Twenty-four months outcomes of patients presenting with critical limb ischemia within the BIOLUX P-III registry – a real-world clinical trial treating atherosclerotic arteries with a paclitaxel covered balloon

Prof. Dr. Marianne Brodmann,

Medizinische Universtität Graz, Austria

Principal investigator on behalf of the BIOLUX P-III Investigators

Disclosure

Speaker name: Prof. Dr. Marianne Brodmann

.....

I have the following potential conflicts of interest to report:

☒ Consulting

Medtronic, BD BARD, Spectranetics, Intact Vascular, Soundbite Medical, Biotronik, Bayer, Daiichi Sankyo, Böhringer Ingelheim, Astra Zeneca

Passeo-18 Lux Paclitaxel-Coated Balloon

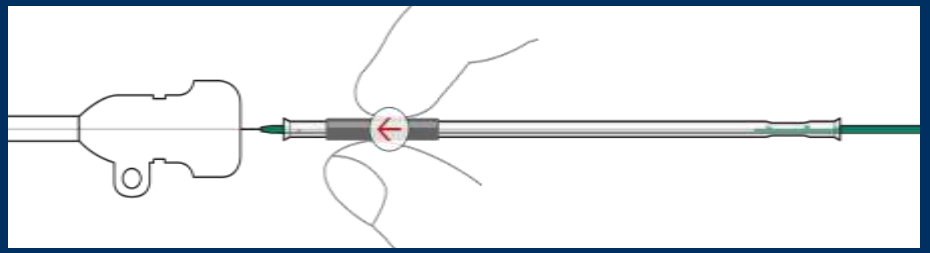
Passeo-18 balloon Platform

Controlled compliance
Low profile
Highly deliverable

Paclitaxel	3 µg/mm2
Excipient	BTHC (Butyryl-tri-hexyl citrate), Hydrophobic
Sizes available	2.0 – 7.0 mm diameter 40-80-120 mm length

SAFE GUARD Insertion Aid

- Protects the user and coating from contact and damage
- Reduces drug loss due to friction within the introducer sheath
- Pre-mounted on the balloon and does not require any preparation prior to use



Medizinische Universität Graz

BIOLUX P-III Study Design

DESIGN	Prospective, global, multi-centre, real world All-Comers registry
STUDY GOALS	Further investigate Passeo-18 Lux DCB efficacy and safety in infra-inguinal arteries, in a real world environment
PRIMARY ENDPOINTS	Freedom from MAE[1] at 6 months Freedom from CD-TLR[2] at 12 months
INCLUSION CRITERIA	Lesion(s) in the infra-inguinal arteries suitable for endovascular intervention, treated with or scheduled to be treated with the Passeo-18 Lux drug coated balloon
EXCLUSION CRITERIA	Failure to successfully cross the target lesion with a guide wire

BIOLUX P-III is the only real world registry in infra-inguinal arteries

No patient characteristic limitations

No lesion characteristic limitations

Use of additional devices allowed

47 sites, 16 countries (EU, Australia, Asia)

(1) Major Adverse Event : Composite of device and procedure related mortality through 30 days, major target limb amputation and clinically driven target lesion revascularization (TLR). MAE are adjudicated by an independent Clinical Events Committee

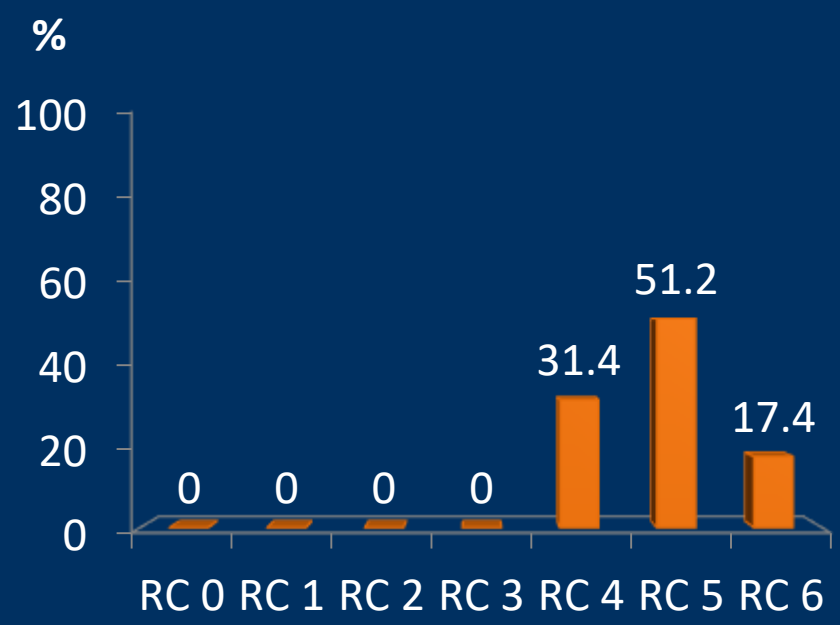
(2) Clinically driven TLR is any re-intervention performed for ≥50% diameter stenosis (visual estimate) at the target lesion after documentation of recurrent clinical symptoms of the patient

