1 year results of the COMPARE Trial

High vs. low dose paclitaxel DCB for femoropopliteal interventions

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Disclosure

Speaker name:

Sabine Steiner

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): Bayer, C.R. Bard

☐ **I do not have any potential conflict of interest**

COMPARE RCT: Study Overview

Objective	To compare high dose vs. low dose paclitaxel coated balloons in the treatment of high grade stenotic or occluded lesions in SFA and/or PPA in PAD patients with Rutherford class 2-4
PI	Dierk Scheinert, MD; University of Leipzig
Investigational Device	**Low dose DCB: Ranger™** Paclitaxel Dose: 2.0µg/mm^2 Excipient: Citrate ester
Control Device	**High dose DCB: IN.PACT Admiral™/IN.PACT Pacific™** Paclitaxel Dose: 3.5 µg/mm^2 Excipient: Urea
Study Design	➢ Investigator-initiated, prospective, multicentre, non-inferiority trial ➢ 414 patients undergoing 1:1 randomization ➢ Stratification according to lesion length ➢ Independent monitoring with 100% source data verification ➢ Independent corelab for angio and duplex ➢ Clinical events committee
Role of the funding source	➢ Study sponsor: University of Leipzig ➢ Funding through a research grant from Boston Scientific ➢ Funding source not involved in collecting, monitoring and analyzing study data; no access to manuscript review

Study Sites


Steffen Brucks, MD
Klaus Brechtel, MD
Henrik Schröder, MD
Wulf Euringerg, MD
Ralf Langhoff, MD
Matthias Ulrich, MD
Lars Maiwald MD
Johannes Schuster, MD
Prof. Scheinert
Norbert Weiss, Prof.
Sebastian Schellong, MD
Marcus Thieme, MD -
Erwin Blessing, MD -
Gunnar Tepe, MD
Thomas Zeller, MD -

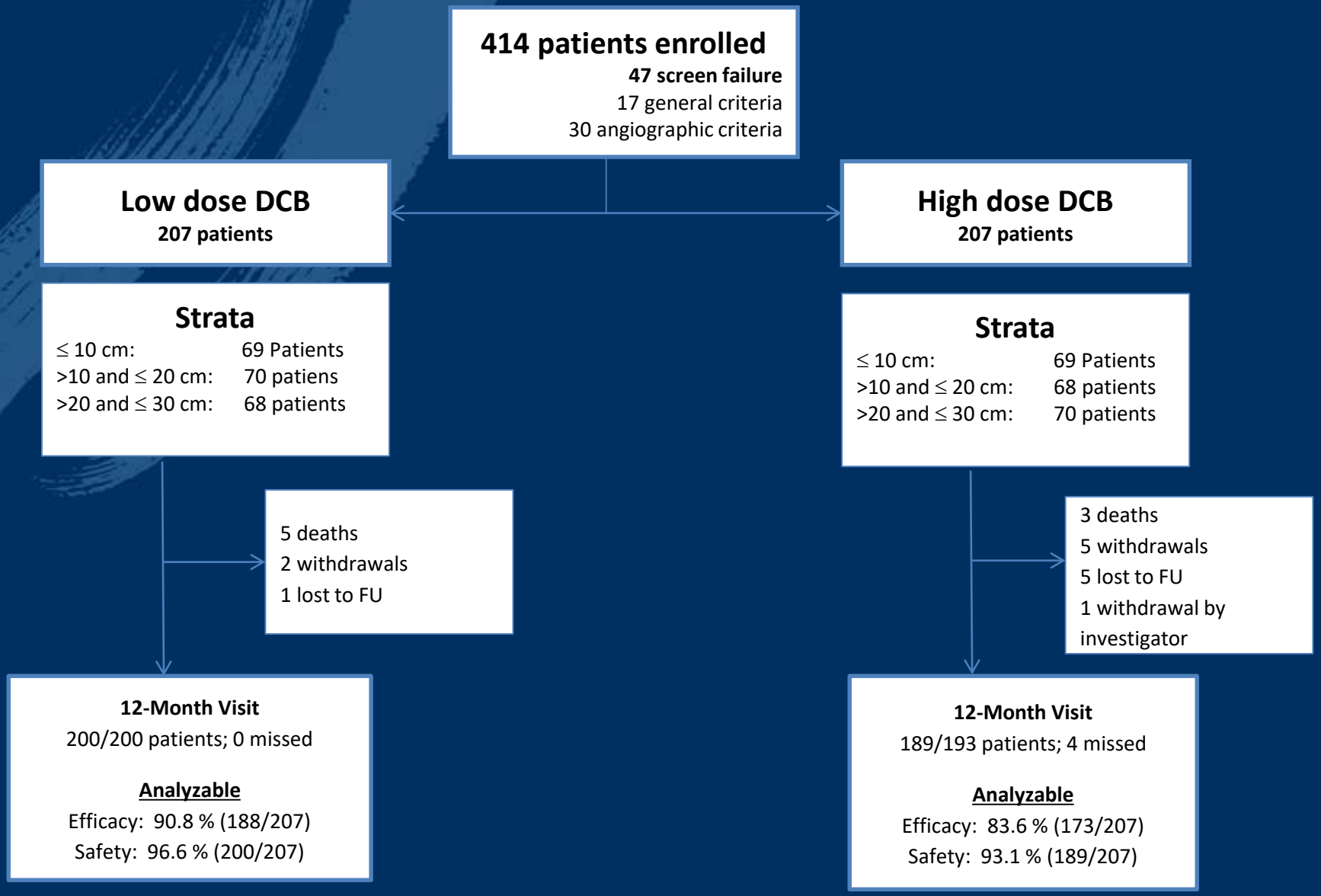
COMPARE RCT: Study endpoints and follow-up

