



31 GIORNATE CARDIOLOGICHE TORINESI

TURIN
October
24th-26th
2019

Let's choose provisional

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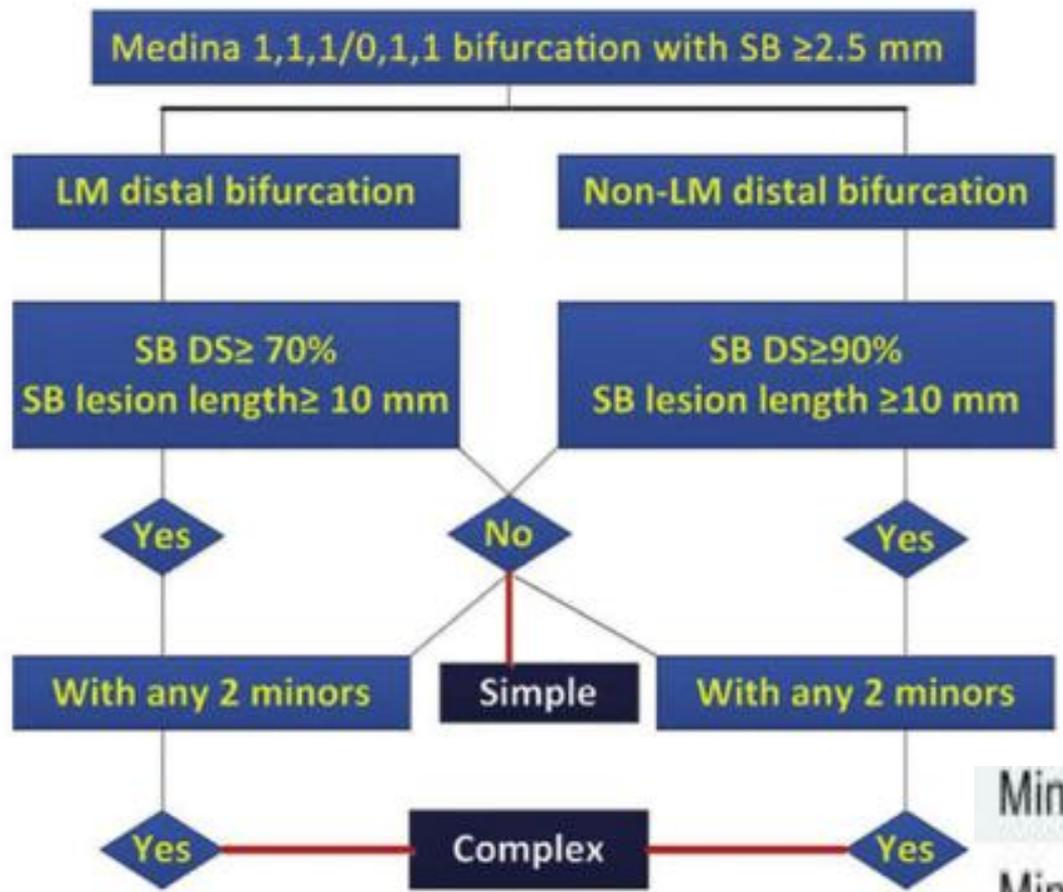
ULM vs. non ULM bifurcations

larger angle
between
branches

larger area of
myocardium to
supply

Left Main Bifurcation Angioplasty
Are 2 Stents One Too Many?*

Bernard Chevalier, MD



FORIN

h ULM
ons

Minor 1: Moderate to severe calcification

Minor 2: Multiple lesions

Minor 3: Bifurcation angle < 45°

Minor 4: Main vessel RVD < 2.5 mm

Minor 5: Thrombus-containing lesions

Minor 6: MV lesion length ≥ 25 mm

Outcomes Among Patients Undergoing Distal Left Main Percutaneous Coronary Intervention

Technique Analysis From the EXCEL Trial

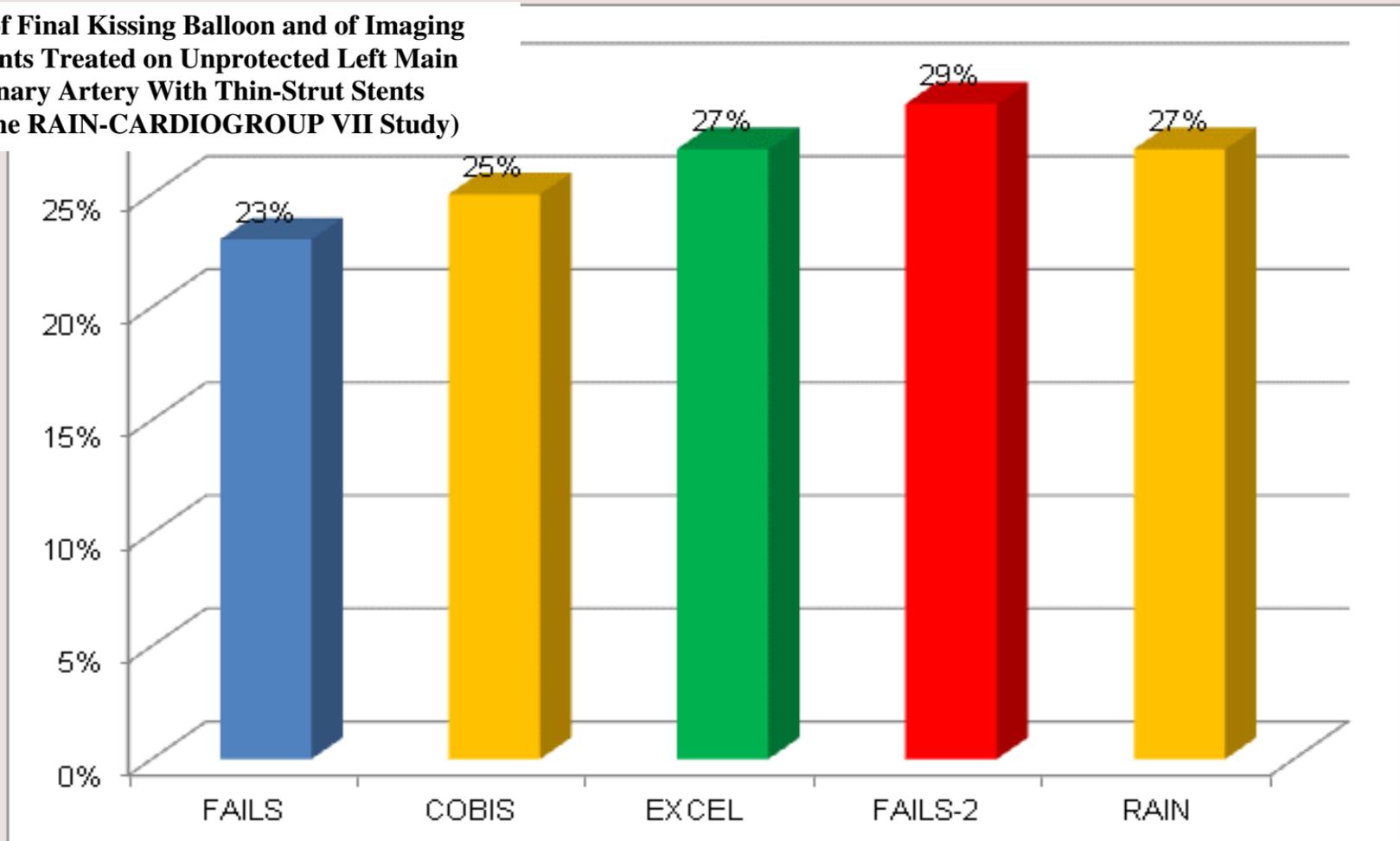
Long-Term Clinical Outcomes and Optimal Stent Strategy in Left Main Coronary Bifurcation Stenting

