An Overview of BTK Outcomes

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Disclosure

Speaker name: Marianne Brodmann

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I have the following potential conflicts of interest to report:

- ☐ Consulting
- ☐ Employment in industry
- ☐ Stockholder of a healthcare company
- ☐ Owner of a healthcare company
- ☐ Other(s)

☐ I do not have any potential conflict of interest

Level 1 Evidence From BTK RCTs

Surgical vs. PTA	BMS vs. PTA	DES vs. PTA or BMS	DCB vs. PTA or DES
BASIL	Expand	ACHILLES	DEBATE-BTK
	InPeria II	DESTINY	IN.PACT DEEP
		YUKON-BTK	BIOLUX PII
		PADI	IDEAS
			LUTONIX BTK

Overview

- Lutonix IDE BTK began 2012
- This presentation summarizes the level 1 RCT data comparisons to surgery, BMS, DES, and DCB that was known at the time of study start and during enrollment period

Surgical (VB) vs. PTA

Trial	Inclusion Criteria (IC)	Primary Endpoint	Key Characteristics	Main Results & Conclusion
BASIL [1] (Multicenter RCT-UK, n=104, 5y FU)	• Severe leg ischemia (ischemic rest pain and/or tissue loss of presumed arterial etiology for> 2w)	• AFS (Amputation Free Survival)	• Age: 76y • 46% Diabetics • CKD: 34% (VB) vs. 15% (PTA), p=.007 • 84% tissue loss • Lesion length / %CLI: not reported (NR)	• Time to cessation of rest pain (p = .005) clinically favor VB first • Median length of index hospital admission significantly greater in the VB than in the PBA group (18 vs. 10 days, p < .0001) -cost favor PTA first • Time to AFS / death / reintervention / healing were not significantly different between VB and POBA **Conclusions: Confirmed the need for further RCT, like BASIL-2 / BEST-CLI, to compare clinical and cost effectiveness.**

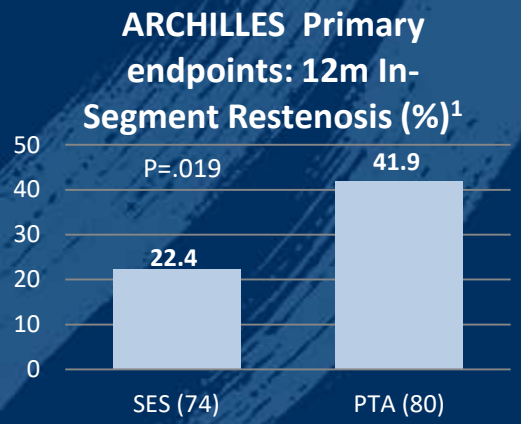
BMS vs. PTA

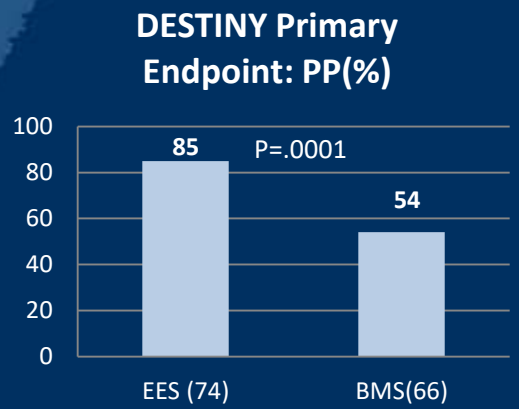
Trial	Study Design	Primary Endpoint	Key IC	Key Characteristics	Results	Conclusion
EXPAND Study[2]	• Multicenter • RCT • Open label • n=92	• 12m sustained clinical improvement* (SCI)	• CLI or RC 3-5 • Total LL ≤ 190mm	• Age 73y • 69% diabetes • 64% CLI • Mean LL at 37mm	• SCI/KM- freedom from TLR / mortality / amputation were not significant different between BMS and PTA at 12m	• Primary self-expanding nitinol stenting did not show statistically different clinical outcomes compared to angioplasty with bailout stenting for infrapopliteal (IP) lesions
InPeria II Trial[3]	• Multicenter • RCT • n=88	• clinical improvement and limb salvage rate at 3 & 9m	• CLI (RC 4-5), LL 1-45mm	• Age 72y • 77.6% diabetes • 23.5% CTO • Mean LL 20.88 mm	• **3m FU**: favor stent group with better clinical improvement (81.8% vs.62.5%, p=.008) • **9m FU**: stent clinical effect not sustained (47.4% vs. 58.3%) • No significant differences in restenosis (%DS) / TLR / amputation between stent and PTA	• Stent is an effective treatment modality in IP-CLI. The PTA and stent were essentially equal at 3 and 9 months except for the difference in clinical improvement in the stent group at 3 months