Primary efficacy endpoint	**Primary patency at 12 months** Defined absence of clinically driven TLR or restenosis with PVR > 2.4 evaluated by Duplex Ultrasound) Non-inferiority margin: -10%
Primary safety endpoint	**Freedom from major adverse events at 12 months** Defined as device and procedure-related deaths through 1 month, major amputations and clinically driven target lesion revascularization through 12 months Non-inferiority margin: -10%
Follow-up	In-house visits: 6, 12, 24 months (efficacy and safety) Telephone calls: 1 month, 36, 48, 60 months (safety)

Key In- and Exclusion criteria

- Symptomatic PAD Rutherford 2-4
- Stenosis (>70%) or occlusion of the SFA or proximal popliteal artery
- De-novo or restenotic lesions (no ISR)
- Reference vessel diameter (RVD) ≥ 4 mm and ≤ 6.5 mm Lesion length up to 30 cm; Stratification in 3 groups:
  - </=10 cm
  - >10cm and </=20cm
  - >20cm and </=30cm
- At least one patent BTK outflow vessel to the foot
- No alternative therapies allowed (including atherectomy, laser, debulking devices)

Patient flow diagram



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COMPARE RCT: Patient characteristics

	Low dose DCB (n=207)	High dose DCB (n=207)	P value
Age (yrs)	68.2 ± 10.0	68.4 ± 9.3	0.79
Female gender	79 (38.2)	75 (36.2)	0.68
BMI (kg/m^2)	26.9 ± 4.6	27.3 ± 4.5	0.38
BMI ≥ 30 kg/m^2	44 (21.3)	51 (24.6)	0.48
Rutherford class (RC)			0.56
2	23 (11.1)	31 (15)	
3	174 (84.1)	163 (78.7)	
4	7 (3.4)	10 (4.8)	
5	3 (1.5)	3 (1.5)	
Hypertension	180 (87)	188 (90.8)	0.21
Hyperlipidemia	147 (71)	146 (70.5)	0.91
Diabetes mellitus	63 (30.6)	76 (36.9)	0.18
Smoking			0.63
Never	47 (22.7)	51 (24.8)	
Former	65 (31.4)	56 (27.2)	
Current	95 (45.9)	99 (48.1)	
Coronary artery disease	62 (30)	54 (26.1)	0.37
Cerebrovascular disease	29 (14)	24 (11.6)	0.46
Renal insufficiency	43 (20.8)	45 (21.7)	0.59

Data are given as mean±std or number (%).