Medizinische Universität Graz

Baseline Details BIOLUX PIII

Critical Limb Ischemia (CLI)

# Subjects	N = 328
Age, yrs (mean ± SD)	71.1 ± 10.6
Male (n, %)	200 (61.0%)
Hypertension (n, %)	284 (86.6%)
Hyperlipidemia (n, %)	201 (61.3%)
Smoking history (n, %)	186 (56.7%)
Current Smokers	*74 (39.8%)*
History of PAOD (n, %)	173 (52.7%)
Previous PVI /Surgeries (n, %)	156 (47.6%)
Diabetes (n, %)	200 (61.0%)
Coronary Artery Disease (n, %)	144 (43.9%)
Cerebrovascular Disease (n, %)	71 (21.6%)
Renal Disease (n, %)	144 (43.9%)
ABI target limb (mean± SD)	0.64 ± 0.26
Cancer	38 (11.6%)



Rutherford Classification

Medizinische Universität Graz

Lesion Characteristics BIOLUX PIII CLI

Lesion Characteristics	N=422
Lesion Length, mm (mean ± SD)	81.5 ± 65.7
Reference Vessel Diameter, mm (mean ± SD)	4.3 ± 1.2
Diameter Stenosis (%)	87.5 ± 13.0
De novo Lesion (n, %)	220 (52.1%)
Occlusion (n, %)	114 (27.9%)
In Stent Restenosis (n, %)	42 (10.0%)
Re-Stenosis (n, %)	46 (10.9%)
Calcification (n, %)	
None	88 (20.9%)
Mild	144 (34.1%)
Moderate	130 (30.8%)
Heavy	60 (14.2%)
TASC Classification (n=1072,%)	
A	144 (34.4%)
B	118 (28.2%)
C	79 (18.9%)
D	78 (18.6%)

Lesion Location	N (%)
Iliac	1 (0.2)
Common femoral	3 (0.7)
SFA	180 (42.7)
Popliteal artery	109 (25.8)
Other fem-pop	6 (1.4)
ATA	49 (11.6)
PTA	28 (6.6)
Tibioperoneal trunc	15 (3.6)
Peroneal artery	22 (5.2)
Dorsalis Pedis	1 (0.2)
Other BTK	4 (0.9)
Other (bypass)	4 (0.9)

- **79.1% of lesions calcified**
- **45% moderate to heavy calcified lesions**
- **37.5% lesions are TASC C/D**
- **28.1% BTK lesions**

Medizinische Universität Graz

Procedure Details BIOLUX PIII CLI

Vessel Preparation	74.4% (314/422)
Pre-dilation	85.5% (307/422)
Cutting/scoring balloon	5.8% (21/422)
Rotational thrombectomy	3.3% (12/422)
Atherectomy	3.9% (14/422)

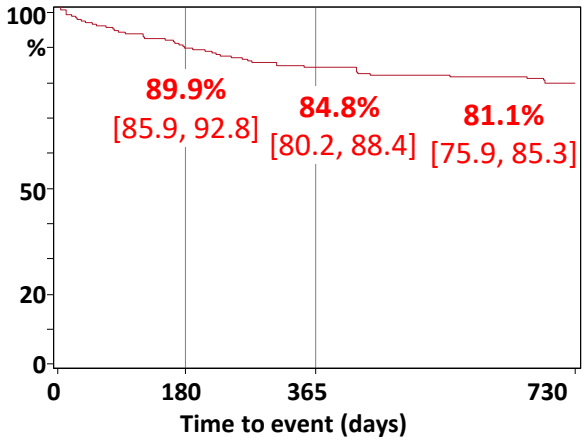
Technical success[1]	99.1% (418/422)
Bailout Stenting	11.8% (50/422)

(1) Technical success: Successful completion of the endovascular procedure and immediate morphological success with ≤ 50% residual diameter reduction of the treated lesion (visual estimation)