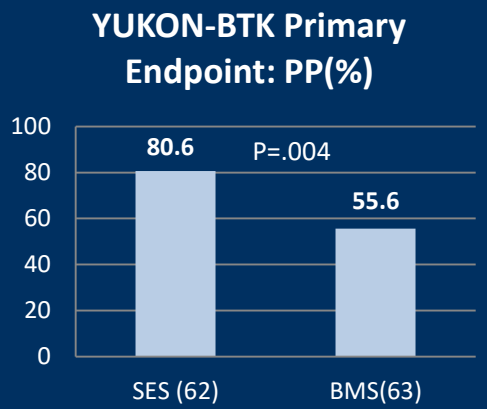
Key Characteristics of IP-DES RCT

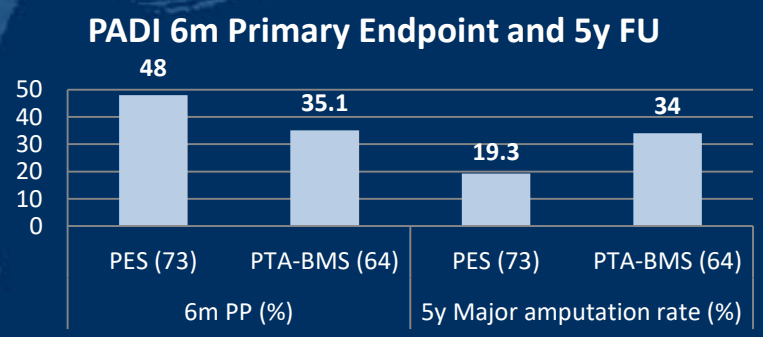
Trial	Study Design	Primary Endpoint	DES	Key IC / EC
ACHILLES (n=200)	• Multicenter – EU	• 12m in–segment restenosis	• Cypher Select (SES)	• IC: RC 3-5, max of 2 TL / pts, 2 vessels / limb, 1 TL / vessel, total LL ≤ 120mm • EC: lesion at bif. required stent placement across or within 1 cm of the knee joint or in an artery subject to external compression or movement of the ankle or knee joint
DESTINY (n=140)	• Multicenter – EU • Single – blind	• 12m Primary Patency (PP)	• Xience V (EES)	• IC: RC 4-5, max 2TL, LL ≤ 40mm
YUKON BTK (n=161)	• Multicenter • Double – blind	• 12m PP	• Polymer-free SES	• IC: RC 3-5 or selected RC2, single IP lesion and LL ≤ 45mm
PADI (n=137)	• Multicenter Netherlands • Non – blind	• 6m PP	• TAXUS Liberte (PES)	• IC: RC ≥ 4, max 3 lesions / limb, LL ≤ 90mm • EC: severely calcified lesions wt expected resistance to stenting

DES vs. PTA or BMS for BTK-CLI









Summary: DES yielded higher PP and less restenosis at 6m & 1y compared to PTA or BMS, and better long term clinical outcomes with less amputations. The limitation & disadvantage were short treated lesion (mean LL from 4 BTK-CLI trials ≤ 30mm); ISR lesion & lesion across joint excluded