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COMPARE RCT: Lesion characteristics

	Low dose DCB (n=207)	High dose DCB (n=207)	P value
Lesion length (mm)	123.9±97.8	128.3±97.3	0.65
RVD (mm)	4.8±0.6	4.9±0.7	0.66
Diameter stenosis pre-procedure (%)	84.2±16.9	84.2±17.2	0.99
Total occlusions	84 (40.6)	89 (43)	0.62
Length (mm)	130.6±92.4	113.3±95.2	0.23
Calcification according to PACSS (n=409*)			0.20
Grade 0	19 (9.3)	25 (12.2)	
Grade 1	79 (38.7)	58 (28.3)	
Grade 2	3 (1.5)	5 (2.4)	
Grade 3	67 (32.8)	82 (40)	
Grade 4	38 (17.7)	35 (17.1)	
Patent run off vessels (n=389*)			0.89
0	16 (8.2)	12 (6.2)	
1	59 (30.3)	59 (30.4)	
2	71 (36.4)	72 (37.1)	
3	49 (25.1)	51 (26.3)	

Data are given as mean±std or number (%). * Number of lesions, which could be adjudicated by the core lab for this variable.

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COMPARE RCT: Procedural data

	Low dose DCB (n=207)	High dose DCB (n=207)	P value
Total paclitaxel dose (µg)	6971±4026	13035±7483	<0.0001
Predilatation performed	150 (72.5)	146 (70.5)	0.66
Postdilatation performed	79 (38.2)	97 (46.9)	0.07
Bail-out stenting, all lesions	62 (30.0)	53 (25.6)	0.32
Short lesions (n=138)	7 (10.1)	11 (15.9)	0.31
Middle lesions (n=138)	19 (27.1)	14 (20.6)	0.37
Long lesions (n=138)	36 (52.9)	28 (40)	0.13
Dissections post-procedure*			0.61
None, Type A/B	140 (68.3)	129 (63.6)	
Type C	19 (9.3)	20 (9.9)	
Tpye D	42 (20.5)	52 (25.6)	
Type E	4 (2.0)	2 (1)	
Type F	0 (0)	0 (0)	
Diameter stenosis post procedure (%)	26.4±12.5	26.1±12.5	0.8
Residual stenosis ≥ 30%	74 (35.8)	81 (39.1)	0.48
Ipsilateral embolic event	5 (2.4)	3 (1.5)	0.48

Data are given as mean±std or number (%). * N=408; Number of lesions, which could be adjudicated by the core lab for this variable.

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Primary endpoint analysis at 12 months

Efficacy: Primary patency

DCB		Δ	
Low dose	High dose	(two-sided 90% lower bound)	$P_{non\text{-}inferiority}$
83% (156/188)	81.5% (141/173)	1.5% (-5.2%)	<0.01

Primary endpoint for non-inferiority met

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Primary endpoint analysis at 12 months

Efficacy: Primary patency

DCB		Δ (two-sided 90% lower bound)	$P_{non\text{-}inferiority}$
Low dose	High dose		
83% (156/188)	81.5% (141/173)	1.5% (-5.2%)	<0.01

Primary endpoint for non-inferiority met

Safety: Freedom from MAE

DCB		Δ (two-sided 90% lower bound)	$P_{non\text{-}inferiority}$
Low dose	High dose		
91% (182/200)	92.6% (175/189)	-1.6% (-6.5%)	<0.01

Primary endpoint for non-inferiority met

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Secondary endpoints

	Low dose DCB (n=207)	High dose DCB (n=207)	P value§
All-cause mortality	2.5% (5/202)	1.6% (3/191)	0.73
Device or procedure-related death	0	0	
Clinically driven TLR	9.0% (18/200)	7.4 % (14/189)	0.59
All TLR*	9.5% (19/200)	7.4 % (14/189)	0.47
Target vessel revascularization	11.5% (23/200)	7.9% (15/189)	0.31
Primary sustained clinical improvement†	79% (147/186)	82.8% (140/169)	0.42
Haemodynamic improvement‡	78.7% (140/178)	84.1% (137/163)	0.21

Data are percentage (n/N).
*Includes clinically-driven TLR and duplex-driven/incidental TLR.
† Defined as improvement in Rutherford classification by one or more categories compared with baseline, without TRL.
‡ Defined as an increase in the ankle-brachial index by ≥0·10 compared with baseline or to an ankle-brachial index ≥0·90, without TLR.
§ P-values based on superiority tests (Fisher's-exact test).