Medizinische Universität Graz

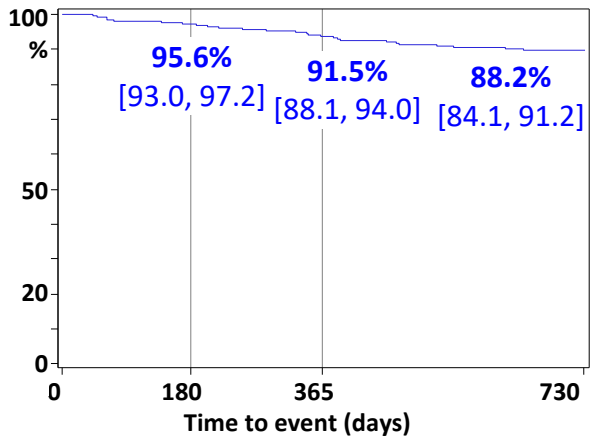
24 m outcomes BIOLUX PIII CLI

Freedom from major adverse events[1]



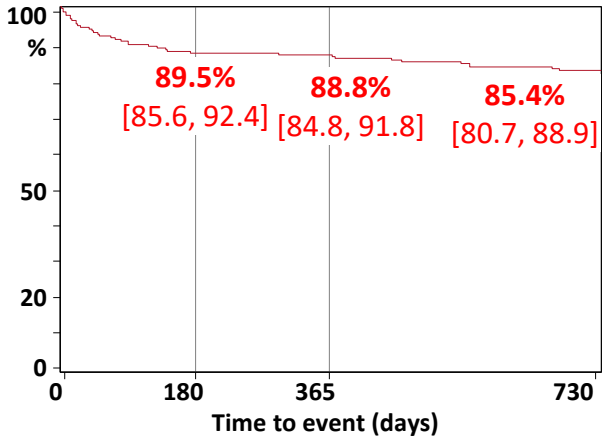
Patients (baseline: 328)	180 days	365 days	730 days
Left at risk	257	222	85
# Events	31	45	53

Freedom from clinically driven target lesion revascularization[2]



Lesions (baseline: 422)	180 days	365 days	730 days
Left at risk	342	294	109
# Events	17	31	40

Freedom from major target limb amputations



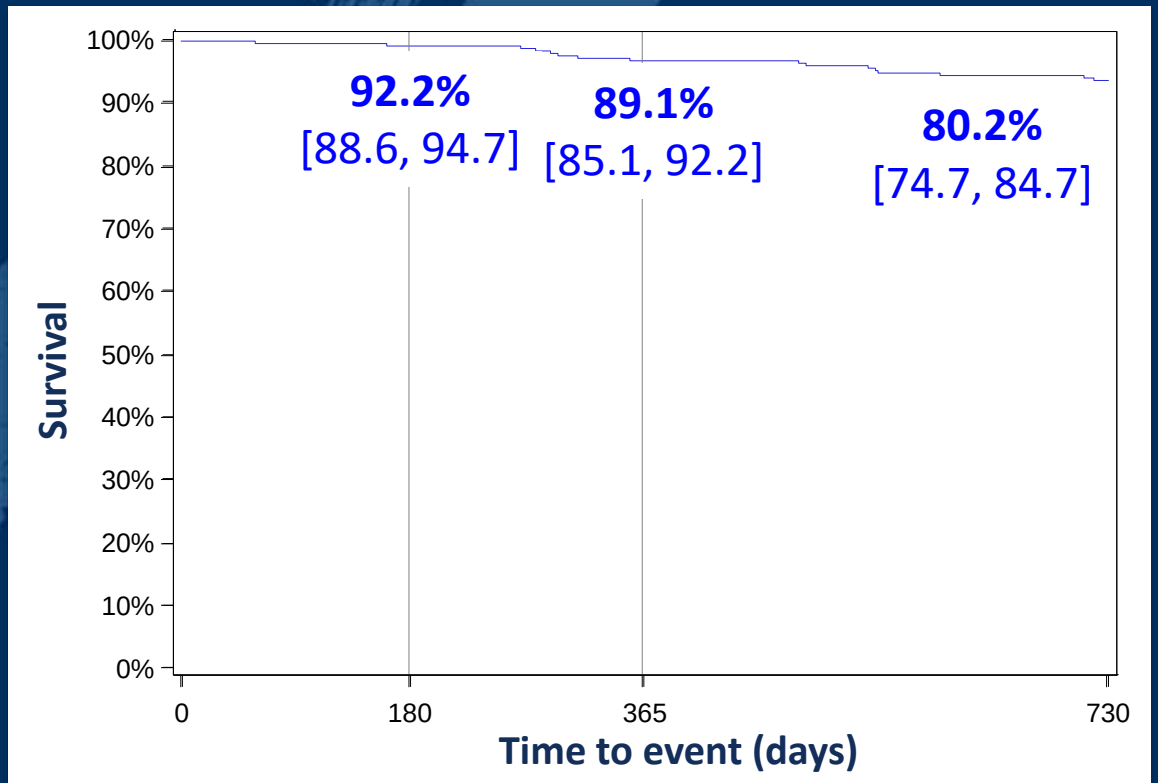
Limbs (baseline: 344)	180 days	365 days	730 days
Left at risk	269	242	91
# Events	34	36	44