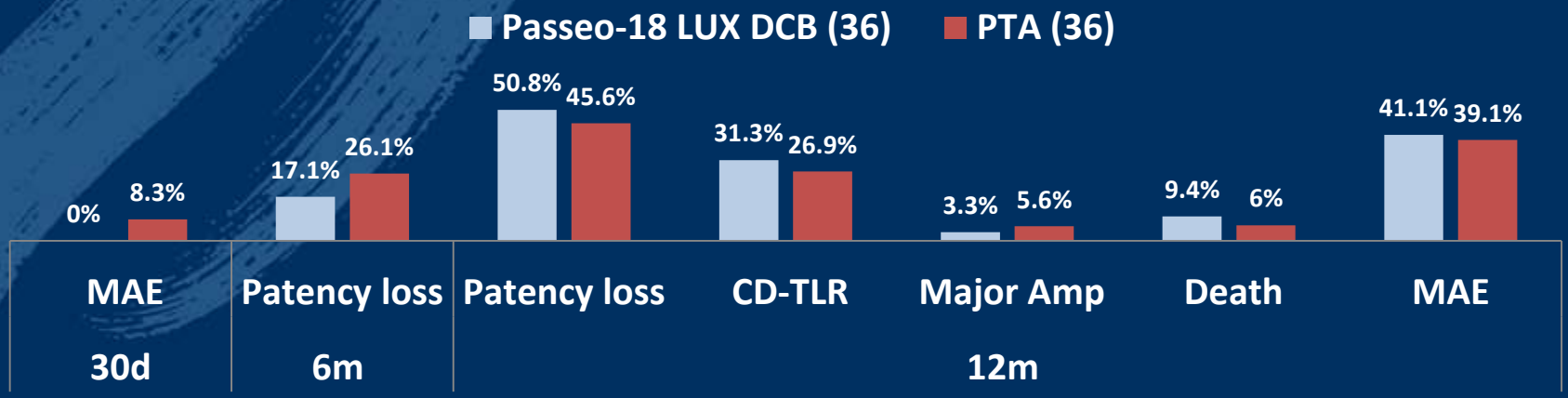
[1].Katsanos KN, JACC 2011;[5].Bosiers M, J Vasc Surg. 2012;[6.] Rastan A Interv. Cardiol 2011; [7,8].Spreen MI J Circ Cardiovasc Interv 2016 & J AHA 2017.

Key Characteristics of BTK-DCB RCT

Trial	DCB	Study Design	Primary Endpoints	Key IC / EC
BIOLUX-II n=72	Passeo-18 Lux	• Multicenter – international • Open label	• 30d MAE • 6m PP	• IC: single or sequential lesion in IPA ≥ 30mm and not Max 2 vessels to be treated • EC: stented lesion, lesion extending beyond the ankle joint
DEBATE BTK n=156	In.PACT Amphirion (IA)	• Single center • Open label	• 12m restenosis rate	• IC: diabetes with CLI, LL ≥ 40mm
In.PACT DEEP n=358	In.PACT Amphirion (IA)	• Multicenter • Single blind	• 12m CD-TLR / LLL • 6m MAE	• IC: CLI, single or multi lesions of different lengths • EC: stented lesion, lesion extending beyond the ankle joint
IDEAS n=50	In.PACT Amphirion (IA)	• Single center • Single blind	• 6m restenosis rate	• IC: RC ≥ 3, single lesion ≥ 70mm (max. 2 arteries) • EC: below the ankle arterial occlusion