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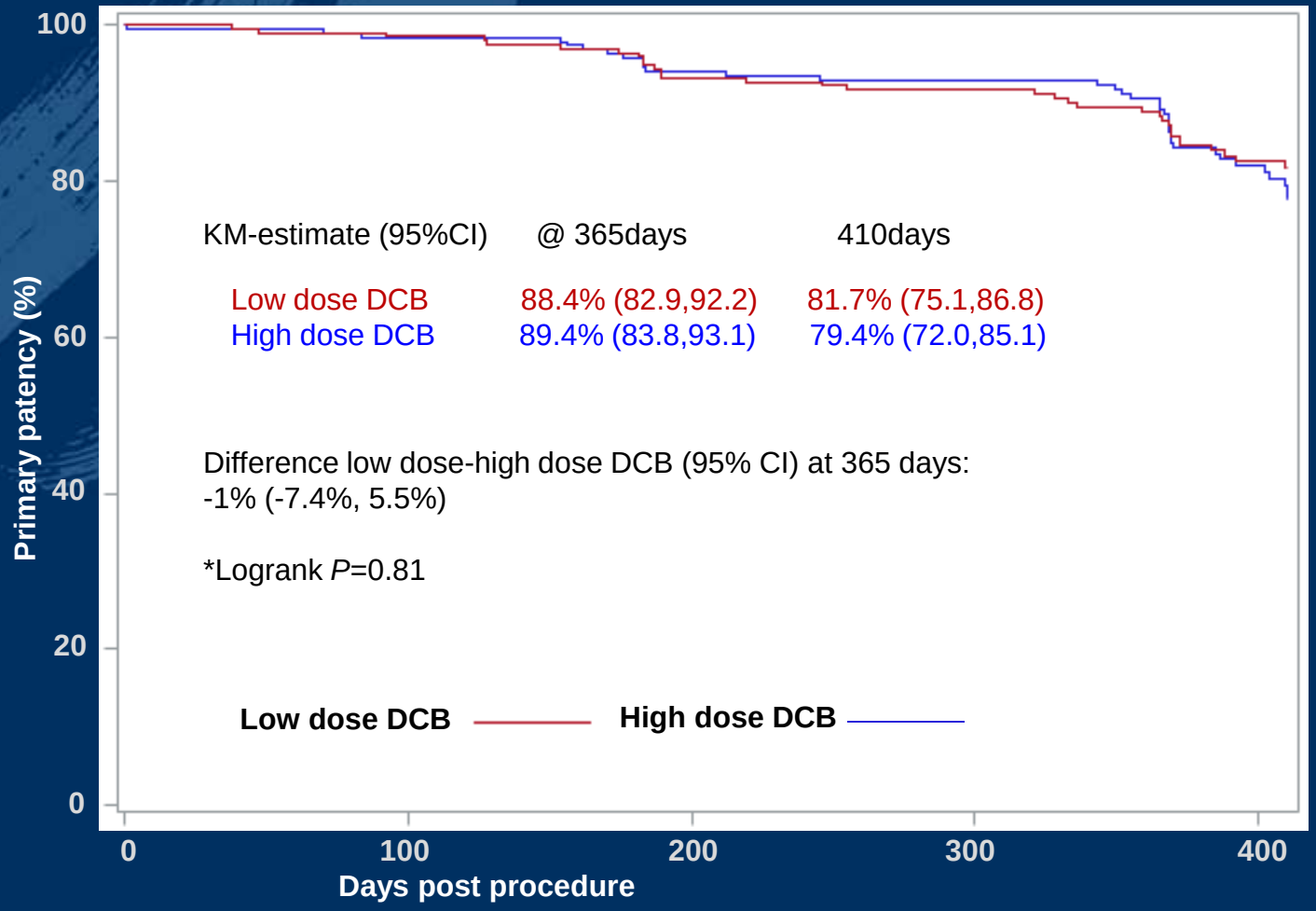
Survival analysis: Primary patency