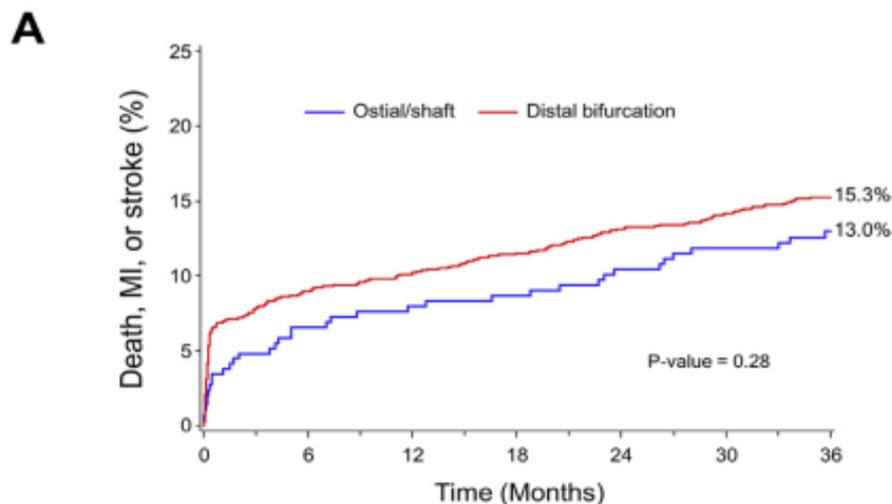
Sungsoo Cho, MD,^a Tae Soo Kang, MD, PhD,^a Jung-Sun Kim, MD, PhD,^b Sung-Jin Hong, MD,^b Dong-Ho Shin, MD,^b Chul-Min Ahn, MD, PhD,^b Byeong-Keuk Kim, MD, PhD,^b Young-Guk Ko, MD, PhD,^b Donghoon Choi, MD, PhD,^b Young Bin Song, MD, PhD,^c Joo-Yong Hahn, MD, PhD,^c Seung-Hyuk Choi, MD, PhD,^c Hyeon-Cheol Gwon, MD, PhD,^c Myeong-Ki Hong, MD, PhD,^b Yansoo Jang, MD, PhD^b

ATE
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Incidence of Medina 1,1,1

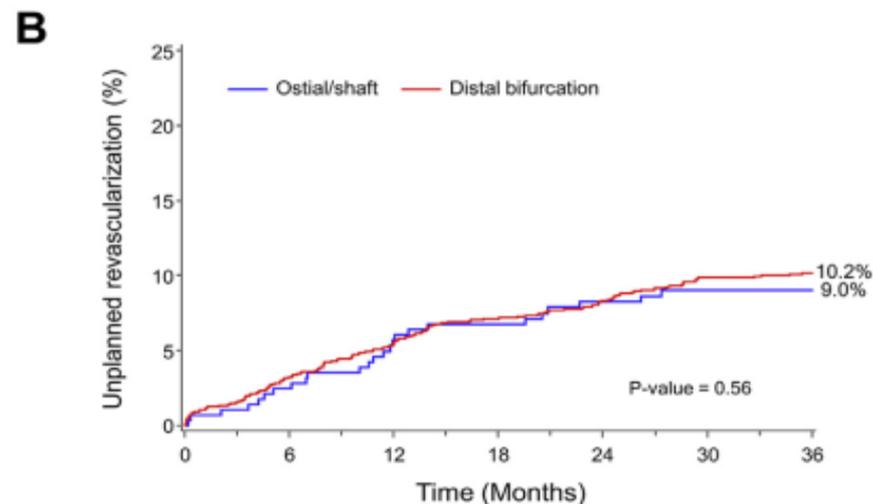
Impact of Final Kissing Balloon and of Imaging on Patients Treated on Unprotected Left Main Coronary Artery With Thin-Strut Stents (From the RAIN-CARDIOGROUP VII Study)





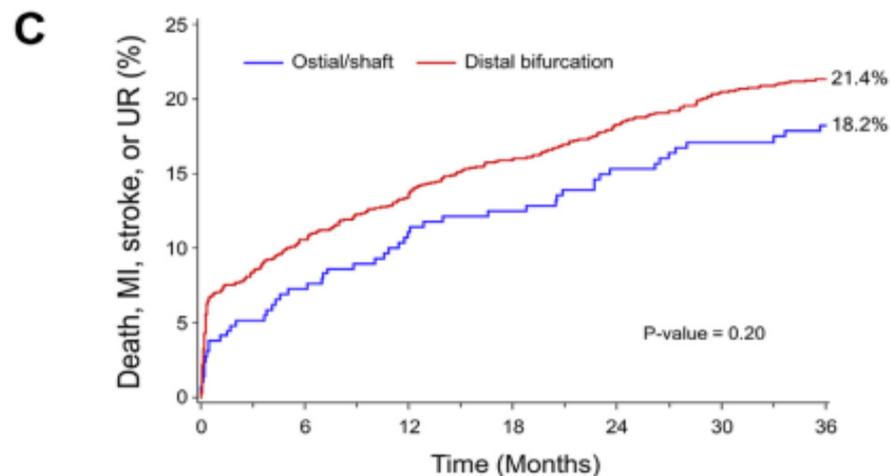
Number at risk:
 Ostial/shaft
 Distal bifurcation