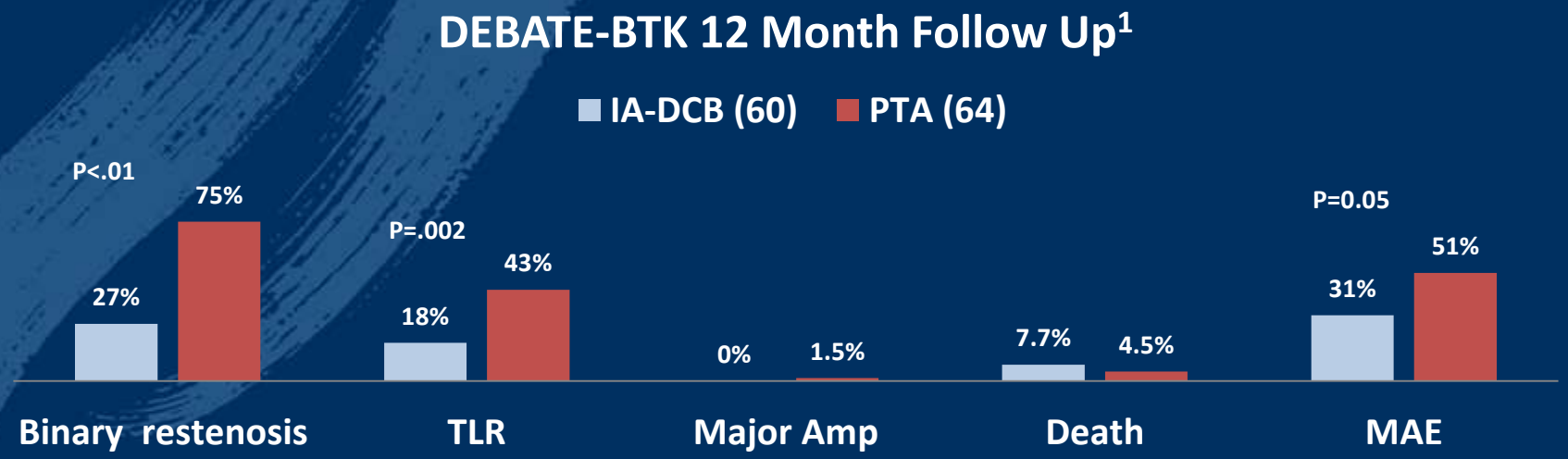
DCB vs. PTA (1)

BIOLUX-II Primary End Point and 12 Month Follow Up[9]



RESULTS / CONCLUSION: No significant difference between DCB vs. PTA on primary endpoints. DCB group showed positive trends with less 30d MAE, less 6m patency loss and less 12m major amputation; and negative trends with more patency loss/ CD-TLR/ death /MAE by 12m

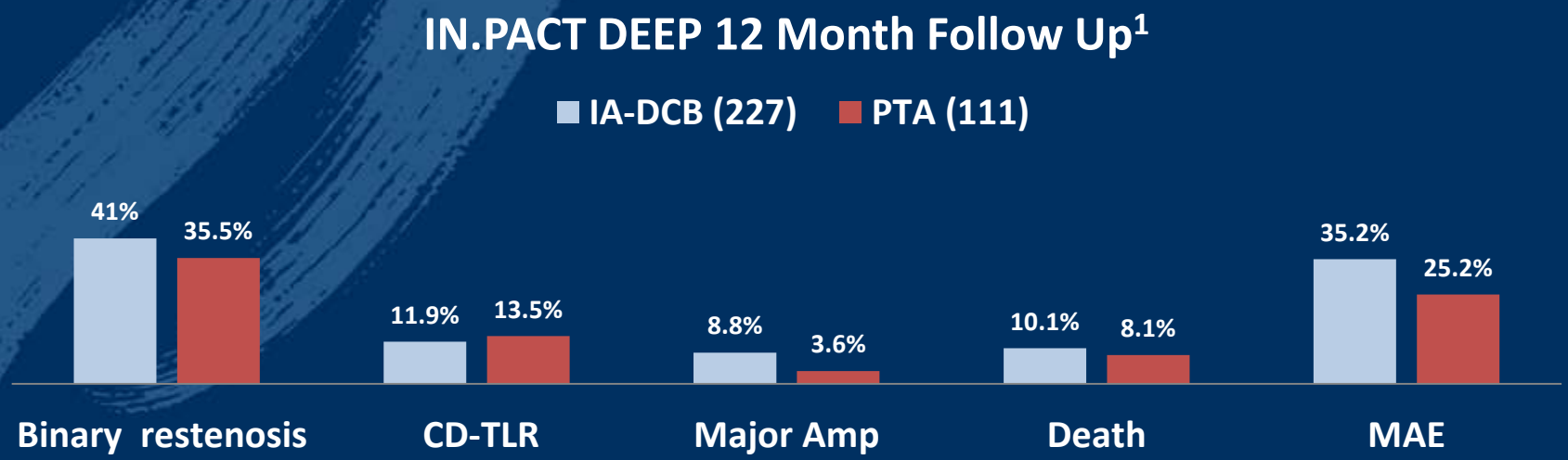
DCB vs. PTA (2)