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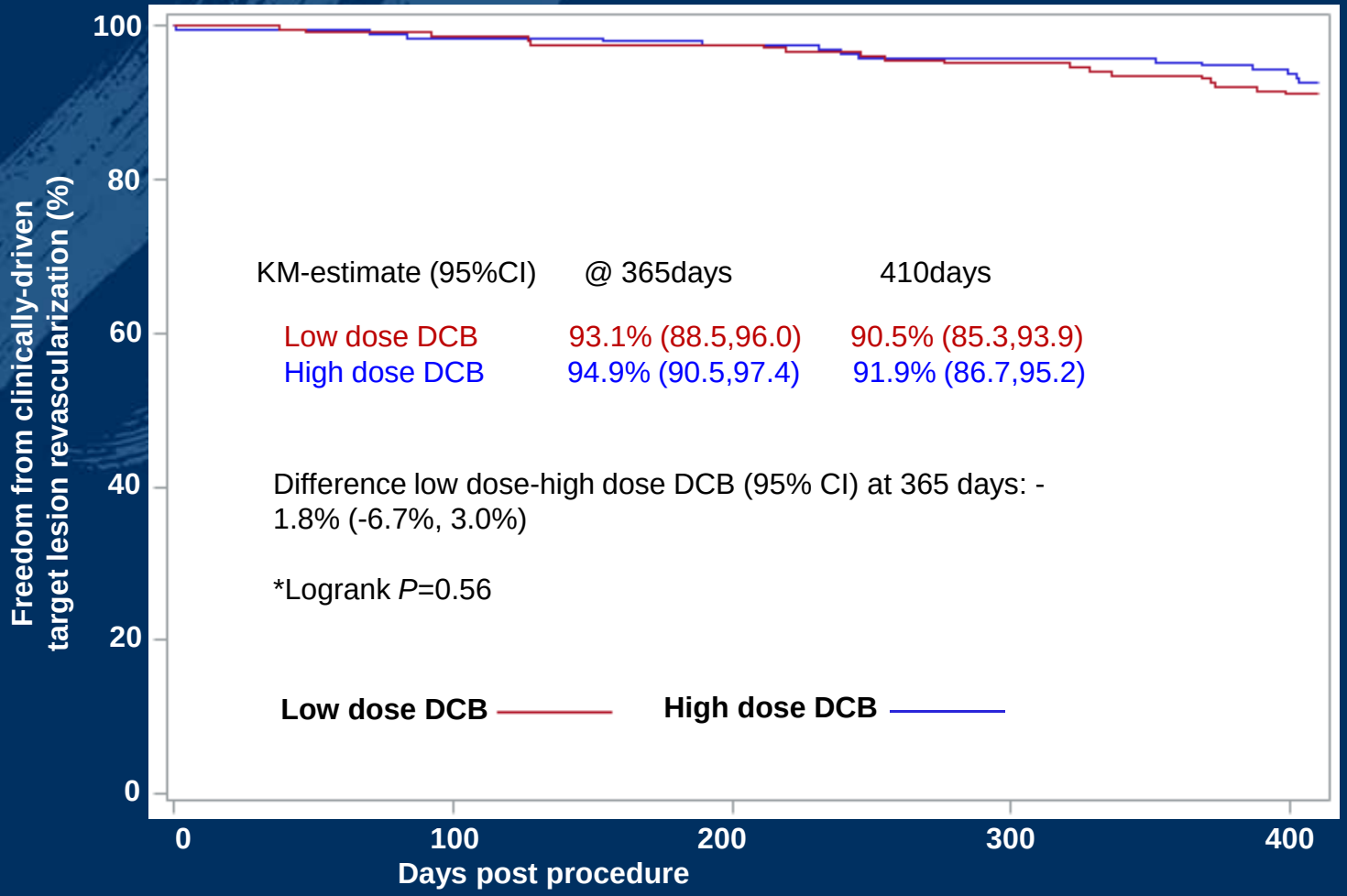
Survival analysis: Freedom from CD-TLR



