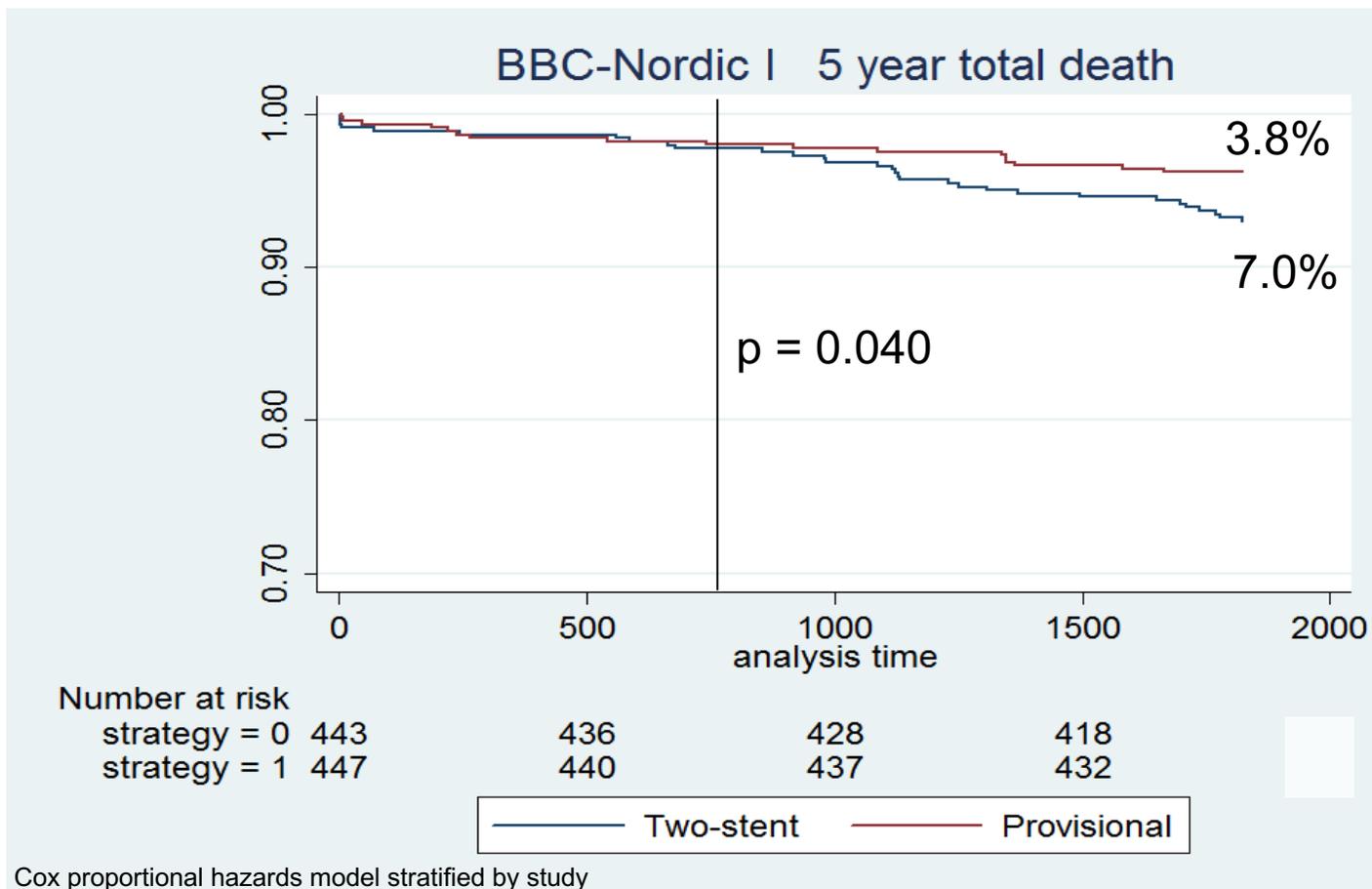
euro
PCR
2015

The EBC TWO Trial

12 M Outcome : Death, MI and TVR at 12