293	269	262	258	253	244	219
1,559	1,401	1,373	1,335	1,307	1,277	1,157



Number at risk:
 Ostial/shaft
 Distal bifurcation

293	275	261	254	249	239	216
1,559	1,462	1,407	1,351	1,321	1,274	1,162



Number at risk:
 Ostial/shaft
 Distal bifurcation

293	267	253	247	239	230	207
1,559	1,376	1,321	1,268	1,230	1,186	1

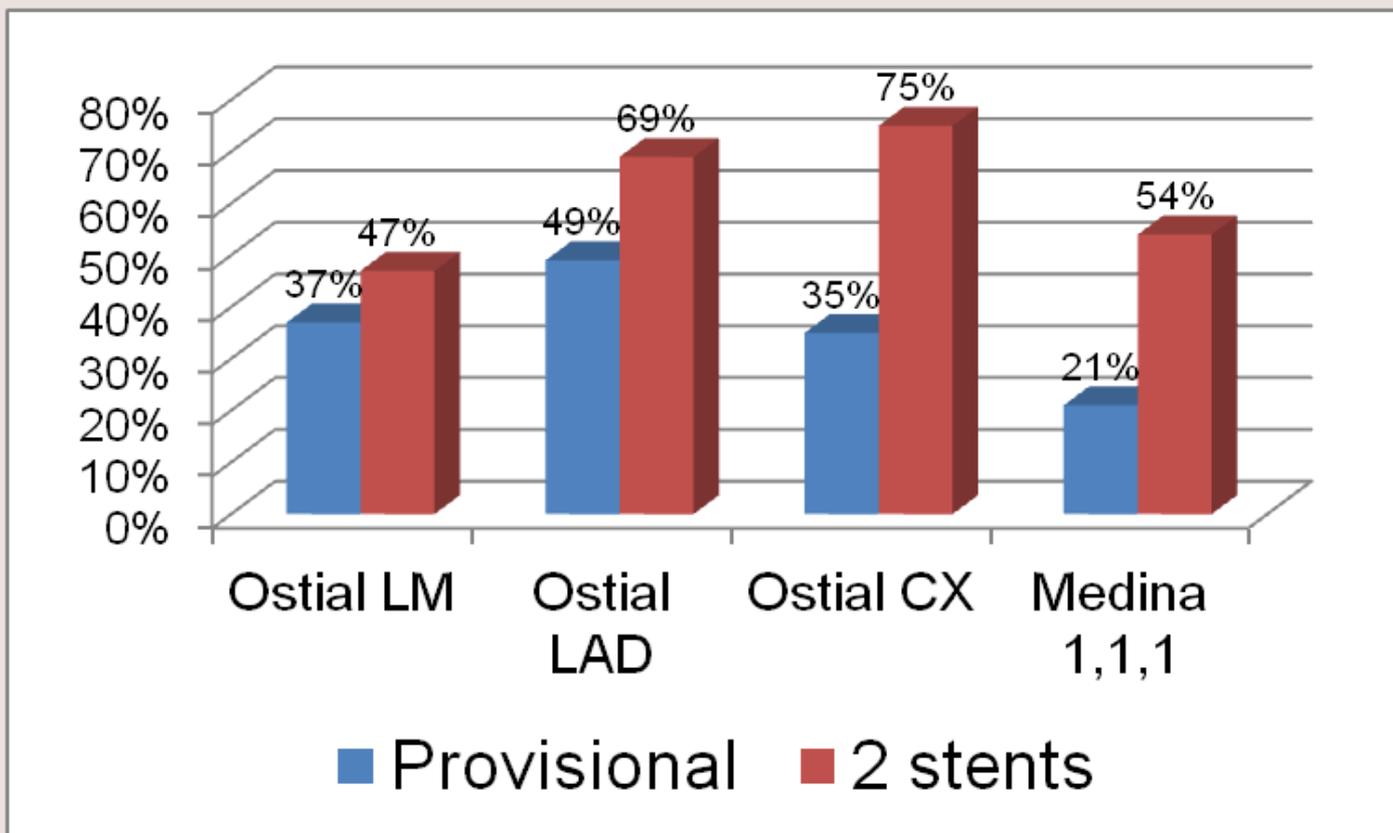
Outcomes After Left Main Percutaneous Coronary Intervention Versus Coronary Artery Bypass Grafting According to Lesion Site
 Results From the EXCEL Trial

Anthony H. Gershlick, MBBS,¹ David E. Kandzari, MD,² Ameerjeet Banning, MD,³ David P. Taggart, MD,⁴ Marie-Claude Morice, MD,⁵ Nicholas J. Lembo, MD,⁶ W. Morris Brown III, MD,⁷ Adrian P. Banning, MD,⁸ Béla Merkely, MD, PhD, DSc,⁹ Ferenc Horkay, MD,⁷ Ad J. van Boven, MD, PhD,⁵ Piet W. Boonstra, MD, PhD,² Ovidiu Dressler, MD,³ Joseph F. Sabik III, MD,¹ Patrick W. Serruys, MD, PhD,¹ Arie Pieter Kappetein, MD, PhD,¹ Gregg W. Stone, MD^{2,3}



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**Outcomes Among Patients Undergoing
Distal Left Main Percutaneous Coronary
Intervention**

Technique Analysis From the EXCEL Trial

Provisional 1-stent approach			
Side branch treatment, any	243/344 (70.6)	...	...
Balloon angioplasty	207/243 (85.2)	...	...
Atherectomy	5/243 (2.1)	...	...
Stent	54/243 (22.2)	...	...
Side branch stent technique		...	...
T, modified T, or TAP	42/54 (77.8)	...	...
Culotte or reverse crush	8/54 (14.8)	...	...
Other	4/54 (7.4)	...	...

Planned 2-stent approach			
T, modified T, or TAP	...	92/185 (50.8)	...
Culotte	...	42/185 (23.2)	...
Crush or mini-crush	...	26/185 (14.4)	...
V stent	...	11/185 (6.1)	...
Simultaneous kissing stents	...	5/185 (2.8)	...
Other	...	5/185 (2.8)	...
Final kissing balloon inflation	189/344 (54.9)	156/185 (84.3)	<0.0001

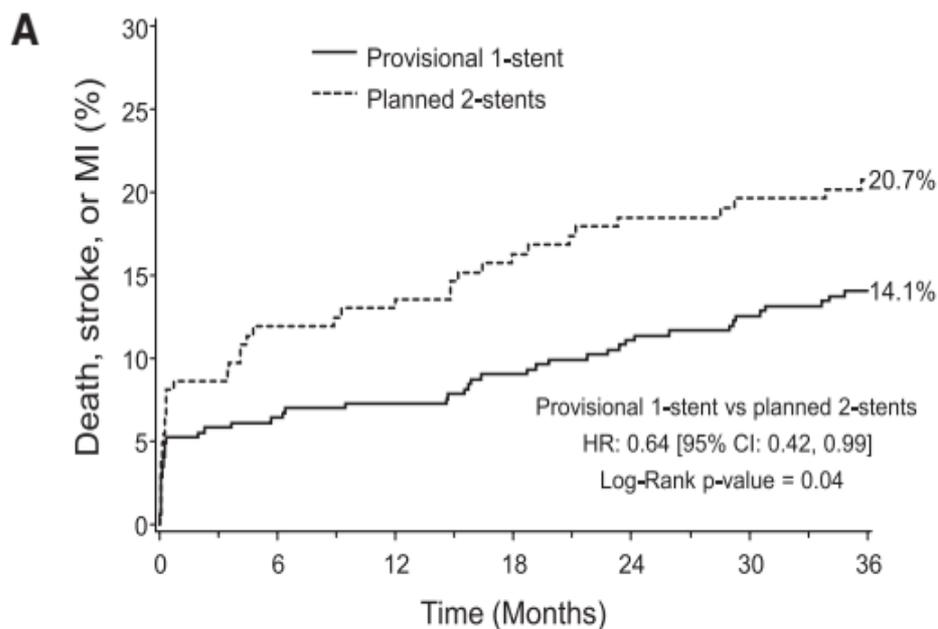
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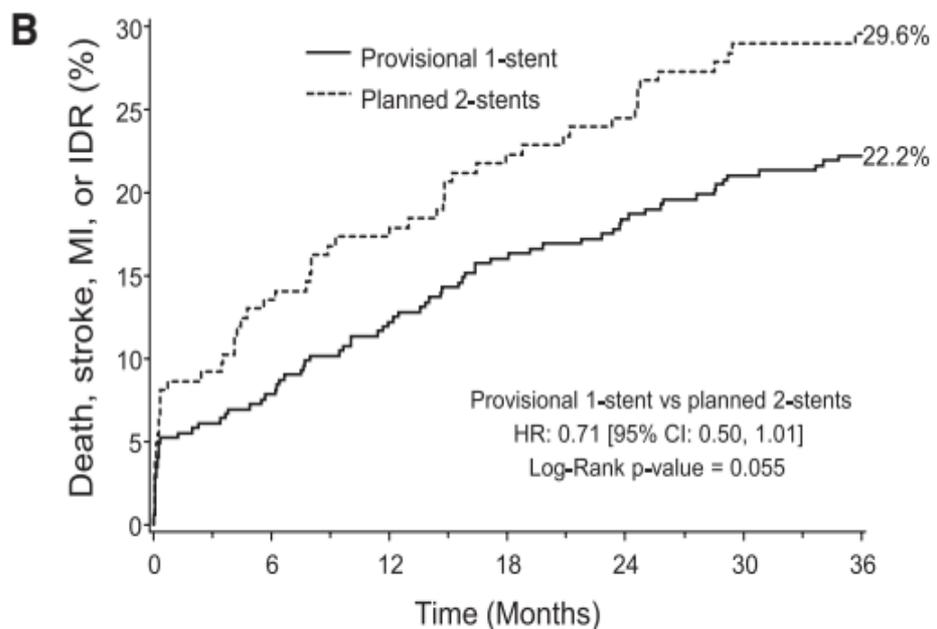
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Number at risk:

1 stent	344	322	317	309	302	296	284
2 stents	185	162	159	152	147	144	138



Number at risk:

1 stent	344	317	300	285	277	268	259
2 stents	185	159	151	141	136	127	122

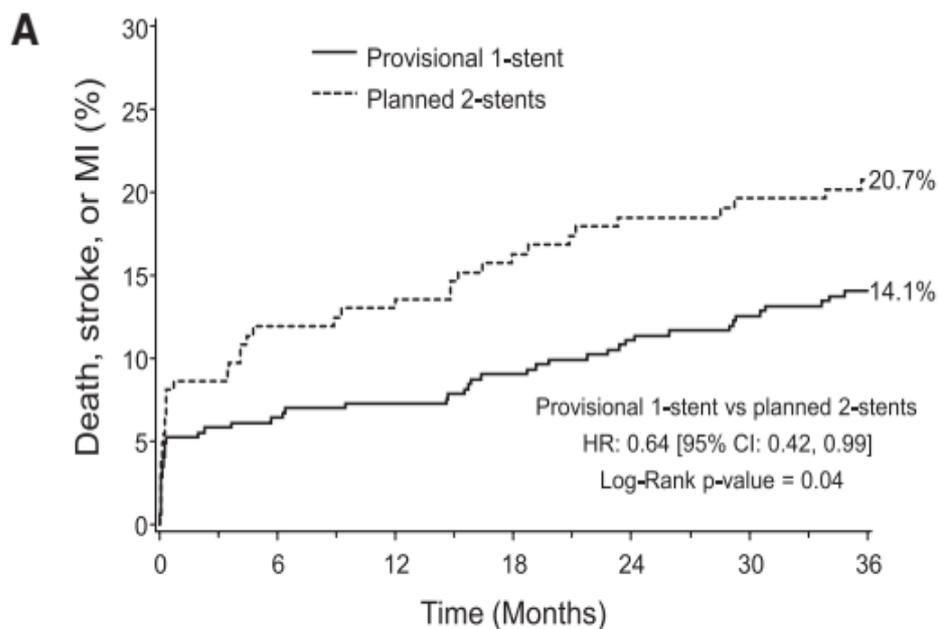
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Technique Analysis From the EXCEL Trial



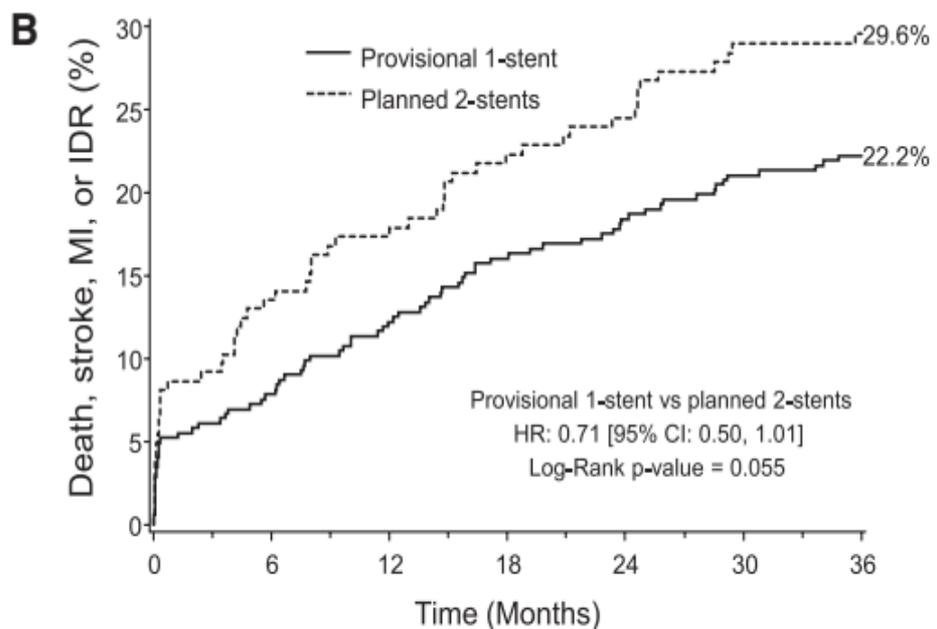
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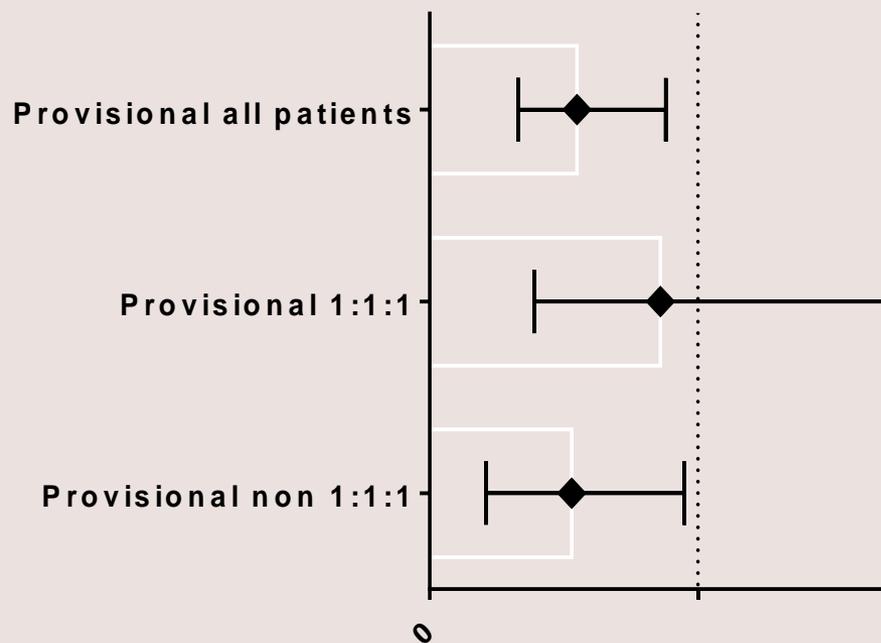
**Outcomes Among Patients Undergoing
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Technique Analysis From the EXCEL Trial