RESULTS / CONCLUSION: DCB, as compared to PTA, reduce 1y restenosis / TLR in diabetic patients with CLI; with no major amputation and less MAE. The only negative trend was higher death rate in DCB group

[1] Liistro F Circulation 2013

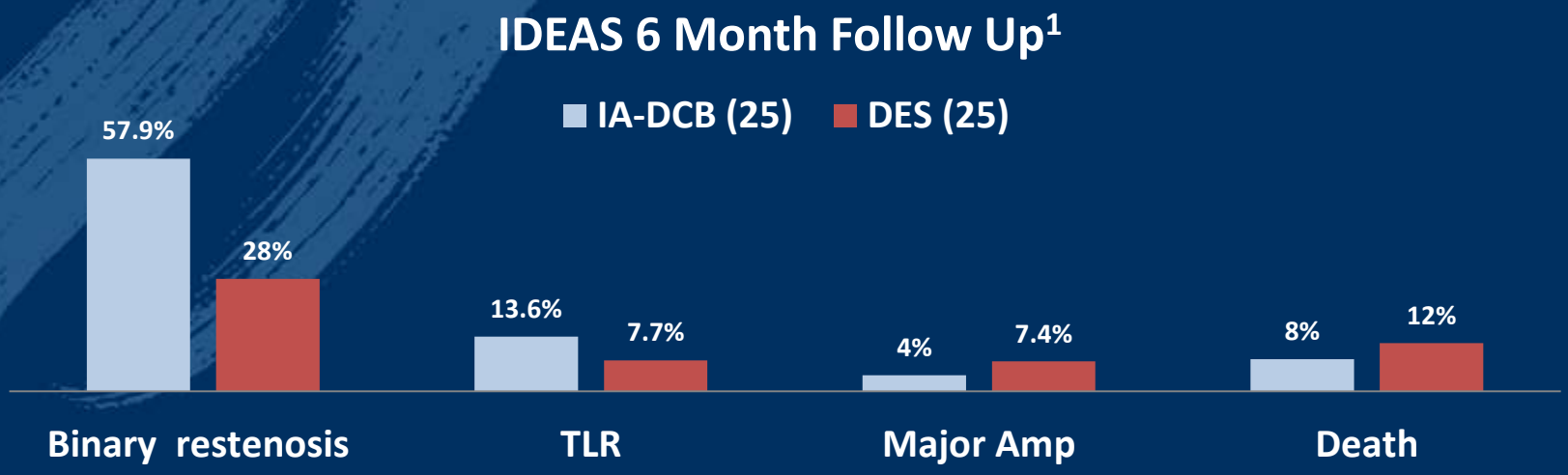
DCB vs. PTA (3)



RESULTS / CONCLUSION: In patients with CLI, IA-DCB met 6m primary safety endpoint, and had comparable primary efficacy (CD-TLR/LLL) to PTA at 12m. However, there was a trend of increased major amputation / restenosis / MAE / death rate through 12m in DCB group

[1] Zeller T, JACC 2014

DCB vs. DES



RESULTS / CONCLUSION: In this singe center and small sample size study, IA-DCB failed to reduce binary angiographic restenosis / TLR, with a positive trend of lower major amputation and death rate

[1] Siablis D, JACC 2014

What Did We Know When We Started The BTK IDE?

- DCB compared to PTA or BMS for CLI patients with long lesion seems promising, but more, larger high-quality RCTs are needed to assess the clinical benefits of DCB technology
- Formulation safety is essential for CLI patients

An Overview of BTK Outcomes

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