BBC-Nordic: 5-year total death



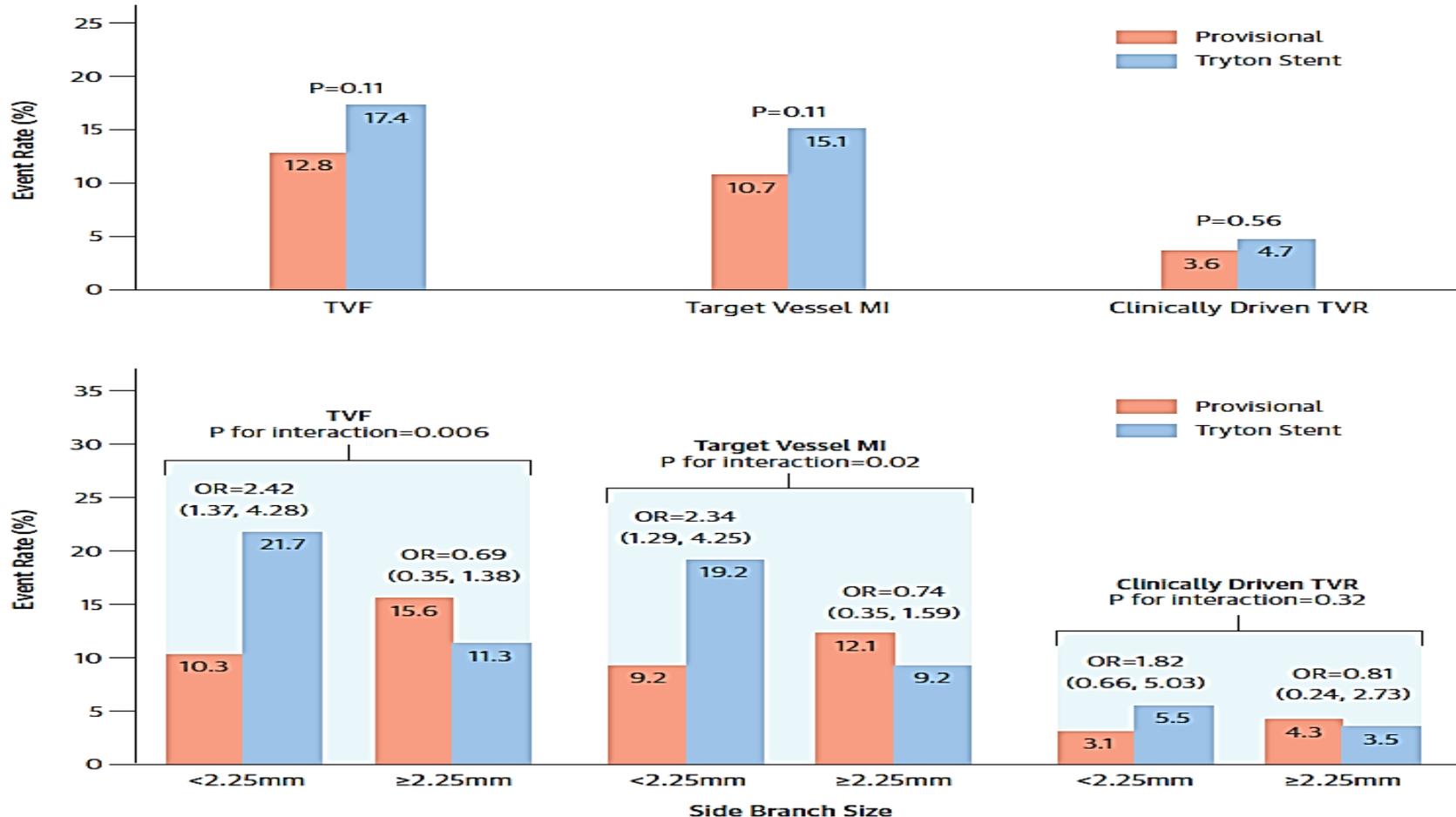
1 vs 2 for big SB and long lesion:



Impact of SB sizes on clinical outcomes after SB dedicated stenting

A randomized trial of a dedicated bifurcation stent vs provisional stenting in the treatment of coronary bifurcation lesions

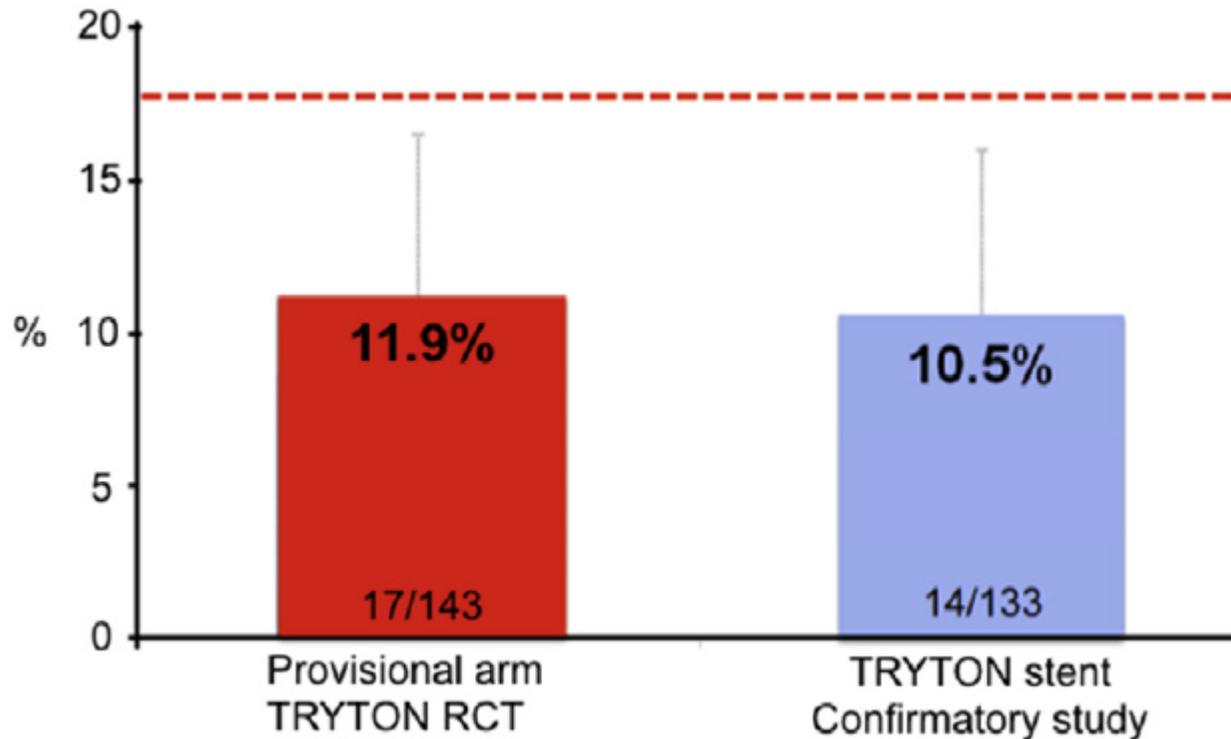
Bifurcation stent / provisional stenting and the impact of SB sizes on clinical outcomes



TVF: cardiac death, target vessel MI, clinically driven TVR

Dedicated bifurcation stent for the treatment of bifurcation lesions involving large SBs - outcomes from the Tryton confirmatory study

Primary Endpoint: Periprocedural MI



SB mean reference diameter (mm) **2.52**

2.49

Error bars represent 95% confidence limits, and the dotted red line indicates the pre-defined performance goal of 17.9%. Noninferiority to this performance goal was met ($p = 0.014$)

1,1,1 or 0,1,1 bifurcation stenosis