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All patients		
Provisional 1-stent vs planned 2-stent technique	0.55 [0.35–0.88]	0.01
Age (per year)	1.04 [1.01–1.07]	0.006
Male sex	0.61 [0.37–1.01]	0.055
Both LM ostial side branches with DS ≥50%*		
Provisional 1-stent vs planned 2-stent technique	0.86 [0.39–1.88]	0.70
Age (per year)	1.05 [1.00–1.10]	0.045
Recent myocardial infarction†	0.28 [0.07–1.20]	0.09
Creatinine clearance <60 mL/min	2.47 [0.96–6.32]	0.06
Hypertension, medically treated	0.52 [0.24–1.11]	0.09
0 or 1 LM ostial side branches with DS ≥50%*		
Provisional 1-stent vs planned 2-stent technique	0.53 [0.29–0.95]	0.03
Age (per year)	1.03 [1.00–1.06]	0.08

**Outcomes Among Patients Undergoing
Distal Left Main Percutaneous Coronary
Intervention**

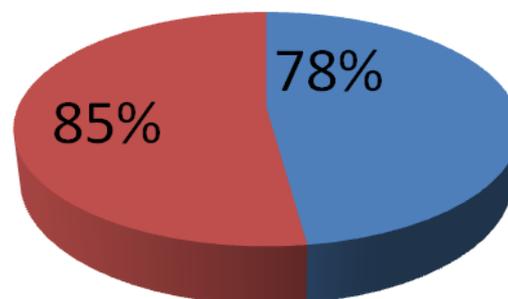
Technique Analysis From the EXCEL Trial



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Medina 1,1,1



■ Provisional ■ DKDC

Double Kissing Crush Versus Provisional Stenting for Left Main Distal Bifurcation Lesions

DKCRUSH-V Randomized Trial

Shao-Liang Chen, MD,^a Jue-Jie Zhang, PhD,^a Yaling Han, MD,^b Jing Kan, MBBS,^a Lianglong Chen, MD,^c Chunguang Qiu, MD,^d Tiemin Jiang, MD,^e Ling Tao, MD,^f Hesong Zeng, MD,^g Li Li, MD,^h Yong Xia, MD,ⁱ Chuanyu Gao, MD,^j Teguh Santoso, MD,^k Chootopol Paiboon, MD,^l Yan Wang, MD,^m Tak W. Kwan, MD,ⁿ Fei Ye, MD,^o Nailiang Tian, MD,^o Zhizhong Liu, PhD,^a Song Lin, MD,^o Chengzhi Lu, MD,^p Shangyu Wen, MD,^q Lang Hong, MD,^r Qi Zhang, MD,^s Imad Sheiban, MD,^t Yawei Xu, MD,^u Lefeng Wang, MD,^v Tanveer S. Rab, MD,^w Zhanquan Li, MD,^x Guanchang Cheng, MD,^y Lianqun Cui, MD,^z Martin B. Leon, MD,^{aa} Gregg W. Stone, MD^{aa}





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LAD*

Severe tortuous	25 (11.9)	28 (13.4)	0.662
Mild-moderate calcification	30 (14.3)	30 (14.4)	1.000
Thrombus-containing	0 (0)	0 (0)	NS
Chronic total occlusion	10 (4.8)	12 (5.7)	0.209
TIMI flow grade 0-2	23 (10.9)	20 (9.6)	0.320

LCX*

Severe tortuous	38 (18.1)	45 (21.5)	0.393
Mild-moderate calcification	19 (9.1)	20 (9.6)	0.786
Thrombus-containing	0 (0)	0	NS
Chronic total occlusion	9 (4.3)	12 (5.7)	0.512
TIMI flow grade 0-2	19 (9.1)	22 (10.5)	0.280

Double Kissing Crush Versus Provisional Stenting for Left Main Distal Bifurcation Lesions

DKCRUSH-V Randomized Trial

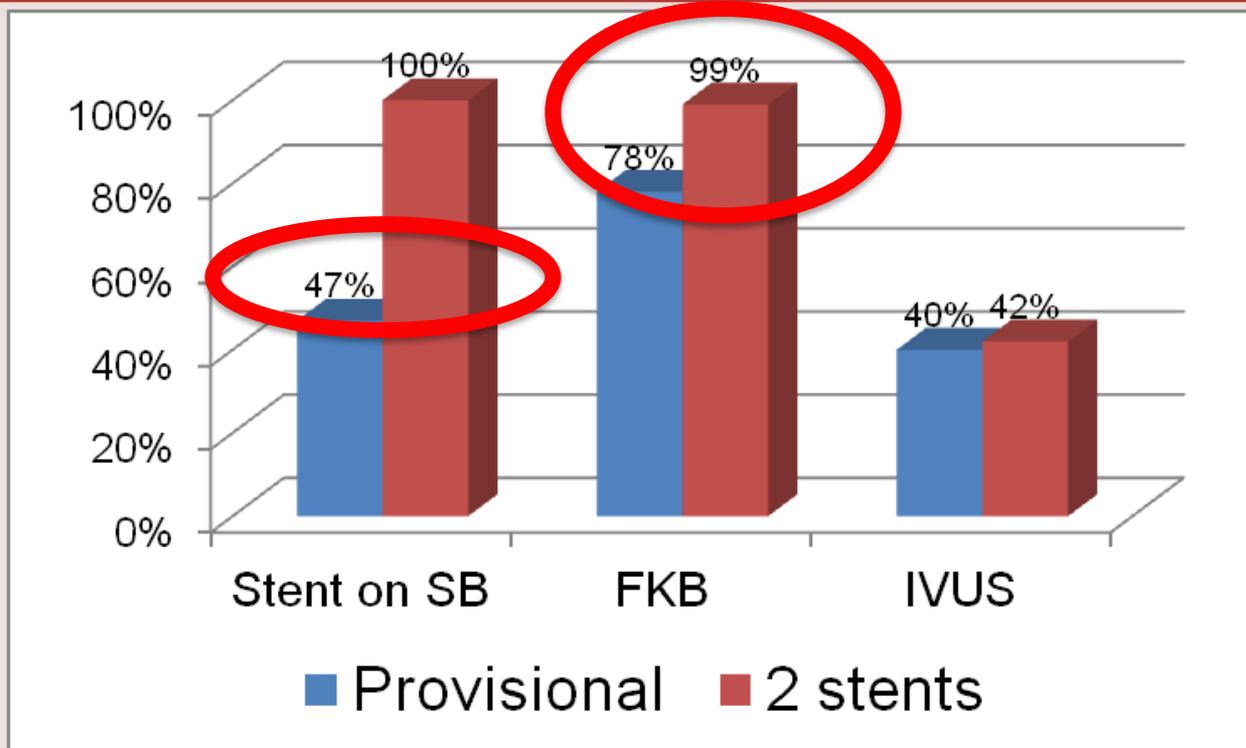
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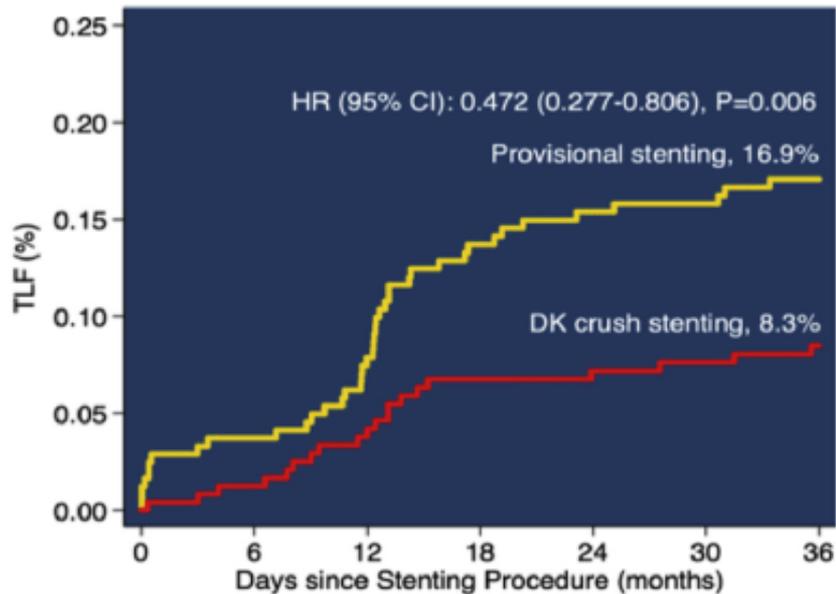