(1) Major Adverse Event : Composite of device and procedure related mortality through 30 days, major target limb amputation and clinically driven target lesion revascularization (TLR). MAE are adjudicated by an independent Clinical Events Committee (CEC)

(2) Any re-intervention performed for ≥ 50% diameter stenosis (visual estimate) at the target lesion after documentation of recurrent clinical symptoms of the patient adjudicated by an independent CEC

Medizinische Universität Graz

Mortality BIOLUX PIII CLI



Patients (baseline: 328)	180 days	365 days	730 days
Left at risk	277	251	98
# Events	24	33	53

Key Baseline Characteristics	
TASC C&D	37.5%
Diabetes patients	61.0%
Cancer	11.6%

⇒ Survival decreases approximately linearly with time

⇒ Slight decrease in mortality during the second year compared to the first year

Passeo-18 Lux Clinical Studies

Crude Mortality Rate

	12 months[1]	24 months[2]
BIOLUX P-I RCT (Fempop)	▪ Passeo-18 Lux: 0% ▪ POBA : 6.7% (2/30)	NA
BIOLUX P-II (BTK)	▪ Passeo-18 Lux: (3/36) ▪ POBA: (2/36)	NA
BIOLUX P-III Full cohort	6.2% (54/878)	10.3% (90/878)
BIOLUX P-III SFA+P1	5.7% (34/593)	8.8% (52/593)
BIOLUX P-III BTK	8.6% (13/151)	17.2% (26/151)
BIOLUX P-III Non CLI	2.9% (13/451)	5.5% (25 / 451) [3.6; 8.1] %
BIOLUX P-III CLI	10.1% (33/328)	16.2% (53/328)

(1) 365 days – (2) 730 days

Medizinische Universität Graz

BIOLUX P-III CLI

Is dose a risk factor?

Cox regression: Mortality in BIOLUX P-III up to 730 days

Parameter	Standard Error	Chi-Square	p-value	Hazard Ratio
Paclitaxel Dose, mg	0.04123	0.0014	0.9700	0.998
Age, years	0.01393	11.6359	0.0006	1.049
Diabetes	0.25008	6.9299	0.0085	0.518
Renal disease	0.25028	12.3958	0.0004	0.414
Cancer	0.31420	3.4197	0.0644	0.559
CLI (RC>3)	0.25497	14.4314	0.0001	0.380
TASC A	0.38273	4.7266	0.0297	0.435
TASC B	0.34111	0.9618	0.3267	0.716
TASC C	0.34810	0.3017	0.5828	0.826
Lesion length, mm	0.00179	0.1892	0.6636	1.001
No. of balloons	0.21726	0.0287	0.8656	0.964

Dose Distribution vs deaths up to 730 days

Deaths by dose category						
PTX dose mg	=<5	5-10	11-15	16-20	>20	total
# deaths	40	27	12	6	5	90
mortality (%)	10.75	9.22	10.17	11.32	11.90	10.25
p-value: 0.6876						

⇒ NO dose dependency for the mortality rate of the full cohort subgroup is observed

⇒ low numbers within certain subgroups do not allow final rejection of a dose dependency

Medizinische Universität Graz

BIOLUX P-III CLI Conclusion

- BIOLUX P-III, the second largest drug coated balloon (DCB) registry globally in infra-inguinal arteries with 882 enrolled or 878 subjects treated, continues to demonstrate high clinical performance of the Passeo-18 Lux DCB after 24 months
- In the CLI population (**328 patients)**, at 24 months after treatment with Passeo-18 Lux we report the following outcomes**:**
  - ✓ **88.2% Freedom from clinically-driven TLR**
  - ✓ **81.1% Freedom from major adverse events**
  - ✓ **85.4% Freedom from major target limb amputations**
- The survival decreases approximately linearly with time over 24 months
- Evaluation suggests no dose dependency of the mortality rate in the full cohort and CLI population
- The safety and effectiveness of Passeo-18 Lux at 24 months after treatment for atherosclerotic lesions in infrainguinal arteries is confirmed even in this complicated CLI patient subset.

Medizinische Universität Graz

Thank you for your attention!

Medizinische Universität Graz

Twenty-four months outcomes of patients presenting with critical limb ischemia within the BIOLUX P-III registry – a real-world clinical trial treating atherosclerotic arteries with a paclitaxel covered balloon

Prof. Dr. Marianne Brodmann,

Medizinische Universtität Graz, Austria

Principal investigator on behalf of the BIOLUX P-III Investigators