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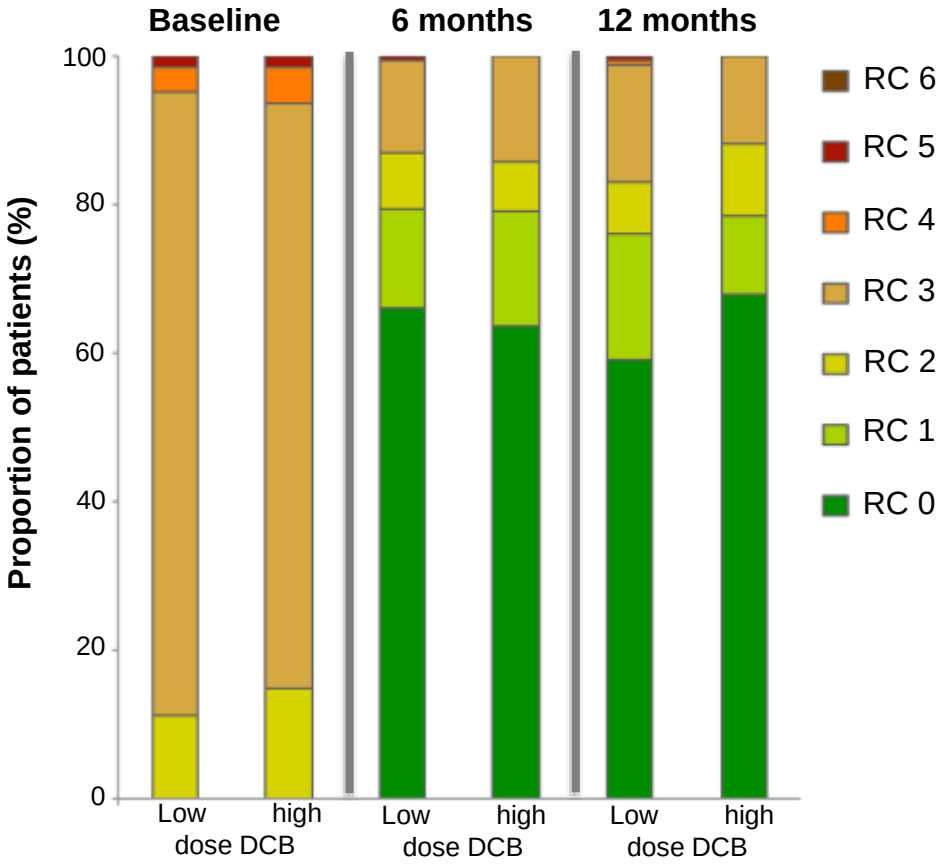
Distribution of Rutherford category classification



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Summary

- First head-to-head comparison of two DCBs with different paclitaxel dosages and coating technologies for femoropopliteal interventions
- Complex real world lesion subset with high proportion of CTO`s >40%
- Low dose DCB (Ranger 2.0µg/mm^2) and high dose DCB (IN.PACT 3.5µg/mm^2) showing both excellent primary patency and low TLR rates; primary endpoints for non-inferiority met
- Low mortality after 1 year; Follow-up ongoing up to 5 years

ESC European Society of Cardiology

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FASTTRACK CLINICAL RESEARCH
Vascular medicine

COMPARE: prospective, randomized, non-inferiority trial of high- vs. low-dose paclitaxel drug-coated balloons for femoropopliteal interventions

Sabine Steiner [1], Andrej Schmidt [1], Thomas Zeller[2], Gunnar Tepe[3], Marcus Thieme[4], Lars Maiwald[5], Henrik Schröder[6], Wulf Euringer[7], Matthias Ulrich[8], Klaus Brechtel[9], Steffen Brucks[10], Erwin Blessing[11], Johannes Schuster[12], Ralf Langhoff[13], Sebastian Schellong[14], Norbert Weiss[15], and Dierk Scheinert[1]*

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