Double Kissing Crush Versus Provisional Stenting for Left Main Distal Bifurcation Lesions

DKCRUSH-V Randomized Trial

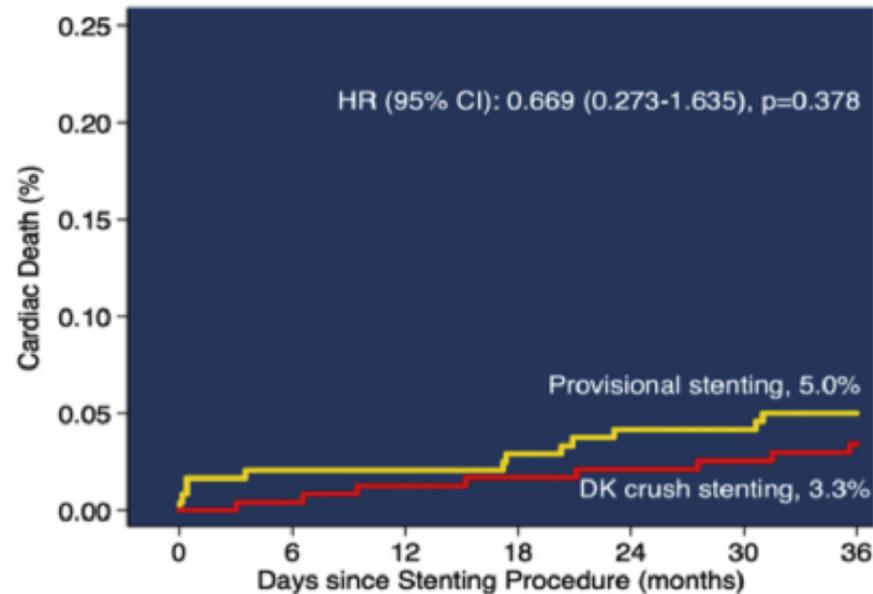
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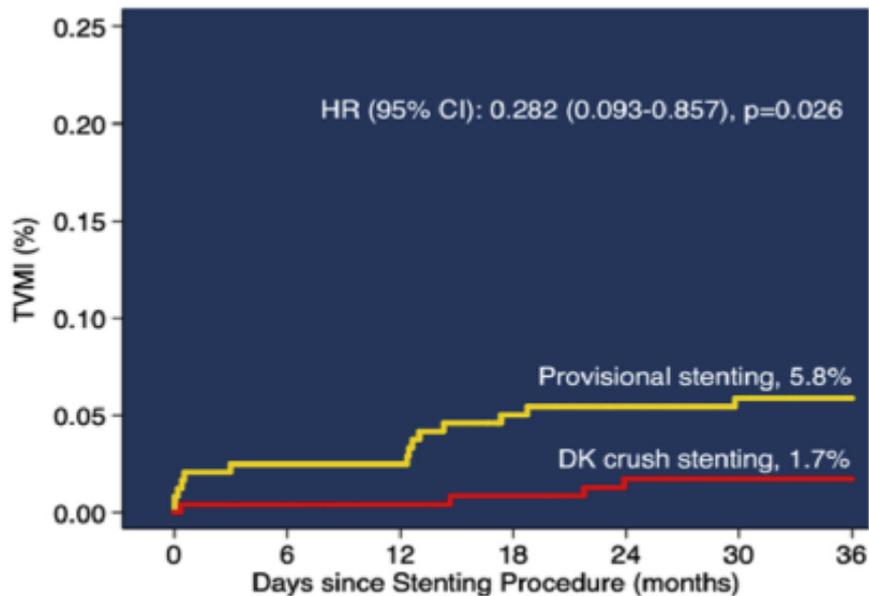
Number at risk

PS group	242	232	222	206	201	200	194
DK group	240	235	226	220	217	215	213



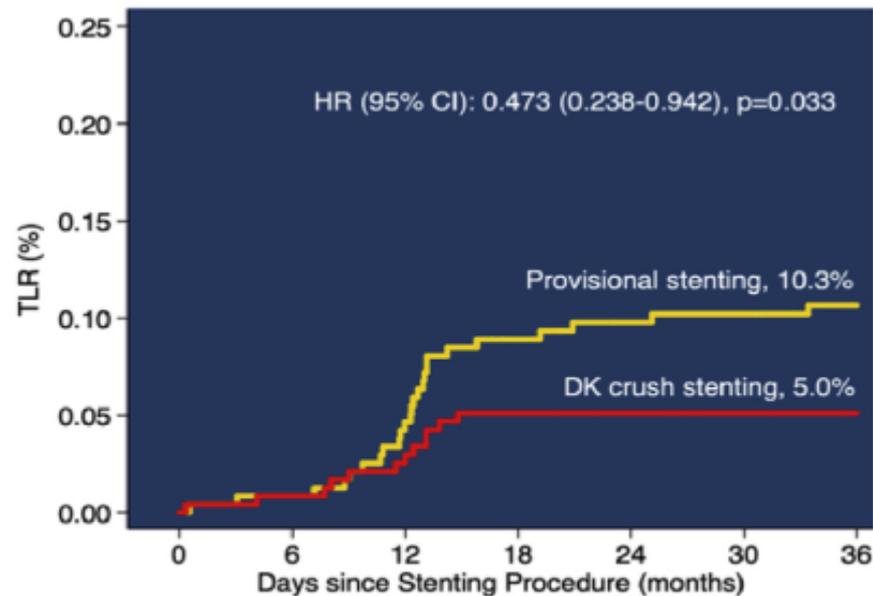
Number at risk

PS group	242	236	236	232	228	228	223
DK group	240	237	233	231	228	226	224



Number at risk

PS group	242	232	231	223	219	218	213
DK group	240	236	232	229	224	222	220



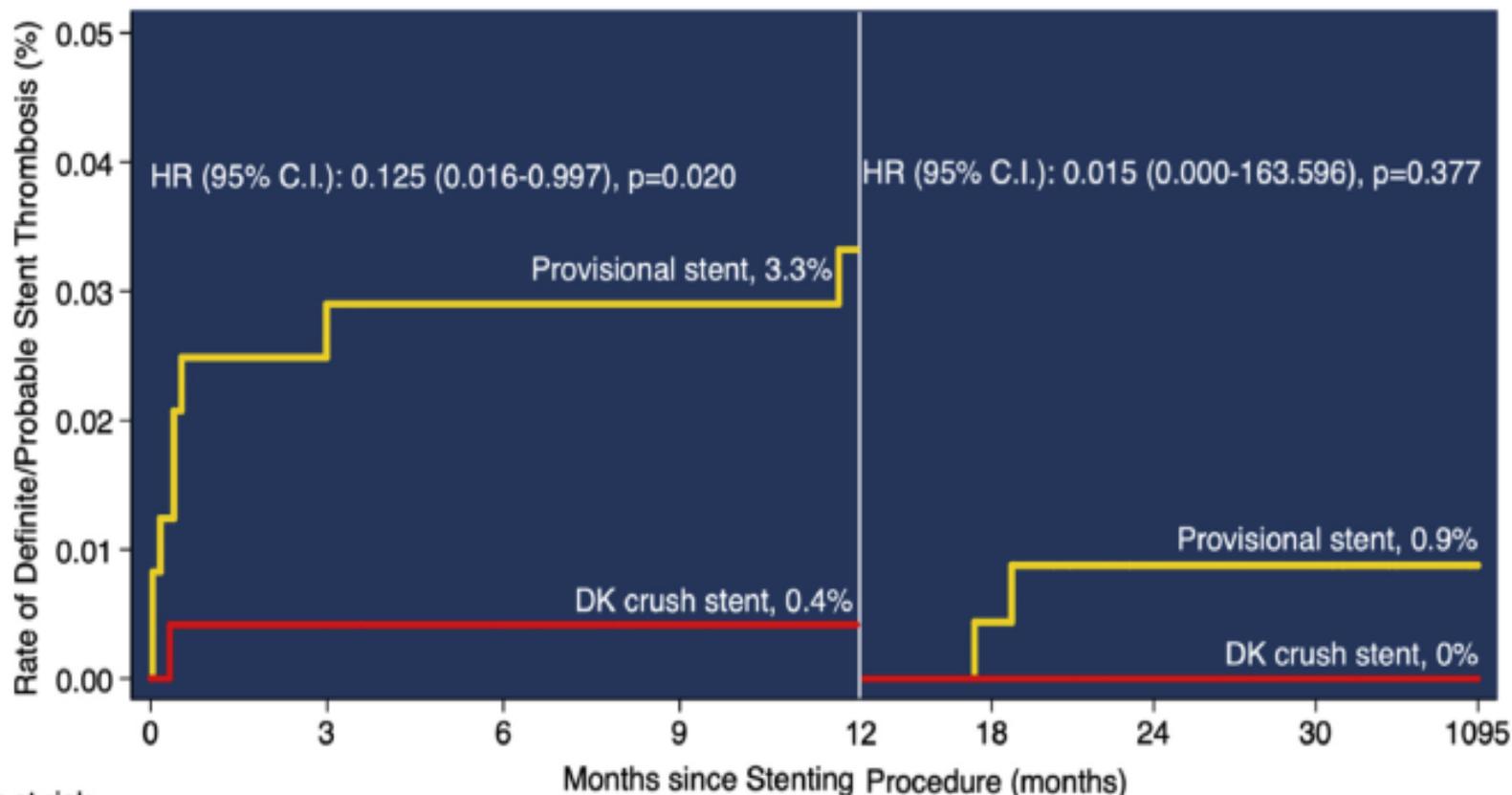
Number at risk

PS group	242	234	224	212	207	206	200
DK group	240	236	226	220	218	216	214



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Number at risk

PS group	242	236	234	234	234	231	226	221	216
DK group	240	239	238	238	237	232	230	227	222



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Why higher rates of ST in “Provisional stenting”?

2 questions

1) All a matter of FKB?

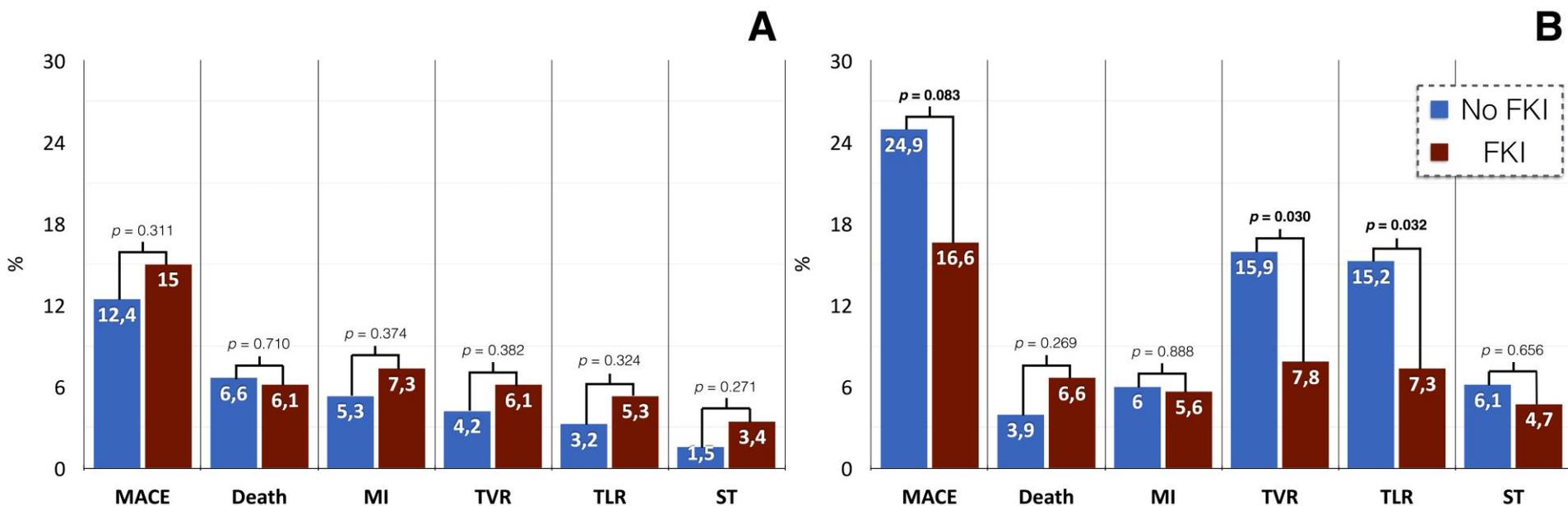
2) Was “Provisional” really Provisional?



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All a matter of FKB?





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1) Was “Provisional” really Provisional?

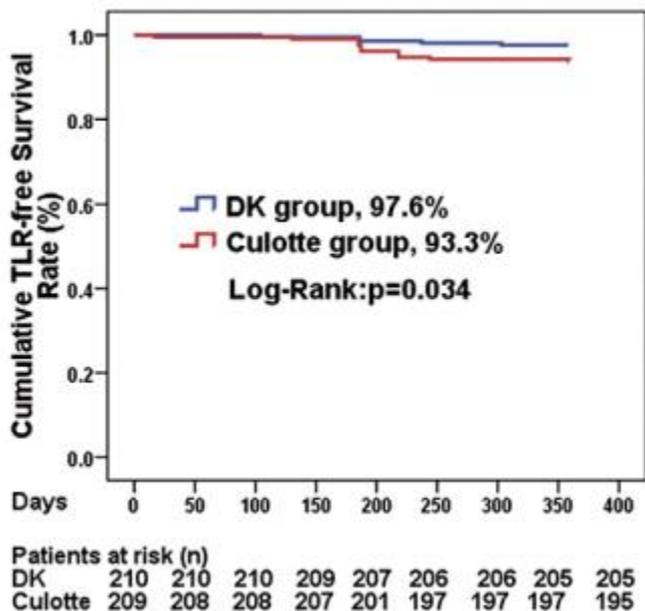


Figure 3 TLR-Free Survival Rate at 12 Months

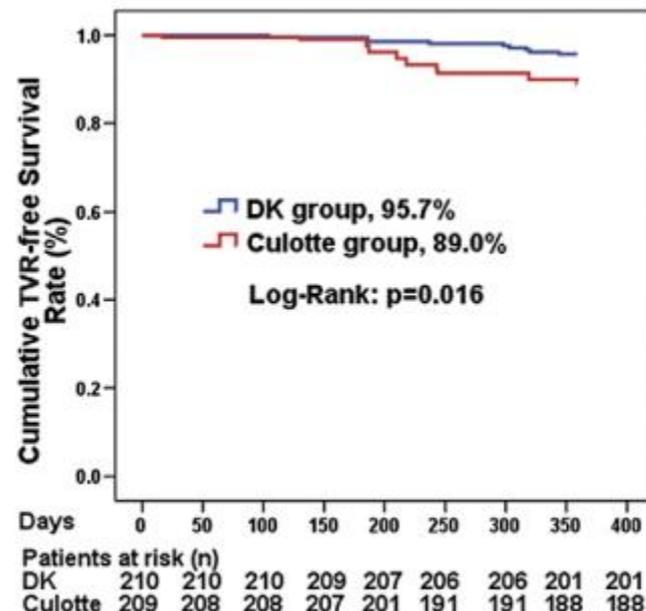


Figure 4 TVR-Free Survival Rate at 12 Months

47% of provisional group were treated with 2 stents.....

Culotte Stenting for Unprotected Distal Left Main Bifurcation Lesions

Results From a Multicenter, Randomized, Prospective DKCRUSH-III Study

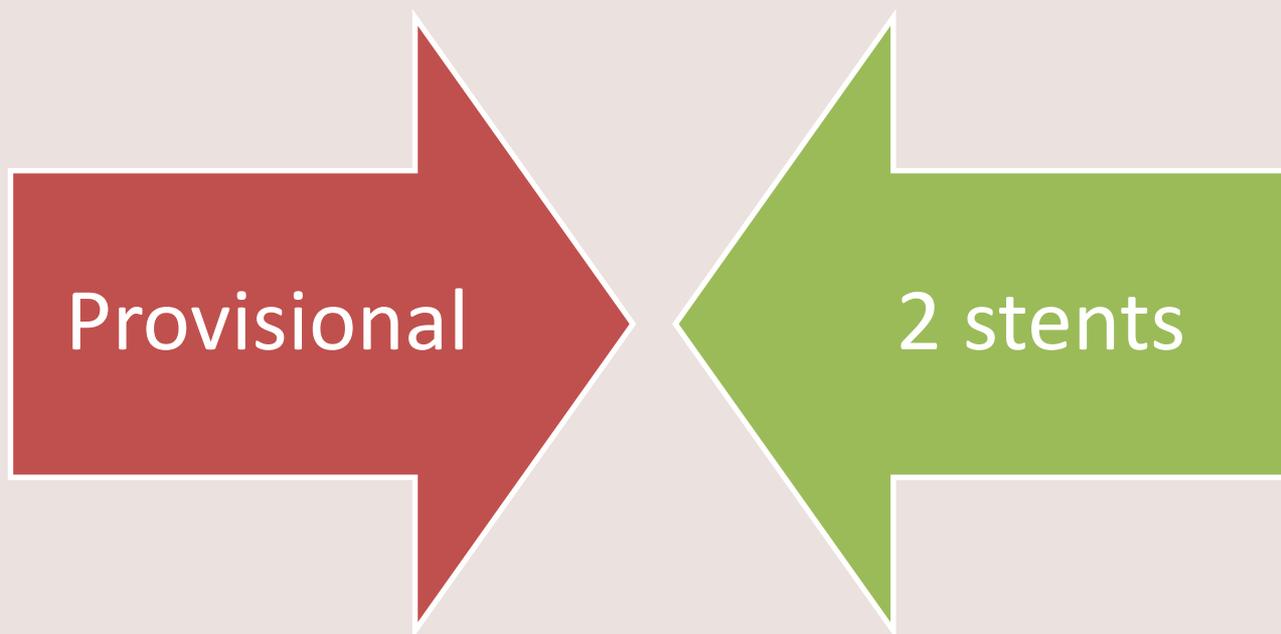
Shao-Liang Chen, MD,* Bo Xu, MBBS,† Ya-Ling Han, MD,‡ Imad Sheiban, MD,§ Jun-Jie Zhang, MD,* Fei Ye, MD,* Tak W. Kwan, MD,|| Chitprapai Paiboon, MD,¶ Yu-Jie Zhou, MD,# Shu-Zheng Lv, MD,# George D. Dangas, MD,** Ya-Wei Xu, MD,†† Shang-Yu Wen, MD,‡‡ Lang Hong, MD,§§ Rui-Yan Zhang, MD,||| Hai-Chang Wang, MD,¶¶ Tie-Ming Jiang, MD,## Yan Wang, MD,*** Fang Chen, MD,** Zu-Yi Yuan, MD,††† Wei-Min Li, MD,‡‡‡ Martin B. Leon, MD,§§§



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The European Bifurcation Club Left Main Study (EBC MAIN)





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No conclusive data in Medina 1,1,1

“Probably” 1 fits all is not the preferred strategy
increasing risk of ST

“Probably” a tailored approach is the best one
(exploiting the DEFINITION criteria)

After EBC main will be eliminate “Probably”?



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